The History of Anesthesia in Oregon

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Preface

This book describes the history of the development of anesthesia in Oregon. It covers the period from shortly after the introduction of anesthesia until modern times. We have attempted to provide an exhaustive compilation of available data, so that a repository of information will exist for future medical historians. We have also attempted to make the book an enjoyable reading experience for the average individual interested in medical history, in part by telling anecdotes about many of the people who had a role in this history.

The book is divided into two parts. The first chapters describe the development of anesthesia in Oregon from different perspectives. These include the early period, the advent of anesthesiologists and the Oregon Society of Anesthesiology (OSA), the complete development of anesthesia delivered by nurse anesthetists (CRNAs), dental anesthesia, examples of types of anesthesia practice, and a historical perspective of Oregon anesthesiology, including brief biographical sketches of some early pioneers and some of the more influential anesthesiologists in the state. The second part describes formal anesthesia training, biographical sketches of the Oregon Medical School-Oregon Health & Sciences University (OHSU) Department of Anesthesiology Chairmen, and early teaching anesthesiologists. Personal accounts of individuals from the early years are also included. References for each chapter are located after Chapter 17. Extensive appendices with minute data precede the index.

We have elected to present a short summary of the early history of Oregon in the first chapter. This was done to show how the fur trade industry, coupled with immigration along the Oregon Trail, provided the Oregon territory with medical facilities that would utilize anesthesia. These facilities did not exist in an otherwise isolated and backward western frontier.

This history of Oregon is well known, and we have not included extensive citing of general references. Much of this information was gleaned from conversations and communications with archivists at national historical sites; Forts Vancouver and Nisqualie in Washington state; Jasper City Library in Jasper, Alberta; the Victoria, British Columbia Historical Library; The Sisters of Providence Archives Library in Seattle; the Oregon Historical Society Library in Portland; the Oregon State Library in Salem; and the Multnomah and Clackamas County Libraries in Oregon, as well as from various Northwest history texts. Some of these include F.W. Howay's *The Fur Trade in Northwestern Development, The Pacific Ocean in History* by Morris, Stephens and Bolton, and the *Encyclopedia Britannica.* The specific historical information included in the first chapter is cited.

This book also examines the historical interactions that have produced the controversies and conflicts that continue to exist between anesthesiologists and CRNAs. Our interpretation of the origins and continued differences between the two can be found in several chapters. The issues are vigorously, but we believe dispassionately, presented from both points of view. Hopefully future historians will have an opportunity to utilize the appropriate passages in order to more fully understand what the authors hope will eventually become an academic issue.

There is some repetition. We found it necessary in order to present "the big picture" as well as the individual stories.

Finally, relationships between anesthesiologists in the community and at OHSU can be inferred throughout several passages in different chapters. They have nearly always been mutually supportive. The only potential areas of conflict have occurred when competition between major health delivery systems may have caused some sense of competitiveness between anesthesia personnel. Certainly cooperation and respect between "town and gown" has been far and above the norm with only a very rare conflict of interest.

Acknowledgements

As primary author, I wish to acknowledge a number of individuals who have provided considerable assistance in preparing this text. First, my co-author Dr. Angela Kendrick deserves my deepest gratitude for her invaluable assistance with research, written articles, interviews, insight and vision in recognizing the value of this enterprise. I also wish to thank Henry Clarke, DDS, and Suzanne Brown, CRNA, for agreeing to provide their contributions. We wish to express our appreciation to Dr. Jeffery R. Kirsch for providing department staff assistance and note that the manuscript preparation could not have been done without Joan Cossey and Michelle Greenberg. Thanks to Susan Beal for copyediting, Jane Henderson for indexing, and Sheryl Mehary for book design. Linda Weimer, former OHSU medical history librarian, gave us tremendous help with our research endeavors, identifying archaic journals and lending professional assistance with the oral history interviews. Drs. Gerald Edelstein, Larry Hagmeir, Donald Dobson, Robert Capps, Clare Peterson, Lucien Morris, Rex Underwood and Tim Brinton provided considerable information. The last two individuals also contributed unique stories of their early anesthesia days. We appreciate the information provided by various individuals or their families who are featured in the book. Various librarians and archivists, especially Marsha Weber at the Multnomah County Library, David Hanson, historian/curator of the Fort Vancouver Historical Site, and personnel at the OHSU Biomedical Information Center (BICC) deserve special thanks. The thanks also extend to Mary Botcheos at the OHSU Dental Library. Thanks also to Patrick Sim and Karen Bieterman and the staff at the Wood Library for graciously providing encouragement and a wealth of data.

I also want to thank my wife Carol for her love, patience and understanding and for all those years of driving me to work so I could run home. Thanks too to my son Bill and daughter-in-law

Marla, for their assistance with the old Mac computer, and grandsons Carl and Eric for not bothering "Pops" while he was writing.

Roger L. Klein, MD

I feel privileged to have known and to have been trained by Drs. Bergman, Stevens, and Kingston. My interest in this historical record grew out of research into our department's history for its 60th anniversary celebration. My husband, Brad, has served as sounding board throughout my career and his encouragement allowed me to devote the time needed to help assemble this material.

Angela Kendrick, MD

I would be remiss if I did not thank Roger Klein for providing the impetus for my working on this project. He did some of the very early research and kindly shared that with me.

Several CRNAs have been most helpful. Kelly Sievers, once again, helped greatly with her editing ability of the document. Mary Diggles summarized the decade of the eighties, from which I drew the portion for this chapter. Yuri Chavez not only was responsible for navigating much of the legislative and regulatory maze to gain recognition, but wrote a detailed summary of the process. Many people took their time to share their memories and knowledge; I thank them all. Linda Huffman was the CRNA who introduced me to the state and national associations. I have been the recipient of many a wonderful friendship and educational experience as a result. Cherry Hoffman, the executive secretary for the OANA, has been great at helping me gather materials and information.

Finally, I must thank my husband. He knows I am not a writer and still provided encouragement and a reality check for this project.

Suzanne Brown, CRNA

I would like to acknowledge the OHSU library staff: Mary Botcheos, Cindy Cunningham, Bonita Spreng and Dan Kniesner.

Henry Clarke, DDS

We wish to make a special acknowledgement to the commercial providers of anesthetic drugs and equipment. Their contributions over the last one hundred years have been invaluable.

We wish to thank and dedicate this history to Dr. Wendell Stevens who was such an inspiration to all of us. One of the many gifts he bestowed on us over the years was always being available to review our manuscripts. It is unfortunate that he did not live to help us complete this book.

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Part I

The History of Anesthesia in Oregon

Chapter One

The History of Oregon Anesthesia: The First 100 Years

Roger L. Klein, MD

The beginning of the anesthesia era coincided with the early development of Oregon. We have provided a brief history of Oregon to get a better appreciation of medical practice at the time and demonstrate why anesthesia received an early acceptance.

Lewis and Clark explored in the Northwest in 1805-06. Great Britain and the U.S. agreed to jointly administer the Oregon Country in 1818. During these years, the British fur trade industry established a vast economic enterprise extending over an enormous area. It would spread from the western shores of Hudson Bay, via various river systems throughout the northern North American inter-mountain west, and down the Columbia and Frasier river drainages to the Pacific Ocean. It would eventually encompass what are now the states of Oregon, Washington, Idaho, northern parts of Montana and California, as well as the Canadian provinces of British Columbia, Alberta, Saskatchewan, Manitoba, and western Ontario. Initially, the Northwest (Fur) Company dominated the fur trade. The Hudson's Bay Company later absorbed it. These companies were commercial in nature. They primarily exported furs to Europe and the Far East, and were not very interested in development or colonization.

Starting in 1825, Fort Vancouver, under the able leadership of Chief Factor Dr. John McLoughlin, became the western center of this vast territory. As documented by Dr. Olaf Larsell in *The Doctor in Oregon*, the Hudson's Bay Company provided well-trained European physicians to the fort starting in 1831. This meant that throughout the (far) western frontier, this area alone had high quality medical care.

Development in the Willamette Valley south of Fort Vancouver began to occur in the 1830s with the arrival of American missionaries, who brought their families and small numbers of associates with them. The first migration of American home seekers along the Oregon Trail occurred in 1841. By 1846 (the year of the advent of anesthesia), several thousand were arriving each year. The treaty of 1846 established the boundary between Canada and the United States along the 49th Parallel. The area achieved U.S. territorial status in 1848. Although many Oregonians left for the California gold fields in 1849, the U.S. 1850 Oregon census lists the population as 13,294. The area north of the Columbia was withdrawn to form the Washington Territory in 1853. Development continued to proceed.

As is well known, the news of anesthesia rapidly spread around the world. Contrary to what one might suspect, this news also quickly reached the Oregon frontier.

How the News of the Advent of Anesthesia Might Have Arrived in Oregon

The territory was isolated, but communication with the outside world was better than in other parts of the American West. There were essentially three mail routes, all relatively slow. Information from the rest of the world arrived from late spring to late fall.

The transport of furs from Fort Vancouver required an effective sea route around South America. This route was affected by the weather in the Southern Hemisphere. This meant that westbound ships "rounding the horn" needed to leave England in the late fall or winter. Voyages could last as long as 6 to 8 months depending on sea conditions and where the ships would lay over for

supplemental supplies. These stopovers could be as far away as the Sandwich (Hawaiian) Islands. The ships would then arrive in late spring or early summer. Journals of Fort Vancouver clerks Thomas Love and George Roberts (Fort Vancouver Archives) mention that the "bark" (barque) *Brothers* left England in December 1843, arriving at Fort Vancouver in May 1844. The bark *Vancouver* arrived in August 1845. Specific dates for other ships in the years of 1847 and 1848 were not mentioned. The Fort Vancouver archives do state that medical books and periodicals from Europe usually arrived by ship.

The second means of communication was settler wagon trains, which arrived via the Oregon Trail as early as September and continued through the late fall.

Though also seasonal, the third route for Fort Vancouver mail was the York Factory Express. This was the overland route to and from the North American headquarters of the Hudson's Bay Company, which was called York Factory. It was situated on the western edge of Hudson Bay. This was the most western port where ships from England could dock when crossing the Atlantic. From there, Canadian river systems (primarily the Saskatchewan) and Lake Winnipeg allowed a nearly all-water transportation route across western Canada. A short portage over the Athabaska Pass in what is now western Alberta allowed access to the Columbia River drainage and to Fort Vancouver. (Longer land portages in what is now northern Idaho would eventually shorten the trip.) This allowed bateaux and canoes to traverse over 2000 miles relatively quickly.[1] The Express would serve and be resupplied by intermediate trading posts called "Houses," i.e. Rocky Mountain House and Spokane House. The westbound Express would leave York Factory when the high water spring runoff subsided. Thomas Love's journal indicates that the Express arrived in Fort Vancouver on September 8, 1846, and November 21, 1847. The 1848 arrival is not mentioned, but undoubtedly arrived in the fall. The Express conducted a commercial mail service. Postage was paid by the half-ounce.[2] To save money, letters from the period had writing down the page and then crosswise over what had been already written. Luckily, most correspondents had excellent handwriting.

Though we have included a description of these unique mail routes, it is unclear how the actual news of the discovery of anesthesia arrived. It probably came by ship, but possibly by either of the other routes.

With this introduction, we are now ready to proceed with the history of Oregon anesthesia. The authors wish to give credit to the previously mentioned Dr. Olaf Larsell. Dr. Larsell was a longtime professor of anatomy at the Oregon Medical School during much of the first half of the twentieth century. He was also a very noted medical historian. His *The Doctor in Oregon,* published in 1947, is the definitive history of early medicine in Oregon. It is a classic and should be read by anyone interested in not only medical history, but Oregon history in general. Although his book covers many aspects of physician activities, it unfortunately provides very limited information about anesthesia. (The material for his book was compiled in the 1920s and 30s. At that time nurse anesthetists were administering most of the anesthesia. We therefore speculate that he probably chose not to include available information about anesthesia. Still we did find information about anesthesia from some of his cited references and found his book to be a valuable resource).

The First Documented Oregon Anesthetic

In 1848, the Oregon Territory had a population of approximately 9000 people. With the possible exception of Santa Fe, New Mexico, it had the largest concentration of non-native American people west of the states bordering the western shores of the Mississippi river. From several sources within Larsell's book, it appears that there were 14 physicians in Oregon. Their levels of training varied, and for the most part were either poorly trained or self-proclaimed doctors. A notable exception (and the only one with a formal medical education) was Dr. Forbes Barclay, physician in attendance at Fort Vancouver. We have determined that he deserves recognition for giving the earliest recorded anesthetic in the Oregon territory (as well as the rest of the U.S., west of the state of Missouri).[3] We could not find any evidence that any of these other Oregon physicians gave anesthesia though some of them must have done so in later years.

In March 1855, Dr. Barclay wrote a letter to the editor of *The Oregonian* in response to another letter that had appeared the previous week.[4] That letter had criticized the use of anesthesia in general and chloroform in particular. In his letter Dr. Barclay stated,

> I have used it [chloroform] since 1848 in many capitol and minor operations of surgery and physic and rejoice to have a drug that can alleviate the suffering patient.

He also defended the concept of anesthesia per se, and decried the use of magnetism and or the application of cold copper rods on the incision site as substitutes for anesthesia. He condemned the previous writer's statement that it would be better that patients suffer surgical pain than undergo the mortal risk of chloroform anesthesia. He quoted Drs. Simpson, Snow, Ferguson, Hardy, and Lee, in articles from *The Lancet, Dublin Medical Review,* and *Proceedings of the Royal Medical and Chirurgical Society,* and referred to "numerous other medical periodicals." He went on to say that in his opinion, anesthesia was the most important medical development that had ever occurred. With these statements Dr. Barclay demonstrated his full acceptance of anesthesia, using it even in minor cases. This was an enlightened view, not universally held by contemporary physicians.[5]

It is not known whether he used ether as well as chloroform. It was listed on the 1840s formulary at Ft. Vancouver.[6] Unfortunately Dr. Barclay's papers were destroyed in a fire and this letter is one of the few first-person medical references of his that has survived. Both Oregon and Washington can claim Dr. Barclay. Ft. Vancouver is located in what is now the state of Washington, but Barkley's practice extended to both sides of the Columbia.

Because of his importance to the early Oregon medical community, a brief description of Dr. Barclay is appropriate. (See Figure 1) He should be considered one of, if not the, premier Oregon physicians of that era.[7] [8] He was born in the Shetland Islands, on December 25, 1812, the son of a physician. He received his initial medical training in Edinburgh. Starting in 1834, he served aboard several summer naval expeditions looking for the Northwest Passage. On one of these expeditions, his ship (the *Lee)*

Figure 1 — Forbes Barclay MD (1812-1873)

was wrecked by an iceberg.[9] The crew spent nine days in an open longboat and became so desperate that they drew lots to determine which member would be sacrificed to provide food for the others. Luckily, they were saved by natives and lived with them for three months until rescued.

Dr. Barclay returned to London and continued his medical training, receiving his Fellowship in the Royal College of Surgeons in 1839. He then joined the Hudson's Bay Company, where his uncle, Archibald Barclay, was executive secretary. He joined Dr. John McLoughlin at Fort Vancouver in 1840.[10] When the Oregon Territory issue was settled, he elected to become a U.S. citizen and moved to Oregon City in 1850. There he was involved in politics, education, and commercial development as well as medicine. Records show that he had a wide spread medical practice and treated many prominent individuals. He exerted a strong positive influence on medical practice in the new state.

Our further search for information has been hampered by the lack of medical literature from those early years. Formal medical literature did not appear in Oregon until 1869. We did find three Oregon and Washington non-medical references from the 1850s where chloroform was used as an anesthetic. It is interesting to note that two of the cases were administered by physicians and the other by a dentist.[11] [12] [13] Dr. William Fraser Tolmie, another prominent physician in Northwest history, gave one of these anesthetics on November 19, 1853.[14] Dr. Tolmie had preceded Dr. Barclay at Ft. Vancouver, but after returning from a European sabbatical, was assigned to the Puget Sound area in 1841. After the treaty of 1846, he chose to remain a British subject, and moved to Victoria, B.C. There he was very instrumental in the development of western British Columbia and Victoria.

Medical Reporting begins: 1869–1890

Oregon Medicine became more structured beginning in 1869. In that year the first medical journal, the short-lived Oregon Medical and Surgical Reporter (1869-71) had an article titled "Chloroform versus Ether" in its first volume.[15] (The author of the article is unknown but it may have been written by the editor, a Dr.

Fiske, faculty member of the fledgling Willamette University Medical School). The article recognized that that there was a definite incidence of mortality with chloroform. The author attributed this to a lack of skill on the part of the administrator, but still preferred chloroform to ether. He cited the difficulty of inducing ether anesthesia and didn't like its post-operative side effects of nausea, vomiting and pneumonia. Other issues of this journal had short abstracts from other medical journals that dealt with anesthesia subjects.

This journal also published discussions of resuscitation and the Benjamin Howard method of artificial ventilation. The latter consisted of lower lateral chest wall compression followed by sudden release. It was important to retract the tongue. If necessary, a second operator could blow into a pipe stem inserted into one nostril, while the other nostril was manually occluded.[16] Hypodermically administered atropine was mentioned in another abstract.

It appears that after the *Reporter* ceased publication in 1871, the *Proceedings of the Oregon Medical Society* (1876-97) served as the sole Oregon medical reference until 1891. It published medical articles and case reports, and identified physicians presenting surgical cases and those participating in the discussions following the presentations. Frequently the anesthetist and anesthetic agents were also identified. These included chloroform, ether, or both in combination, as well as chloral hydrate.

Establishment of Hospitals

In those years, surgery in Oregon was done in doctors' offices, hotel rooms, patients' homes or small individual physician-connected hospitals. These facilities came and went. St. Joseph's hospital was established in Vancouver in 1856 and still exists. (See Figure 2 and Figure 4) Present-day Portland hospitals St. Vincent and Good Samaritan were established in 1875. The latter two were soon to become medical school-affiliated. Records from these hospitals show annual lists of surgical procedures. Descriptions and pictures of house staff and medical students administering anesthesia also exist. (See Figure 3) In a book describing the first 100

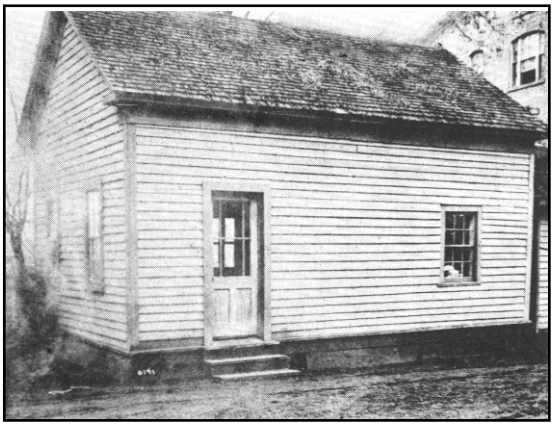


Figure 2 – St. Joseph's Hospital – St. James Mission 1858. (Courtesy of Providence Archives Seattle, WA)

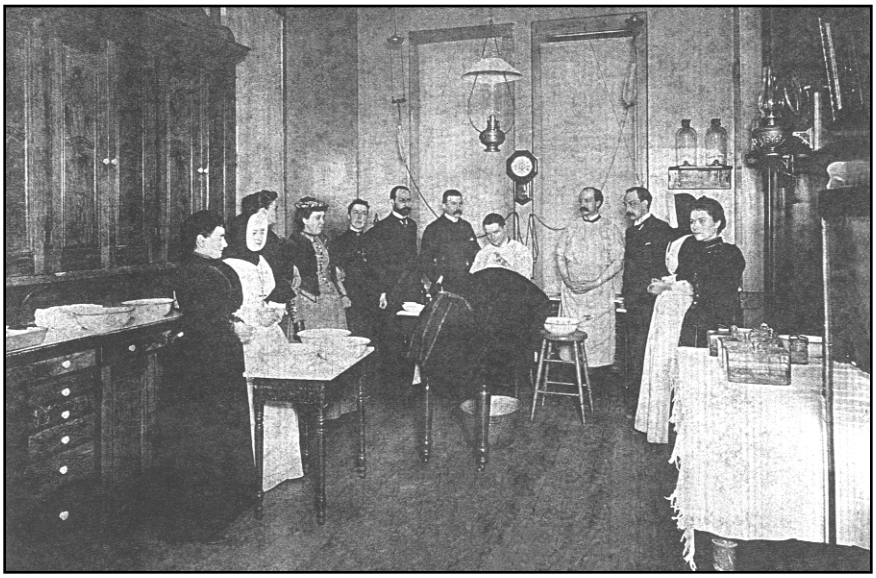


Figure 3 – Surgical Suite St. Vincent Hospital approx 1890. (Courtesy of the Oregon Historical Society)

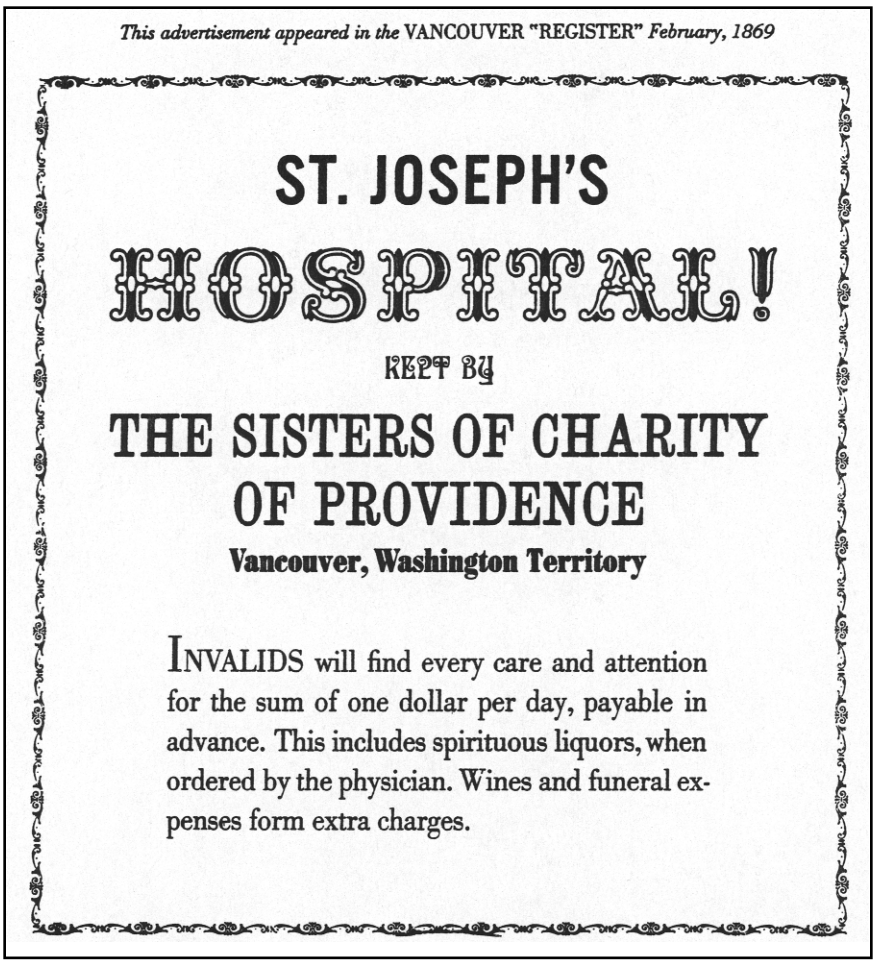


Figure 4 – Advertisement for St. Joseph's Hospital. (Courtesy of Providence Archives Seattle, WA)

years of Good Samaritan Hospital, the author quotes from a longtime nurse and hospital administrator, a Miss Emily Loveridge. She described "the hospital's pride in their lovely grounds, and yet the smell of ether permeated the halls."[17] She also told about having to gather and take all the equipment needed to do surgery to the patients' homes when they were afraid to come to the hospital.

On the surface the above accounts appear to confirm the opinion of B. Duncum in *The Development of Inhalation Anesthesia* that western "frontier" physicians required simple anesthetic techniques and relegated the anesthetic to a nurse or junior medical students.[18] In a similar vein, P. Volpitto and L. Vandam in *The Genesis of Contemporary American Anesthesiology* give the impression that the commonly accepted belief of surgeons that "anesthesia could be empirically administered, was technically simple, easily taught, and could be relegated to the least skilful member of the surgical team" held sway throughout the country until the advent of full-time anesthesiologists.[19]

Early Recognition for the Need for Anesthesia Professionalism

Despite these impressions mentioned above, even from the very early years thoughtful U.S. physicians recognized that a need existed for anesthesia professionalism (at least in theory). Pernick in *A Calculus of Suffering* quotes from four sources from the 1850s and 60s, which state:

> Individual "idiosyncrasy" [sic] is one reason why its use should be restricted to those who are competent.[20] The American Medical Association claimed "the varying reactions (to anesthesia), that occurred upon administering chloroform 'to some constitutions,' required that it be used 'only by professional men.'" [21] The Medical Society of Virginia warned that practitioners "who were not physicians.…were less competent than physicians to discriminate between those who were (and were not) suitable subjects for the administration of anesthetic agents." [22] "Peculiarities of individuals make it necessary to have a designated surgical assistant administer the anesthetic and nothing else." [23]

Pernick continues:

> Carried to its logical conclusion, this argument implies that because of the complexity of individual variations, even the average general surgeon should not attempt to use anes-

> thesia. For precisely this reason, by the 1860s many experts urged some form of specialization in administering anesthetics.[24]

It appears from the available literature that this concept was not unknown in Oregon, and at least some physicians recognized the need for good anesthesia. From the many surgical case reports we found, most had physicians administering the anesthetics, even to the point of delaying surgery until a fellow physician was available for anesthesia administration. This requirement for good anesthesia is further exemplified by quoting from two 1891 articles from the *Proceedings of the Oregon Medical Society.* The first was an extensive case report of an "ovariotomy" by a Dr. H. R. Holmes. The discussion following the description of the operative procedure, primarily dealt with a "very enlightened" view of anesthesia. Points mentioned included a preference for ether anesthesia, ensuring NPO status, and, most importantly,

> the administration of the ether should be entrusted to the care of someone of good control and good judgment who understands the action of the drug he is using as well as its physiological antidotes and who is quick to act in emergencies. Such a one is Dr. George Fanning, present house surgeon at the Portland hospital. I have long regarded the anesthetist's place in many cases as of greater importance than that of the operator, for anyone can operate if he has only taken the time to learn his anatomy.[25]

His colleague, a Dr. Boys, concurred: "About the use of ether, the operator surgeon need not be very concerned about the patient if the administrator of the ether is an intelligent physician." In the same year Dr. Wm. Amos of Portland wrote a paper on "anesthesia."[26] Ether was the preferred agent. He mentions the Hyderbad commissions and the Lancet Chloroform Commission and went on to discuss his opinion regarding morphine used in conjunction with anesthesia. (He was against it because he felt it led to hypoventilation and asphyxia.) He cited other references and included a section in the paper entitled "Restorative Measures." He recommended

having syringes of digitalis, strychnia and atropine and a bottle of ammonia on a stand close by. He described the conditions under which he would use each drug and cautioned: "There would only be 30 seconds after sudden heart failure, in which restorative treatment may be instituted with abundant hopes of success. Nervous haste is inexcusable. Not a move should be made without due consideration as to its rationalism. The skilful anesthetist, who has the advantage of closely watching the effect upon the patient of the anesthetic through out the anesthetic, will require nearly no time to decide what is the best thing to do." In the following discussion, Dr. W. Cauthorne felt that morphine combined with atropine had its advantages.

Anesthesia at the Turn of the Century and the Growing Concern over Anesthesia Safety

It was apparent that the universal acceptance of asepsis in the 1880s allowed increased surgical survival. This caused the numbers and types of surgical procedures to grow exponentially. Until this time, anesthetic mishaps had been relatively rare and even accepted, but now they were becoming increasingly more common and unacceptable. This led to a demand for an improvement in anesthesia safety.[27] At the start of the twentieth century and in the years immediately following, a national debate developed on how to achieve safer anesthesia. Could part-time, self-taught physician anesthetists and house staff continue to serve as the anesthesia delivery system, or was there a better way?

Our major source of information for this era in the Northwest comes primarily from two medical journals. The anesthesia contributions of Northwest physicians are evident in this literature. The *Medical Sentinel* (1891-1930) was published in Portland. Its subscription list covered Oregon as well as the states of Washington, Idaho, western Montana and Utah. It provided a medical forum for Northwest medicine, and authors were nearly always from those states. The editor, Henry Waldo Coe, MD, was a man of strong opinions. Judging from the journal's editorials, he and his co-editors appeared to have been advocates of professional physician anesthesia. In this journal, surgical case reports usually

listed the anesthetic agent used and frequently the name of the anesthetist. Over the years this journal published 28 articles dealing with anesthesia subjects. In 1931, the *Medical Sentinel* became the *Western Journal of Surgery, Gynecology, and Obstetrics.* A few additional anesthesia articles followed in the subsequent years.

The other, somewhat more prestigious Northwest medical journal of the era was *Northwest Medicine,* published in Seattle. It covered the same geographical area. Publication started in 1901. An additional 41 anesthesia references were found through 1947. The authors of these articles were also preponderantly from the Northwest; Oregon physicians authored 25 articles between the two journals.

The 69 scientific anesthesia articles dealt with many topics. Some of these included record-keeping, preoperative anxiety, airway management (including tracheal intubation during anesthesia), signs of anesthesia depth, modes and techniques of anesthesia administration, and body heat maintenance. There were articles that addressed various anesthetic complications. These included three articles describing means of reducing post-operative nausea and vomiting. There were 23 references to obstetrical anesthesia, and 19 dealing with local, regional and spinal anesthesia. None of these articles were especially innovative. Techniques and the use of various agents were comparable to national trends and reflected informed, commonly held anesthesia principles of the period. Chloroform use continued, but ether was the predominant agent. nitrous oxide/oxygen alone, or with ether or chloroform, became increasingly popular. Ethylene, ethyl chloride and avertin were also used. Equipment was standard. We found only three references to anesthesia mortality, though undoubtedly some deaths were not reported. There were no large series of anesthetics with associated complications reported.

Part-Time Physician Anesthetists

One gets the impression that many of these physician authors devoted at least some, and perhaps significant parts of their medical practice to anesthesia. This is suggested from the following:

They may have been listed more than once as having administered anesthesia in the surgical case reports.

In 1895, a Dr. A. Kuykendal reported an anesthetic death due to chloroform, his first experience with the problem since he began giving anesthetics in 1875. The anesthetic was actually given by someone else.[28] In an 1898 case discussion, a Dr. W. Musgrove states that he had used an ACE mixture (air-chloroform-ether) for 10 years.[29]

In the same reference, a Dr. Axtel mentioned that he had administered over 800 chloroform anesthetics.

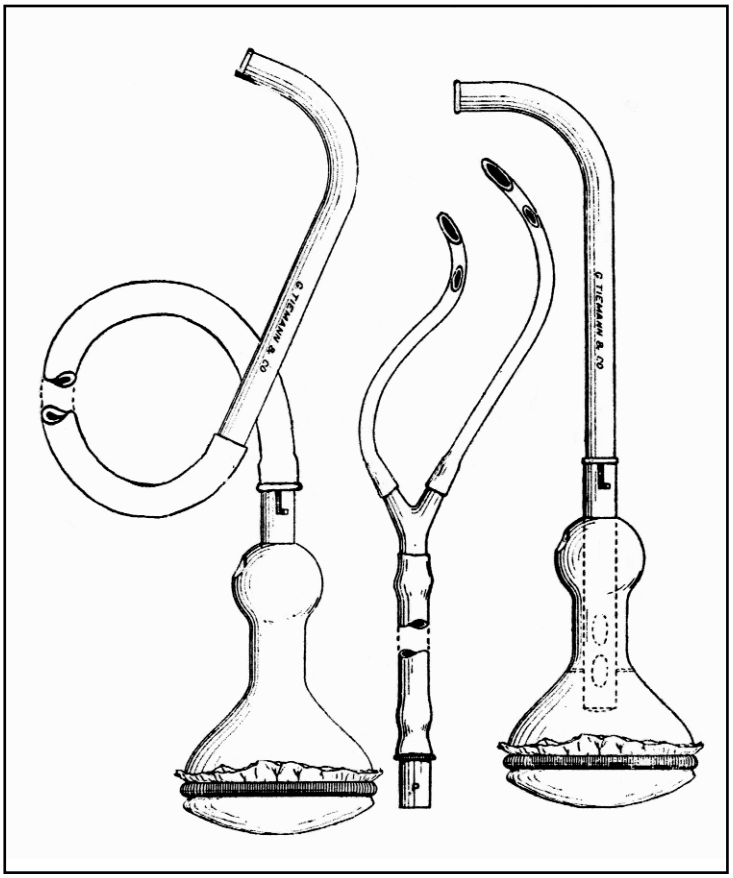


Figure 5 – Oral and nasal pharyngeal airways with ether administrating funnels attached – from Medical Sentinel August 1908).

In 1908, Dr. A. E. Rockey described equipment he had designed that provided a "unique" method of nasal pharyngeal ether insufflations. [30] (See Figure 5) We note that from other references, he apparently devoted most of his medical practice to surgery, including neurosurgery.

In 1911, Dr. S. W. Schaefer described his technique and equipment used in administering nitrous oxide-oxygen anesthesia.[31]

As late as 1922, an editorial written by a Dr. J.B. Barker defended physician anesthesia so vehemently, it suggests he had a vested interest.[32] Still, there is no evidence that any of these individuals attempted to practice anesthesia exclusively.

At least in theory, the local medical literature suggested there was an acceptance of physician anesthesia professionalism, and that these Northwest part-time professional anesthetists were attempting to meet acceptable anesthesia standards. It is unlikely that this anesthetic approach was unique to the Northwest. It was probably quite prevalent throughout the U.S. Still we have reviewed all of the frequently cited anesthesia history textbooks. Only Pernick in *A Calculus of Suffering* alludes to these transitional pioneers. There is little doubt that the more dedicated and skilled self-taught part-time physician anesthetists contributed to their local and regional development of the "art of anesthesia." They helped prepare the way for full-time anesthetists.

Attempts at Full-Time Physician Anesthetists in Oregon

Even though many Oregon physicians may have recognized the need for skilled anesthesia, there were no full-time physician anesthetists who dedicated their entire careers to the practice of anesthesia until 1937. Between 1913 and 1918, two individuals attempted to do full-time anesthesia, first Dr. Mary V. Madigan, and then Dr. A. J. Browning. Both taught anesthesia at the Oregon Medical School for one or two years. Dr. Browning authored anesthesia articles.[33] [34] The first of his references had a subtitle identifying him as "anesthetist of the Good Samaritan Hospital." He is identified as a physician anesthesia specialist in the discussion following the paper presentation. His article, "Nitrous Oxide and Oxygen Anesthesia in Major Surgery," reflects the same

concepts expressed by Dr. J. Guathmey in his anesthesia textbook.[35] In 1918, Dr. Browning switched specialties and went into ophthalmology although he continued to do some anesthesia for another year or two. He practiced ophthalmology until his death in 1947.

Dr. Madigan authored an anesthesia article describing her observations of changes in blood pressure associated with anesthesia.[36] She taught physiology at the medical school in 1914. She was a 1915 candidate for vice president of the Associated Anesthetists of America (AAA) at the second annual meeting in Atlantic City and presented papers at the 1915 and 1916 meetings of the AAA.[37] She was included in the 1916 registry of members of that organization, as well as being included on the rosters of the 1916 through 1925, American Medical Directories listings, as being a member of the AAA. From these directories we also learned that she married and changed her name to Davidson and moved to Cleveland, Ohio in 1918. There she listed her specialty as internal medicine-pediatrics. She was still living in Cleveland Heights in 1940.

We were unable to find any other references to full-time physician anesthetists from 1920 until 1937. During the 1920s and 30s, the American Medical Directories did list several people from Oregon as members of the AAA, but it is unlikely that they devoted much of their practice, if any, to anesthesia. R. L. Benson, MD, Professor of Pathology, and Harold Myers, MD, Assistant Dean and Professor of Pharmacology, were on the faculty of the Oregon Medical School, but they were members of the basic science faculty, and were not engaged in the practice of medicine. Drs. Elbert Fisher (1925) of Salem and Elmer Smith (1925, 27, 29) of Hillsboro were AAA members. Dr. Jessie Farror may have practiced some anesthesia in the early 1920s and belonged to the AAA in 1925. Dr. Rollo Payne probably practiced anesthesia and general medicine in Ontario in 1931-1934.

Drs. Eugene and Paul Rockey, sons of the previously mentioned Dr. A.E. Rockey, were on the 1925 AAA list. Did their father teach or influence them toward anesthesia? They eventually became surgeons. During this time, physicians in the more rural

areas continued to administer anesthesia as part of their general practice.[38]

The reasons for failure to develop full-time physician anesthetists in Oregon are probably threefold. The first was monetary. While surgical fees continued to increase, anesthesia fees did not. As late as 1923, the official Washington fee schedule for anesthesia administration for industrial accidents was $5.00 for minor and $10.00 for major cases.[39] Presumably Oregon was no better. These were state-reimbursed cases and private fees were probably only slightly higher. (This report also mentioned that in general physician collection rates averaged 60%.) This anesthesia fee schedule was no better, and in fact was even worse, than a California schedule from 1875, which quoted fees of $5.00 to $25.00 nearly fifty years earlier.[40] There was another problem with collections. In earlier years it was common for the surgeon to provide a portion of his fee to the anesthetist. However the medical ethical issue of "fee-splitting" probably carried over to the surgeon-anesthetist relationship, leaving the anesthetist to fend for him- or herself.[41 42]

The second reason dealt with perceptions. The image of anesthesia was deteriorating in the minds of the general medical profession. Surgeons were increasingly becoming more influential (and omnipotent). They expected junior physicians to be much more interested in the operative procedure than the anesthetized patient. (They probably usually were.) Medical students recognized that surgeons were now putting the "anesthetizer" in a subservient, if not disdained role, viewing it as a job for trained nurses, not physicians. This gradually resulted in a severe lack of physicians interested in anesthesia.

The Advent of Trained Nurse Anesthetists

The development of nurse anesthesia is covered in depth in Chapter Three. Pertinent data concerning nurse anesthesia is also included in this chapter to show how the relationship between physician and nurse anesthetists developed.

The final reason for failure to develop full-time physician anesthetists in Oregon was the rapid development of trained nurse anesthesia. Although we have stated that part-time professional

anesthetists actively influenced the development of Oregon anesthesia, in reality interns administered much of the anesthesia in the busy and influential Good Samaritan and St. Vincent teaching hospitals. In 1908-9, they rebelled and passed a resolution stating that "they were not going to spend their internship giving anesthetics."[43] This "revolt" led to the starting of the first formal school of nurse anesthesia training in the world at St. Vincent Hospital in 1909.[44]

The Mayo Clinic and the University of Pennsylvania, among other medical institutions, had initiated the practice of having outside nurses gain practical experience by observing the institutions' nurse anesthetists who were trained on the job. This training occurred over various lengths of time.[45] After The Sisters of Providence at St. Vincent started the school of nurse anesthesia training as part of their School of Nursing, other schools of nurse anesthesia soon followed.[46] This formal nurse anesthetist training supplanted previous individual training of the occasional nurse.[47] Agnes McGee organized the St. Vincent's School of Nurse Anesthesia.[48] Instruction included lessons in anatomy, respiratory physiology, and pharmacology of the anesthetic drugs, as well as administration techniques of the commonly used anesthetic agents.[49] Ms. McGee also taught an anesthetic course at the Oregon Medical School in 1915.[50] Dr. J. D. Sternberg provided medical supervision until 1946, when Dr. John Hutton's second anesthesiology resident, Dr. Russell Enos, returned from World War II and assumed direction.[51] (Dr. Sternberg was a surgeon and was never a member of the AAA.)

The Struggle between Part-Time Physician Anesthetists and Nurse Anesthetists

Some of the physicians practicing anesthesia attempted to claim that anesthesia should continue to be administered by physicians. Drs. Coe, Browning, J.B. Barker, and others expressed their written opinion that anesthesia was the practice of medicine and nurse anesthesia was inappropriate.[52] [53] [54] [55] [56] References 52, 53, and 55 were editorials from *The Sentinel* opposing nurse anesthesia. The titles ("The Nurse Anesthetist," "Haphazard Anesthesia," and

"The Expert Anesthetist") reflected the editors' opinions. The main arguments were that nurses did not have the proper education to provide sufficient medical judgment to manage pre-, inter- and post-operative medical problems, and anesthesia was more than a technical exercise.

However, Dr. R.C. Coffey, arguably the most influential Northwest surgeon at the time, was in favor of nurse anesthesia. He believed that trained nurses could provide better anesthesia because they had better "judgment and intuition." Dr. Coffey stated that part-time physician anesthetists did not do enough anesthetics and, in his opinion, were dangerous. Physicians from the Mayo Clinic and other leading U.S. physicians agreed with him.[57] In the case discussion in a separate article, he acknowledged that Dr. Browning could handle the challenging anesthetic situation presented, but pointed out that a specialist was not always available.[58] His opinion undoubtedly did reflect the view of the influential surgeons in the country.[59] The frequently cited Mayo Clinic report of 14,000 nurse-administered anesthetics without a death must have had a profound influence.[60]

Economics undoubtedly played an additional role. Even then, there was a financial advantage for hospitals to employ nurses to administer anesthesia. (Incidentally, Dr. Coffey had his own proprietary hospital.) There were obviously not enough part-time or full-time physicians available to provide the increasing demand for anesthesia specialists. Therefore, it was not surprising that hospitals increasingly utilized nurse anesthetists. The Oregon Board of Medical Examiners licensed 11 nurse anesthetists in 1914.[61]

By 1923, the editor of Northwest Medicine editorialized that in order for physician anesthetists to develop a hospital department of anesthesia, they must do so on "firm scientific principles" (and develop the economic means to do so).[62] A few full-time anesthetists were able to succeed in Seattle. L. Maxson, MD, had a long and successful career. He authored a book on spinal anesthesia.[63] Dr. John Lundy spent his first three years of anesthetic practice in Seattle and authored his first papers on anesthetic records and the use of ethylene.[64,65] He participated in at least one medical meeting in Portland.

It can be concluded then that in the first half of the twentieth century nurse anesthetists gave most of the anesthetics in the major hospitals in the state. In 1918 alone, there were 10,894 operations in the Portland area.[66] Nurse anesthetists must have given most of the anesthetics. Surgical procedures continued to grow in numbers. It is logical therefore to conclude that nurse anesthetists made a very significant contribution to Oregon anesthesia during the first half of the century.

Regional Anesthesia

Until the arrival of anesthesiologists, local anesthesia appears to have always been administered by the surgeon. Initially, it was done with cold applications and then cocaine and other local anesthetics were injected or used topically. Local infiltration for thyroidectomies became popular.[67] The first mention in the Northwest literature of a spinal anesthetic was in 1905.[68] The author was from Los Angeles. Dr. G. Pease summarized his 15-year experience with spinals in 1929. He had two early deaths out of 152 cases.[69] Dr. Carl Bastron appears to have contributed to the increasing popularity of spinals in the 1920s. He described his technique and encouraged its use.[70] [71] [72] Dr. Everett O. Jones gave general anesthesia and used and wrote about local, spinal, and regional anesthesia.[73] [74] These physicians were surgeons. Spinal anesthesia was nearly always given by the surgeon, and then turned over to the nurse anesthetist for monitoring. This practice continued as late as the early 1940s.[75]

Obstetrical Anesthesia

Obstetrical anesthesia was frequently mentioned in the Northwest anesthesia literature. The 23 OB anesthesia articles dealt with anesthesia techniques and complications. Twilight Sleep was described and supported by some and condemned by others. Dr. Lundy and Dr. A. Tovell described the use of various agents and techniques for OB anesthesia.[76] On a quaint note, they included the technique of using rectal ether and avertin. Chloroform as an analgesic was still acceptable. Nitrous oxide analgesia was popular in the late teens. In 1930, Dr. Charles E. Hunt of Eugene published

three articles on obstetric anesthesia in the *Medical Sentinel* that served as his University of Oregon Medical School PhD thesis.[77 78 79]

At this point, we must mention the seminal work of the Oregon obstetrician Dr. John B. Cleland. The first description of his technique isolating afferent nerve pathways from abdominal organs was published in 1927.[80] He continued his laboratory investigations while developing regional obstetrical anesthetic techniques in his clinical practice. He described uterine and vaginal outlet nerve pathways and the blocks that manage labor and delivery pain.[81 82] His research dealt with his efforts to provide sequential regional anesthesia for labor and delivery. He first used paravertebral blocks, but eventually used segmental epidural blocks for uterine contraction pain. These were followed by pudenal blocks for delivery. Working with Drs. Hingson and Bonica, he significantly advanced the science of obstetrical anesthesia. He has been recognised as being the only honorary member of the Oregon Society of Anesthesiology.[83]

Beginning of Modern Anesthesiology

Most of the history of Anesthesiology per se will be covered in the following chapters. The following paragraphs will only provide a summary.

John Hutton, MD, was the first fellowship trained anesthesiologist to practice in Oregon. Trained at the Mayo Clinic, he was recruited to the Oregon University Medical School in 1937-38 by the chairman of surgery, Dr. Thomas Joyce. Dr. Hutton established the first anesthesiology training program for physicians on the West Coast. A nurse anesthesia training program was also established. These programs were a division of the department of surgery. His faculty appointment was not geographic, and he earned most of his income while working at Good Samaritan Hospital. His resident graduates provided medical anesthesia direction and established private practices in some of the larger community hospitals in the state.

After the war, Dr. Hutton was instrumental in establishing a series of monthly educational meetings that evolved into the Oregon Society of Anesthesiology (OSA). This society has had,

and continues to take, a leadership role in state and national anesthesiology as well as other medical organizations.

Dr. Fred Haugen took over as chairman of the division of anesthesiology in 1948. A more complete description of his contribution to Oregon anesthesiology can be found in Chapter 12 as well as in the published proceedings of the Ralph Waters memorial meeting held in Madison, WI in 2002.[84] As one of the Oregon Medical School's first full-time geographically located clinical faculty, he established a modern anesthesia training program. In collaboration with Dr. William Livingston, chairman of the surgical department, he established the first West Coast pain clinic, and did some of the initial research on the mechanisms of pain. Dr. Haugen was a staunch believer in physician-administered anesthesia and soon closed the medical school nurse anesthesia program. His leadership produced a rapid expansion of anesthesiologists in the state. By 1956, the previously mentioned St. Vincent's School of Nurse Anesthesia closed its doors, stating that "physicians were taking over the field."[85]

Physician-administered anesthesia continues to be the primary means of anesthesia delivery in the state. In 2001, data taken from the Oregon Board of Medical Examiners and the Oregon Board of Nursing showed that there were 540 anesthesiologists and 174 CRNAs licensed in Oregon. Out of 305,561 anesthetics administered in the year 2000, 68.6% were administered by MDs alone. Nurses supervised by anesthesiologists administered another 13.7%.[86] Anesthesiology is a respected medical discipline throughout Oregon.

A number of private-practice Oregon anesthesiologists have been prominent in national anesthesiology organizations. Some of these include Robert Capps, Joanne Jene, John Branford, and Richard Johnston. Numerous faculty at the OHSU department of anesthesiology have also participated in these organizations.

The department of anesthesiology at the Oregon Health Sciences Center continued under the able leadership of Drs. Norman A. Bergman from 1970-81, Wendell Stevens from 1982-92, Harry Kingston from 1993-2002, and Jeffrey R. Kirsch from 2002 to the present.

In conclusion, we have tried to tell the unique history of Oregon anesthesia and its share of West Coast anesthesia "firsts." Through much of its history, there appears to have been a sincere appreciation of high-quality physician-administered anesthesia, but nurse anesthetists have also had an important role. Oregon has been well served by many anesthesia providers, and we have enjoyed telling their story.

Chapter Two

The History of the Oregon Society of Anesthesiology: The First 40 Years

Roger L. Klein, M.D.

The history of the Oregon Society of Anesthesiology (OSA) mirrors the progress of physician-administered anesthesia in Oregon during the last half of the 20th century. This history is recorded in the minutes and proceedings of the OSA, which were accurately kept for the first 40 years. From that time forward, records are more diffuse. The author has chosen to emphasize the first 40 years, but a summary of the modern era is included at the conclusion of the chapter.

Members and resident members of the Society, as well as the dates of their membership approval, are recorded in the proceedings but will not be included in this book.

The OSA minutes clearly reflect the evolution of anesthesiology as we know it today. Over a thousand educational topics have been presented at the scientific sessions of the estimated 250 to 300 meetings held through the 57 years of the Society's existence; the lectures' titles give an overview of the history of the science of anesthesiology itself. In addition, the development of the economics of anesthesia practice, political activity of the Society, local medical community interactions, the relationship between the American Society of Anesthesiology (ASA) and the OSA, and the

latter's relationship with the Oregon Association of Nurse Anesthetists (OANA) are also thoroughly represented.

The authors of this book wish to thank the nineteen secretaries of the Society for their dedicated compilation of the minutes through 1982. Even more important, Oregon medicine and the recipients of today's high quality anesthesia care in Oregon owe a debt of gratitude to those members of the Society who worked so hard to improve anesthesia care. The special (in some cases lifetime) contribution to the OSA and to anesthesiology of a few individuals, most of them pioneers, deserve special mention. These include the first president, Dr. John Hutton, as well as Drs. John Branford, Fred Haugen, Tim and Don Brinton, Clarence Hagmeir, Donald Dobson, Donald Cambell, Robert Capps, Kenneth Hillyer, Joanne Jene, and Richard Johnston. The list is not inclusive, but these individuals attended most meetings during their careers, contributed to discussions, and served as local and national officers and committee members. Most importantly they spent a significant part of their valuable off-hours pursuing the goals of the Society and thereby anesthesiology.

Organizational Structure

As stated above and unless otherwise specified, the information in this chapter is gathered from the archive minutes. Specific reference citing will only occur if other sources were used. Unfortunately an early 1970s fire in Dr. Ken Hillyer's office, apparently caused by arson, destroyed some of the records. Fortunately nearly all of the (somewhat scorched) minutes survived.

The OSA was originally known as the Oregon State Society of Anesthesiology (OSSA), and began in 1945 or 1946. It probably grew out of educational meetings that the then-anesthesiology division chairman, Dr. Hutton, held with his residents. Mrs. Enos (the wife of Dr. Hutton's second resident) recalls hosting rotating anesthesia meetings in their home.[1]

In 1973, Dr. Hillyer compiled a list of Society officers from 1946-47: Dr. Hutton, President; Dr. Russell Enos, Vice President; Dr. L. Imboden, Second Vice President, and Dr. Anton Kirchof, Secretary-Treasurer.[2] Another charter member included Dr. Fern

Greaves.[3] (A list of all subsequent officers and ASA delegates can be found in the appendix for this chapter.) Not all of the nine original 1948 dues-paying members have been positively identified. By reviewing the time when they began practicing in Oregon, we can presume that Drs. Thad Moreland and Charles Fluke were charter members. David Boals and Jean Denham may have been included. Drs. John Branford and Peter Green may have been resident members. The ASA officially granted charters to the first 30 component societies in 1948. Oregon's OSA was the 17th to receive its charter, on May 3, 1948[4]

The first folder of minutes is titled, "Oregon State Society of Anesthesiologists. Minutes of Meetings, 1945 through 1955." However, the first minutes in the folder are dated September 8, 1948, and refer to previously "approved" minutes. Vice President Dr. Imboden called this meeting to order and Secretary-Treasurer Dr. Kirchhof recorded the minutes. At that meeting, a Dr. Jean Denham was elected delegate to the ASA, which was held in St. Louis that year; she subsequently moved to St. Louis. Dr. Haugen was also introduced as a new member.

In the following years, as the numbers of OSA members increased, most of the meetings were shifted to the basement of the Oregon Medical School (OMS) library. The library continued to be used for most of the Portland meetings until 1959. (Occasionally, other meetings were held in Dr. Haugen's home, or at a restaurant or hotel.) Initially eight meetings a year were held, usually skipping the summer months. This continued for many years, but eventually poor attendance led to a reduction to five meetings per year during the 1970s and 80s. There have been three meetings a year in recent years.

Beginning in 1952, some meetings were held in other cities. The first of these was held at then-president Dr. Thad Moreland's home in Salem. Soon annual meetings were held in Eugene and Medford. Even Bend hosted the Society in 1955. Starting in 1960, a fall meeting was held at the Village Green in Eugene and has been held there on a frequent basis ever since. The Society started having meetings in the fall of the same year at the Surf Tides Inn on the coast. The first of what would become an annual spring meeting at

the Salishan Lodge occurred in 1966. St. Vincent Hospital hosted meetings from 1972 through 1974.

All meetings had both scientific and business sessions. There were frequent committee reports in the minutes in the 1950s. Committees including Program, Judicial, Economics, Placement, Constitution, and Membership were appointed in 1954. In later years, Post-Graduate Education and Acute Medicine were added. Committees were well represented in these years, with 20 members participating in 1957. Although reports from the committees were not given at every meeting, it appears that the committee members took their job seriously. Ad hoc committees also contributed. An example is the 1951 meeting, which dealt with fire and explosions; Drs. Haugen, Branford, and Boals were members.

Starting in 1960, the executive committee, consisting of the officers and invited guests, met to prepare much of the business portion before the regular meeting began.

The growth of the Society is demonstrated in Table I.

Table I
OSA Membership

Year	Members	Year	Members
1948	9	1973	130
1950	12	1975	190
1952	17	1980	279
1958	42	1988	531
1961	54	2004	508*
1965	87		

*Membership in the ASA, OSA (not practicing anesthesiologists)

The Society was awarded a second delegate to the ASA House of Delegates in 1966 when membership exceeded 100. Initial dues were $5.00 and rose to $15.00 in 1957, $25.00 in 1964,

$35.00 in 1969, and $45.00 in 1971. Present dues are $200.00. The Society set a precedent in 1950 when it assessed members to fund the expenses of holding the Pacific Northwest Anesthesia Society meeting in Portland.

The treasury's annual budget was modest in the beginning. Annual balances were in the low two to three figures. Visiting speakers began to be reimbursed in the early 1950s. A Dr. L. Carlson from the physiology department of the University of Washington received $100.00 for his expenses in 1953. The Society made an annual contribution of $25.00 to the medical school library while they held meetings there. A practice (which has continued) of supporting resident attendance at the OSSA meetings occurred when meetings began to be held in conjunction with a dinner. Further resident educational support started in 1956, when $100.00 was allotted to reimburse any resident wishing to attend the Western Biennial Anesthesia Conference or any other meeting. A practice of supporting ASA delegates with the same amount started at the same time.

The Society incorporated in 1960 as a non-profit organization. From then on, the Society began to accumulate funds that were divided into educational and general funds. The Society had $2602.74 in the combined account in 1963.

The original OSSA constitution and bylaws may have been lost in the fire. An early note mentions a requirement for a constitutional amendment to enact a motion, but the May 1954 minutes indicate that a revised constitution and bylaws were adopted at that meeting. Dr. Boals had chaired the committee to revise them. The bylaws were revised again in March 1969, and among other changes, the organization's name was changed to the Oregon Society of Anesthesiology (OSA). Both constitution and bylaws have continued to undergo major revisions through the succeeding years. Membership regulations requiring co-membership in the local county medical society created a major problem in 1960, when then-Society president Dr. John Edwards was forced to resign after he transferred his practice to the Kaiser Permanente hospital. At that time, the Multnomah County Medical Society did not accept Kaiser physicians as members.

Early Educational Activities

Initial scientific sessions apparently had a journal club and case presentation format. The previously mentioned 1948 first minutes indicate that a Dr. Charles Gray participated in a discussion of "intravenous procaine and blocks." Dr. Gray subsequently moved to Oregon and practiced in Salem for many years.

That year's following meetings showed movies dealing with carbon dioxide absorption in "closed anesthesia atmosphere" and the effects of CO_2 in anesthesia convulsions. Discussions about regional anesthesia for neck operations, signs of inhalation anesthesia, sacral nerve blocking, ether for anesthesia, anoxia, inhalation therapy, and history of anesthesia were also held. Drs. Thad Moreland and Peter Green gave an interesting presentation in 1952 on problems associated with the use of the anesthetic machine with prolonged manual ventilation for completely paralyzed polio patients. Anesthesiologists in different hospitals in the city and throughout the state assumed responsibility for part of the scientific program in 1952.

Many famous anesthesiologists lectured to the Society throughout its history. The first recorded visiting speaker was Dr. John Bonica who spoke on "Regional Anesthesia" on December 8, 1948. Guest lecturers, their topics, and the presentation dates for the first 25 years of the Society's existence are listed in Table II. Many of these speakers were or would become prominent, and in retrospect their topics have a local or national anesthesia historical significance. (See Table II)

During these first forty years, the medical school anesthesiology residents presented papers on research projects, or clinical case reports.

The educational meetings of the OSA from 1975 to 1985 continued to provide excellent speakers. Some of the more prominent doctors included Charles James Carrico, Daniel Moore, Norman Bergman, Charles Waltemath, Peter Cohen, Jordan Katz, Azmy Butrous, Bruce Cullen, Robert Stoelting, Ronald Miller, William K. Hamilton, Martin Sokol, Beverly Britt, John Ford, Gale Thompson, Edward Lowenstein, William Parmley, David Cullen, Barrie Fairley, John Bonica, K. C. Wong, Ted Stanley, Richard

Table II — Early OSA Speakers and Topics

John G. P. Cleland, MD	Caudal Anesthesia	Feb. 1949
Fred Haugen, MD	Journal Club presentation: several topics including segmental spinal anesthesia and substances used to prolong spinal anesthesia, responses to pain, and bilateral trans-pleural anesthesia	
Dr. Rosenbaum	Cardiac Emergencies in Anesthesia	Dec. 1950
Huldrick Kammer, MD	Fluid and Electrolytes	Feb. 1952
Norman David, PhD	Interaction of Anesthetic Agents and Antabuse Therapy	Mar. 1952
Loren Carlson, PhD, Univ. of Washington	Respiratory Resistance and Dead Space	Feb. 1953
W. N. Kemp, MD, Univ. of B. C.	Uses and Abuses of $C0_2$	April 1953
John Lundy, MD	Regional Anesthesia	Oct. 1953
W. Thomas, MD, a Portland physician	Fibrinolysis in O.B.	Jan. 1954
Bruce Anderson, MD, California	Medical and Legal Problems Associated with Spinal Anesthesia	Nov. 1954
Arthur Guedel, MD	Informal remarks	Dec. 1954
Dr.McCauley, PhD, Oregon Medical School	Anti-emetic Drugs	Feb. 1955
Clarence Peterson, MD	Fluid and Electrolytes	May 1955
Fred Haugen, MD	Pain Pathways	Feb. 1956
Vern Brechner, MD	Air Embolism in Neurosurgery	April 1956
Fred Shipps., MD	Screening Chest X-Rays	June 1956
Harvey Baker, MD, Surgeon	Anesthesia and Considerations in Complicated Head and Neck Surgery.	Jan. 1957
Duncan Nielson, MD	Brachial Plexus injuries in Surgery	Feb. 1957
Dr. Kohler	Coagulation Problems	Mar. 1957
Don Brinton, MD	Anesthesia Morbidity-Mortality	Oct. 1957
John Roth, MD Thomas McIntyre, DDS	Methitural Use in Anesthesia Anesthesia for Oral Surgery	Nov. 1957
Albert Starr, MD	Extra Corporeal Circulation	Feb. 1958
Leonard Rose, MD	EKG Abnormalities in Anesthesia	May 1958
John Bonica, MD	ASA District Director Report	Jan. 1959
Rex Underwood, MD	Anesthesia for Open Heart Surgery	Jan. 1960
George Thomas, MD	Anesthesia Explosions Demonstration	Feb. 1960

Virginia Apgar, MD	The First Ten Minutes	Mar. 1961
Lucien Morris, MD	$C0_2$ Addition to Anesthesia Mixtures for pH Control with Hypothermia	April 1962.
Stuart Cullen, MD	Muscle Relaxant Use	Feb. 1963
Gordon Wyant, MD, Univ. of Saskatchewan	Nausea and Emesis	Oct. 1963
Joanne Jene, MD	Experiences with Project Hope	Sept. 1964
Tom Hornbein, MD	Everest, The West Side Story	Mar. 1965
Ted Eger, MD	M.A.C.	Aug. 1965
George Lewis, MD	Pediatric Anesthesia and Long-Term Ventilation in Infants	Oct. 1965
John Bonica, MD	History of the ASA	Feb. 1966
Morley Singer, MD	Intensive Care	Aug. 1966
Ty Jenkins, MD	Volume Therapy with Lactated Ringers	Nov. 1966
Gorum Babson, MD	Newborn Resuscitation	Jan. 1967
Raymond Fink, MD	Nitrous Oxide Toxicity	Mar. 1967
Richard Lillehei, MD	Shock	April 1967
John Steinhaus, MD	[unknown]	Aug. 1967
James Eckenhoff, MD	[unknown]	Sept. 1967
C. Ron Stephens, MD	Future Trends in Anesthesia	May 1968
Carl Wasmuth, MD	The Future of Anesthesiology	Aug. 1968
E. M. Papper, MD	Post-Anesthesia Hypoxia	Nov. 1968
John Campbell, MD	Neonatal Surgical Emergencies	Feb. 1969
David Little, MD	Halothane	April 1969
James Matthews, MD	Myths in Anesthesia	April 1969
Rudolph De Jong, MD	Axiliary Block	Aug. 1969
William K. Hamilton, MD	Oxygen Toxicity and Anesthesia for Carotid Artery Surgery	Nov. 1969
Barrie Fairley, MD	The Patient and the Ventilator	Feb. 1970
Francis Foldes, MD	Anesthesia Contribution to Medicine Muscle Relaxants, Neuroleptic Anesthesia	April 1970
Peter Safar, MD	CNS considerations in Respiratory Failure and its R/X	May 1970
Frank Moya, MD John Adriani, MD	Current Concepts in OB Anesthesia The first Haugen Lecture on Sept. 11, 1970: Vignettes of Anesthesiology History, including his interactions with Dr. Haugen	Sept. 1970
Thomas Burnap, MD	Organizing the Cardiac Arrest Team in the Community Hospital Prolonged Artificial Ventilation in the Community Hospital	Oct. 1970

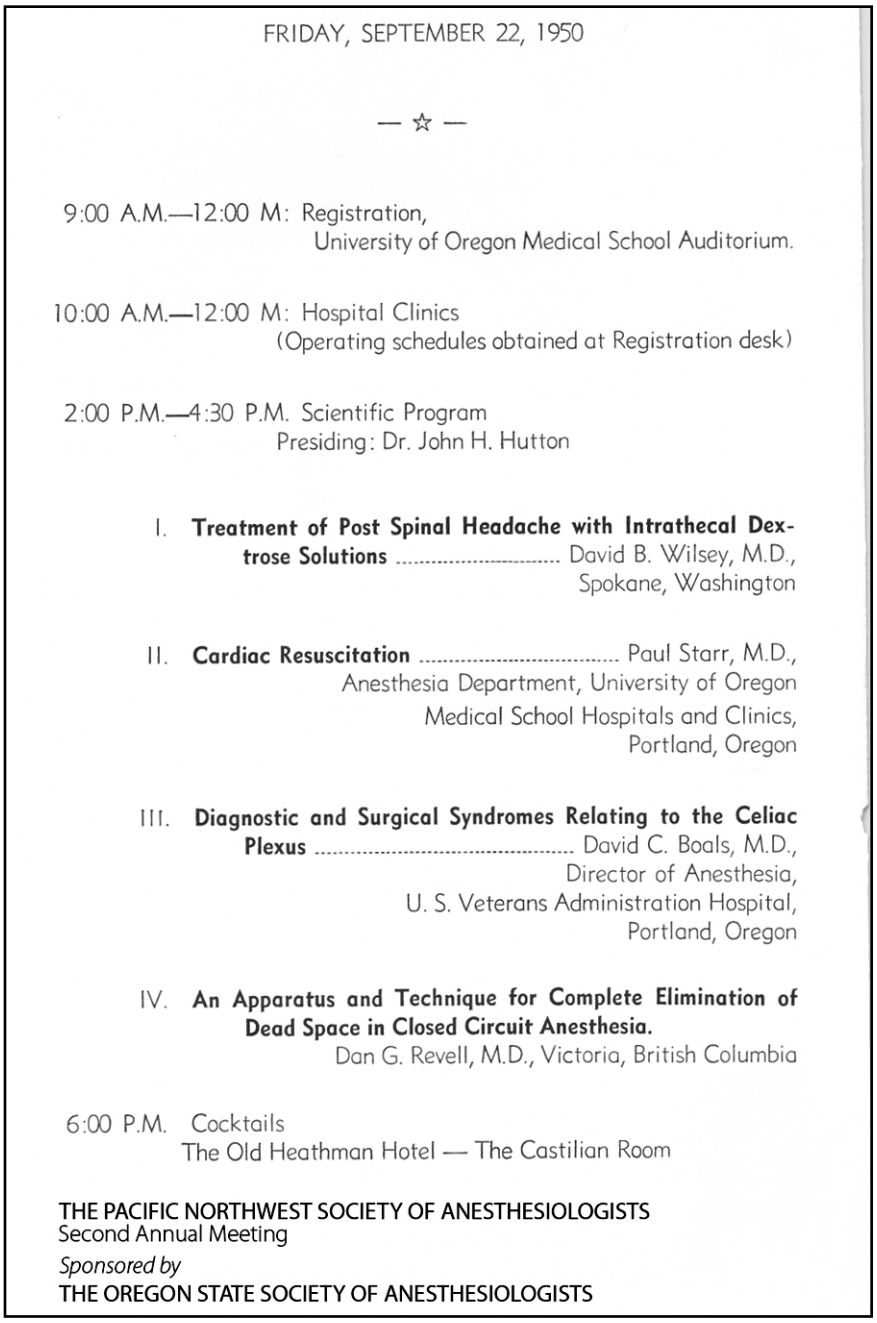
Norman Bergman, MD	The Physiology of Artificial Ventilation	Nov. 1970
Daniel C. Moore, MD	Marcaine, a New Long-Lasting Local Anesthetic Management of Reactions to Local Anesthetics	Jan. 1970
Henrik Bendixen, MD	Anesthesia With High Dose Morphine	Feb. 1971
John S. Denson, MD	Droperidol and Fentanyl	Mar. 1971
John Severinghaus, MD	What Business Anesthesiologists Have On Mountains	April 1971
John Dillon, MD	Anesthesiology Man Power Problems with Ketamine	May 1971
George Lewis, MD	Anesthesia For the Neonate Endoscopy In Children	May 1971
Philip Bromage, MD	The Advent of Medicare in Quebec Anesthesia and Obesity in Quebec Anesthesia and Coronary Artery Disease in Quebec	Sept. 1971
Walter Bernards, MD	Central Anticholinergic Syndrome and R/X Physostygmine Spinal Headache R/X Blood Patch	Jan. 1972
William Horton, MD	Acute Respiratory Failure Requiring Mechanical Ventilation	June 1972
Wallace Ring, MD	Management of Croup in Children	June 1972
Ronald Katz, MD	Hypnosis and Acupuncture Pancuronium Anesthesia for Pheochromocytoma	Oct. 1972
Jim Rhee, MD	Acupuncture	Dec. 1972
Fred Cheney, MD	Inhalation Therapy Service Organizations	Jan. 1973
Marion Carnes, MD	Cardiac Dysrhythmias During Anesthesia	Feb. 1973
Harry Lowe, MD	Totally Closed Anesthesia and Use of an Oxygen Analyzer	Feb. 1973
Arnold Sladen, MD	Poison Management Flail Chest Management	May 1973
Myron Laver, MD	Oxygen Transport in Man The Heart and Acute Respiratory Insufficiency	May 1973
Norman Bergman, MD	Myths in Anesthesiology	Sept. 1973
David Bruce, MD	Interaction of Anesthesiologists In the OR Environment	Nov. 1973

Larry Saidman, MD	Clinical Significance of Distribution and Metabolism of Intravenous anes.	April 1974
Walter Way, MD	New Inhalation Anesthetic Drug Interactions	April 1974
John Bonica, MD	Current Pain Mechanism Concepts	April 1974
Laurence Mather, MD	Metabolism of Local Anesthetics	April 1974
Hillary Don, MD	History of Oxygen Therapy Closing Volume and Respiratory Failure	Nov. 1974

Fogdall, Phillip Larson, Carol Hirschman, David Ralston, John Scanlon, William North, Robert Bedford, Jon Benumof, Casey Blitt, Donald Stanski, Ted Eger, Fred Cheney, Harvey Shapiro, Michael Mulroy, Michael Roizen, Ronald Katz, and attorney David Frohnmeyer.

The OSA co-sponsored a few meetings with other state or regional anesthesiology societies. The first was the second annual meeting of the Pacific Northwest Society of Anesthesiology in April 1950. This was a short-lived Society comprising Oregon, Washington and British Columbia. The California Anesthesiology Society also belonged, but it appears from the minutes that there were problems with their participation. The meeting was held in Portland and the program is displayed in Fig. 1

The 1949 minutes indicate that there was considerable planning for this meeting. The expenses were underwritten by a $50.00 assessment of the Oregon members, with the total assessment being $600.00. This was later refunded with a $257.50 profit turned over to the OSSA treasury. There were forty-seven attendees, thirteen from Oregon. Drug companies provided financial support and exhibited at the meeting. The Biennial Western Conference of Anesthesiology soon supplanted this organization. Its May 1960 meeting was held in Portland. The OSA held joint meetings with the Washington Society in 1975-77 and again in 1988. The Society attempted to establish a “section of Anesthesiology” with the Oregon Medical Association, (OMA) through Dr. Branford. A delegate to the OMA House of Delegates was appointed. Delegate names are included in the minutes and a few anesthesia lectures were given at the OMA Sumner lecture



FRIDAY, SEPTEMBER 22, 1950

— ☆ —

9:00 A.M.—12:00 M: Registration,
University of Oregon Medical School Auditorium.

10:00 A.M.—12:00 M: Hospital Clinics
(Operating schedules obtained at Registration desk)

2:00 P.M.—4:30 P.M. Scientific Program
Presiding: Dr. John H. Hutton

I. **Treatment of Post Spinal Headache with Intrathecal Dextrose Solutions** ..... David B. Wilsey, M.D., Spokane, Washington

II. **Cardiac Resuscitation** ..... Paul Starr, M.D., Anesthesia Department, University of Oregon Medical School Hospitals and Clinics, Portland, Oregon

III. **Diagnostic and Surgical Syndromes Relating to the Celiac Plexus** ..... David C. Boals, M.D., Director of Anesthesia, U. S. Veterans Administration Hospital, Portland, Oregon

IV. **An Apparatus and Technique for Complete Elimination of Dead Space in Closed Circuit Anesthesia.**
Dan G. Revell, M.D., Victoria, British Columbia

6:00 P.M. Cocktails
The Old Heathman Hotel — The Castilian Room

THE PACIFIC NORTHWEST SOCIETY OF ANESTHESIOLOGISTS
Second Annual Meeting
Sponsored by
THE OREGON STATE SOCIETY OF ANESTHESIOLOGISTS

Figure 1 – Program for the 1950 2nd Annual Meeting, Pacific Northwest Anesthesiology Society

series; Drs. Harry Beecher and Sol Shnider were two of the lecturers.

Economic Issues

As one might expect, the minutes contain numerous references to financial matters. The development of private practice of anesthesiology coincided with third-party payers, (accustomed to paying hospitals for anesthesia services), increasingly covering physician charges. The minutes describe some of the efforts made to have anesthesia charges be reimbursed as "fee for service." It is fair to say that Dr. Haugen took a strong leadership role and was a very staunch advocate of fee-for-service anesthesiology practice.[5] Dialogues with agencies of the era were recorded. Oregon Physicians Service (the physicians' arm of Blue Cross and soon to be Blue Shield), the State Industrial Accident Commission (SIAC), and the Oregon School Activities Association were the most active payers.

At that time, at least, the SIAC had a standard anesthesia fee schedule. Anesthesiology charges to private patients and other agencies were probably similar to this schedule. In 1948, the first hour of anesthesia was reimbursed at $18.00 and $10.00 was allowed for each succeeding hour. $20.00 was the first-hour charge for emergencies. The anesthesiologist furnished the anesthesia machines and gases. The hospital provided (and charged for) pentothal, "pentothal sets," spinal trays, and curare.

In 1951, the following hour rate was raised to $12.00, and a $5.00 pre-op visit charge was allowed. The first-hour allowable charge for emergencies was $22.00. Time unit charges of 15 minutes (after the 1st hour) were introduced in 1952, with a charge of $3.00 per unit. Payers initially only recognized 30-minute units.

Soon the issue of reimbursement for more complicated cases was raised. In 1953, the payers required prior authorization for higher rates. $75.00 per complicated case, including heart and thoracic cases, was the recognized norm for some years. The third party payers then attempted to separate "major" versus "minor" anesthetics. For "minor cases" involving procedures where the surgeon's fees were less than $100.00, reimbursement of $5.00 was

offered for the pre-op visit, $10.00 for the first 30 minutes, $3.00 for each additional 15 minutes and $3.00 for the post-op visit. The Society vigorously, and eventually successfully, defended the concept that "there might be minor surgical procedures, but there are no minor anesthetics."

The "California Fee Schedule" was first mentioned in the 1954 minutes. There was also an attempt to correlate the anesthesia fee with a percentage of the surgeon's fee in the same year. In 1955, insurance companies complained that pre- and post-op visits were being charged, but not actually occurring. Blue Cross unsuccessfully attempted to limit their reimbursement for anesthesia to hospital employees in 1956. It is unclear if there were any anesthesiologists employed by private hospitals at that time.

Considerable conflict arose over private anesthesiologists charging for supervision of "technician" nurse anesthetists, and having them "sitting with spinals." Charges were initially refused, but eventually $15.00 was the price allowed for the first hour.

Anesthesiologists had continued to charge for "materials" if they furnished them. The ASA pointed out that this was not ethical and that "anesthesiologists should not be in the business of selling drugs." Though not everyone agreed, that practice soon faded.

A 1957 study conducted by Dr. Tim Brinton at Sacred Heart Hospital determined the costs incurred in administering anesthesia at Sacred Heart Hospital in Eugene [6] (see Table III).

Table III — Average Cost of Anesthesia by Case

Drugs and Gases	$2.108
Misc. Drugs	$0.103
Anesthesia Supplies	$0.230
Anesthesia Machine	$2.647
Spinal Tray	$0.648
Epidural Tray	$0.123
Office Expenses	$1.735

The concept of the California Relative Value Guide was officially introduced by the ASA in 1956, and the OSSA moved to

adopt it in April 1957. The initial units were four for the first half-hour, and one and one-half units for the second and third quarter hours. The next 15-minute segments allowed one unit. Apparently, the OSSA suggested one unit for a pre-op visit, and 0.6 units for a post-op visit. Anesthesia for supervised "technician"-administered anesthesia was three units. Increased charges for difficult cases could be made by submitting a separate report.

The Oregon third party payers balked at using the guide, but after two years of negotiation, it was accepted. There is no subsequent mention of charges for pre- and post-op visits in the minutes.

The phrase "usual and customary charges" in conjunction with the utilization of the ASA Relative Value Guide was first mentioned in 1967. The first Medicare reimbursement "problems" were mentioned in 1969, not for the last time. At one early point, Medicare did pay the "usual and customary fees."

By 1971, the average unit value was $7.00, with most providers using 15-minute units. The relative value guide underwent numerous revisions in the following years and continues to do so today. The minutes also reflect numerous discussions about billing for nurse anesthetist supervision over the years. 1972 was an unusually active year in this regard.

Considerable attention of the Society's business was devoted to the initial attempts of the federal government to designate anesthesiologists as hospital-based physicians and force them to become hospital employees. This would have then placed anesthesiologists under Medicare part A. The ASA, along with all its component societies, including Oregon's, successfully lobbied against this. The same organizations successfully defended a 1975 suit by the anti-trust department of the federal government when it contended that the relative value guide constituted price fixing. OSA members contributed considerable funds for legal defense fees. The suit was dropped in 1979.

The ASA-OSA Relationship

The ASA recognized from the very beginning that its strength was fostered by maintaining close relationships with its component societies, which in turn strengthened the component societies. This

combined strength of the ASA system has made it a powerful means of advancing American medicine. The ASA-OSA efforts to distribute knowledge of advancements in anesthesia had a significant impact on Oregon medicine. The many scientific sessions offered by the two organizations acted as forums where better patient care concepts were discussed and eventually came into practice; two examples are the use of recovery rooms and the elimination of flammable anesthetics. These important milestones of general medical as well as anesthetic practice will also be discussed later in the chapter.

The ASA communicated with the OSA via several methods. Letters and telephone communications were frequent; many letters were saved as part of the archives. National ASA officers have sent reports of activities to the OSA, while Oregon delegates to the ASA have made annual reports, usually included in the archives. A list of all the delegates and Oregon district directors is included in the appendix. Of course, it goes without saying that many Oregon anesthesiologists attended the various national and regional anesthesiology meetings and applied the knowledge gained to their own practices. Letters and direct mail to ASA members including the journal *Anesthesiology,* the *ASA Newsletter,* and other frequent communications made the Society influential in all of its members professional lives.

It would be difficult to include the substance of all the ASA communications that arose over the years. Economic issues have already been mentioned. Anesthesiology-Nurse Anesthetist interactions will be covered in the following section. Some of the other more interesting topics from the minutes that were mentioned in detail are listed as follows:

The first delegate report was from Dr. Haugen in 1950. In the same year the ASA requested that all component societies have a membership committee and enlist the recruitment of all practicing anesthesiologists. It would not be the last request. There was also a move to start a national women's auxiliary in 1951, but it never caught on.

Periodic ASA dues increases over the years were not always met with favor by the OSA members. The ASA suggested districts

form study commissions to report anesthesia statistics. It is unclear if this was ever done. The ASA also recommended that remuneration discussions with Blue Cross-Blue Shield be diplomatic.

The Park Ridge Offices were opened in 1960. Initial reaction to the Wood Library Museum of Anesthesiology was that it was inadequate and consisted mainly of poorly organized papers and equipment. There was an attempt to move it to San Francisco, which, the OSA supported.

In 1962, the ASA suggested that each component Society be responsible for ethical policies of its members. No initial guidelines were mentioned. The ASA recommended all societies become actively involved in supporting hospital "inhalation therapy" (respiratory care), departments in 1965.

The first mention of the ASA soliciting nominations for the Society's "Distinguished Service Award" occured in 1962. Dr. Haugen was nominated for the first time in 1966. The OSA actively campaigned for him, and he eventually received the award in 1968.

In 1965, the Society began promoting medical student anesthesia preceptorships, as a means of recruiting students into anesthesia. This was a very active program for several years. Several community hospitals participated.

Regional "refresher course" meetings promoted by the ASA were first mentioned in the 1966 minutes. The ASA gave component societies authority to determine membership in the national organization in 1967.

The OSA offered to host the 1969 and 1975 ASA annual meetings in Portland. The ASA took the recommendations seriously, but after review decided there were inadequate hotel accommodations.

The ASA promoted a "Self-Evaluation Program" starting in 1968. The concept of credit hours for post-graduation educational activity was started in 1970. This quickly became a self-regulated requirement for Oregon medical licensure.

The ASA defined responsibilities of the chief of the anesthesiology department in hospitals in 1966: to be responsible for maintaining standards and accreditation of personnel and equipment. The Joint Commission for Accreditation of Hospitals (JCAH)

requested input on what anesthesiology departments should consist of that same year and moved to set standards for anesthesia in 1971. Acupuncture was first addressed in 1972.

The original Regional Directorship (17) consisted of Oregon and Washington. When Alaska and Hawaii were added, it was changed to District 23. Realignment again occurred in 1975 when Oregon and Hawaii split off to form District 26. At present, the ASA Board of Directors and their alternates have representation from each state.

A 1980 public relationship campaign was spearheaded by the ASA through the media to help the public get a better appreciation of anesthesiology.

The ASA began sponsoring legislative sessions of representative members of all component Societies with their state members of the U.S. Congress in 1981. These informative meetings have been very important in fostering better understanding between anesthesiology and the federal government.

The OSA Relationship with Nurse Anesthetists

As stated in the preface, this book is attempting to make a serious and hopefully unbiased effort to describe the history of all of the Oregon anesthesia providers. Therefore, it is necessary to discuss the relationship between the physician anesthetist-anesthesiologists and nurse anesthetists (CRNAs). This issue is difficult to view dispassionately. The following paragraphs reflect the author's opinions gleaned from many years of observations. We have also integrated comments from other respected individuals with similar backgrounds.

The first chapter describes the historical development of anesthesia providers, from part-time physician anesthetists, recruited lay personnel, the beginning of some nurses taking a special interest in anesthesia delivery, the rise of professional nurse anesthetist training, the failure of early full time physician anesthetists to succeed in Oregon, and by 1920, the establishment of nurse anesthetists as the primary means of hospital anesthesia delivery. The impact of a few physicians continuing to administer anesthesia in their offices and isolated rural settings was minimal.[7] This delivery system would continue for the next 25 years.

Dr. Hutton's arrival and his few prewar trained anesthesiologists had limited effect on this delivery system. It is unclear whether the Portland hospitals of Good Samaritan, St. Vincent, and Emanuel employed any of these physicians or whether they were in private practice from the beginning. The physicians initially worked separately from the CRNAs and did cases according to surgeons' request. Dr. Thomas Joyce, chairman of the Surgery Department at the Oregon Medical School (OMS), used Drs. Hutton and Dolores (Defaccio) Mills as his personal anesthesiologists at different times. Dr. Marjorie Noble, who was trained by Dr. Hutton at OMS, stated that upon graduation in 1943, she went in to private practice in Portland.[8]

World War II interfered with the growth of anesthesiology as many male physicians entered the military. There, many physicians were exposed to shortened anesthesia training courses. When they returned from the war, they sought additional anesthesia training and anesthesiology was now looked upon as a desirable medical specialty. Resident graduates from the Oregon program increased.[9] Anesthesiologists from other training programs also moved to Oregon, as it was perceived that the state was now receptive to physician anesthesia. Returning surgeons, having experienced physician anesthesia during their military service, accepted them. These first private practice anesthesiologists had to sell themselves. They attempted to provide coverage 24 hours a day, seven days a week, while making themselves available to do whatever was asked of them, including starting difficult IVs, doing diagnostic spinal taps, and intubations for airway obstruction, usually at no charge.[10]

As anesthesiologists' numbers increased, they had more frequent interactions with CRNAs. Initially this consisted of physicians assuming case assignment duties and providing educational classes. Dr. Enos took over the medical directorship of the St. Vincent's school of nurse anesthesia.[11] Nurse anesthetists continued to have loyal surgeons who preferred to have their favorite CRNAs work on their cases.[12] The anesthesiologist assigning cases continued to honor surgeons' requests.

Anesthesiologists were now increasingly able to convince surgeons and hospital administrators that anesthesia should finally

be considered part of the practice of medicine. It should therefore be either administered by a physician, or the person administering the anesthetic should at least be supervised by an anesthesiologist.

This undoubtedly caused resentment on the part of some nurse anesthetists, but many were either resigned to what was perceived as inevitable, or in many situations happy to have supervision with the increasingly complex nature of anesthesia. This can be noted in the comments accompanying the closure of the St. Vincent's school of nurse anesthesia in 1956.[13]

Larger hospitals developed Departments of Anesthesia and invariably put anesthesiologists in charge. They then began either direct supervision of the hospital-employed nurse anesthetists or the physicians employed them. The Sacred Heart Hospital group in Eugene began employing nurse anesthetists in 1954.[14] The Kaiser Permanente Health system employed Dr. Edwards as their department chairman in 1960. He then provided supervision for their nurse anesthetists.

It is probably safe to say that Oregon did not utilize what was eventually called the "Anesthesia Care Team" concept as completely as some other states did. This delivery system comprised several nurse anesthetists supervised by one anesthesiologist. It ensured sufficient numbers of anesthesia providers in states unable to attract sufficient anesthesiologists to cover all the cases required. It was also true that charging for simultaneous administered cases was definitely more lucrative for the anesthesiologists in that position. Because Oregon could attract more anesthesiologists, and probably because of the staunch opinions of Dr. Haugen, the Oregon anesthesia delivery system utilized anesthesiologists providing "one on one" coverage to a significant degree.

Nevertheless, nurse anesthetists continued to find employment opportunities in the larger hospitals. They were used as physician extenders before that term became popular. "Sitting" with regional anesthetics and providing breaks became part of their job description while they continued to do all types of anesthesia. The 1970 OSA minutes discuss concern over some CRNAs being taught to perform regional anesthesia, which was not routinely done by nurse anesthetists at that time. The status of the situation

can be determined in part by reviewing the 189 responses to a 1972 anesthesiologist survey (shown here in Table IV) conducted by Dr. Robert Capps, District 23 director (Oregon, Washington, Alaska, and Hawaii).[15] CRNAs were referred to as RNAs at the time. The complete report was submitted to the ASA board of directors that year.

Table IV — Relationship between Anesthesiologists and RNAs

Who hires the RNA?	Hospitals, 29, Anesthesiologists, 20 Hospitals and Anesthesiologists, 3 Freelance 3
Direct Anesthesiologist Supervision	Yes-66, 35%, No-72, 38%,
No response or not applicable of RNAs	51-27%
How many RNAs do you supervise at a time?	1 | 1-2 | 2 | 2-3 | 3 | 3-4 | 4 | 4-5 | 5+ 24 | 4 | 3 | 4 | 4 | 10 | 1 | 2 | 12 Total 66
The method of reimbursement for these services	Full charge to patient 26 Other charges to patient 11 Partial charge to patient 6 Paid by the hospital 13 Salaried M.D. practice 9
What formula do you use for reimbursement for supervision?	No formula 26 Answered yes without a formula 2 Full charge 4 ASA Relative Value Guide 2 80% of usual charges 5 No answer 11 Other (reduced charge) 16

Who employed the supervised RNAs?	Employed by the hospital 24 Employed by the anesthesiologist 32 Both 3 Other 7
Is RNA supervision considered ethical in your area if respondents supervised RNAs?	yes 64 No 1 No response 1
If respondents did not supervise RNAs?	Yes 37 No 30 No response 17 No answers or not applicable 32

In a preliminary report of this study to the OSA, seventeen anesthesiologists stated that they administered anesthesia while also supervising RNAs, while ten said that they did not. The survey does not distinguish respondents from Oregon in the overall response. From this study, it is apparent that District 23 had significant anesthesia delivery done by "RNAs."

Because obstetrical anesthesia was difficult to cover timewise, and was relatively less remunerative, some anesthesiologists avoided providing obstetrical anesthesia coverage for routine deliveries. Hospitals with large obstetrical services needed coverage, so this provided another niche for nurse anesthetists.

The ASA stated in 1975 that, as in the foreseeable future, there would never be sufficient anesthesiologists to provide for all of the anesthetics needed, anesthesiologists should therefore be encouraged to develop a supervisory relationship with the CRNAs.

Smaller, rural community hospitals with small surgical caseloads could not provide the same financial support for an anesthesiologist that larger community hospitals could. In time, anesthesiologists preferred to practice with at least one additional colleague to share the call schedule. Since rural hospitals had to have anesthesia coverage, they continued to hire CRNAs, even if they couldn't recoup all their costs. In reality, the hospitals had nearly always

made money when they charged for anesthesia services, and by and large this probably continued. Surgeons in these areas continued to provide nominal supervision for nurse anesthetists.

All of this led to the perception by nurse anesthetists that at least in certain situations, they could function independently. This caused a confrontational state to evolve, at least between the organizations representing the two groups of anesthesia providers.

Undoubtedly economics has driven most of the competition between the two groups. CRNAs in these independent situations feel that they should be able to bill for their services, and of course, this allows them to receive more remuneration. They continue to lobby state and national government agencies and legislators to permit them to practice independently. Anesthesiology continues to lobby against this.

This, at least in the special situations we have described, has led to the conflicts between the two groups. Other medical specialties have increasingly utilized physician extenders. But because nurse anesthetists have been in a unique position of having a historical tradition of operating "independently," and continue to do so, some nurse anesthetists, particularly the governing bodies, i.e. American Association of Nurse Anesthetists (AANA) and the OANA, continue to fight for an independent practice. Wrongly or rightly, third-party payers may perceive nurse anesthesia as being less expensive, which has continued to influence this conflict.

Other specific OSA minute comments on this subject include the following: An entry of the February 1950 minutes states that members of the ASA can participate and speak at nurse anesthesia meetings as long as the individual does not claim to represent the ASA.

In 1967, the ASA stated that since there would never be sufficient anesthesiologists to provide all anesthesia in the foreseeable future, it was acceptable for anesthesiologists to hire and teach nurse anesthetists.

In 1972, the ASA indicated that chiefs of anesthesiology departments should be responsible for the competency of the hospital's nurse anesthetists. The OSA similarly recommended that

anesthesiologists be involved in the accreditation and certification of hospital-employed nurse anesthetists.

The issue of nurse anesthetists as self-employed fee-for-service providers was first mentioned in 1974. It was also suggested in 1978 that the subject of nurse anesthetists giving regional anesthesia be referred to the Judicial Council (?).

The recent status of anesthesia providers in Oregon is this. According to a survey conducted in 2001, there were 540 anesthesiologists and 171 CRNAs practicing in the state.[16] As of 2003, Oregon has elected to opt out of the Medicare rule requiring physicians to supervise CRNAs administering anesthesia for Medicare patients.[17]

The two national groups have recently began to hold joint meeting to look for common ground.[18]

Special Activities of the OSA

Over the years, the Society has been involved in various activities that do not fall into the previously described major categories. Some of these are included in the following:

The Society debated getting a device to test electrical conductivity in 1953. It would be owned by the Society and passed around the various hospitals for demonstration purposes; it is unclear if it was ever obtained.

The Society began supporting the Oregon Medical Political Action Committee (OMPAC) in 1965. In 1966 it assisted the JCAH in introducing guidelines for "what anesthesia should be in a hospital."

Paramedic (or ambulance attendants as they were then called) training in airway management was started in 1968 with OSA assistance. Drs. Jerry Bass and Roy Clark took the initial responsibility. This activity continued in the following years.

The OSA began an active role in teaching "Inhalation Therapy Technicians" (respiratory therapists) in 1969. Dr. Don Dobson took the initial interest.

An amendment to the OSA constitution established The Haugen Lecture Fund as a separate entity in 1971.

In 1972-4, the Society acted as a forum in assisting

members having problems with the IRS's interpretation of rules dealing with car expense deductions. Apparently to no surprise, the IRS won.

In the same years, three additional issues were raised. These included recertification of anesthesia providers; what constituted informed patient consent for anesthesia; and if a telephone consultation service should be established to assist small hospitals with anesthesia questions. The first two issues continued to be discussed in later years. The consult service was established, but its formal status deteriorated. It eventually became an informal networking system between CRNAs.

The Society made a plea to have members provide anesthesia care for uninsured indigent patients not covered by welfare in 1973.

The problem of the increasingly high cost of malpractice insurance for Oregon, and the reduction of malpractice carriers, caused considerable alarm in the mid 1970s. Dr. John Hasbrook led an influential group of Society members to help improve the situation. Increasing utilization of equipment improvements, i.e. disconnect alarms and pulse oximeters, reduced the incidence of anesthetic mishaps, and malpractice premiums stabilized. However, the issue has recently become a problem again.

By 1977, flammable anesthetics were being phased out. The Society advocated that hospitals designate special operating rooms for flammable anesthetics. Within a year or two, even these were eliminated.

Recovery room nurses were invited to attend the 1977 Salishan meeting. The Society provided their state Society with a donation in 1980.

The issue of fathers in the delivery room was positively addressed in 1979 for the first time. The following year, the problem of the drug addicted physician became a local and national concern. Advanced life support classes (ACLS) for hospital-based personnel started in 1981. The Society recommended anesthesiologists support this activity in their hospitals. An ACLS certification class was offered at the 1986 Salishan meeting. The Society participated in a national anesthesia manpower ASA study in 1983, and assisted in the establishment of the Oregon State Regional Trauma

centers starting in 1985. This included support for Advanced Trauma Life Support certification.

Modern Era Summary

The last quarter century has seen the maturation of anesthesiology as a medical specialty. This maturation has also occurred in the component societies representing the specialty. The OSA has continued to provide a role in education, but the number of other means of obtaining medical information has grown tremendously. Therefore the number of scientific meetings have decreased. Governmental affairs have increasing become a national concern of all medical specialties, including anesthesiology. This is primarily because of the huge growth in both the health delivery system and the cost to provide it. The federal government has had an ever-increasing influence in regulating the economics of health care. This has required anesthesiology to become more and more active in lobbying the government for both reimbursement issues as well as maintaining and improving the quality of anesthesia care. The OSA has contributed funds as well as manpower towards these endeavors, but obviously it has had to integrate its more modest contributions with the ASA. Changes have been made in their respective corporate status to permit political activity and establish political action committees (PACs) to solicit funds for lobbying activity at the state and national levels. Several members have participated in an annual meeting in Washington, DC, joining representatives from all fifty states in meeting with members of Congress and their aides. A highlight is meeting with Oregon's Congressional representatives. Resident members have also attended this meeting each year at the expense of the OSA.

The ASA has fostered a number of new programs, which the OSA and its members have supported. The Anesthesia Consultation Program is a program for hospital anesthesiology department review by the Committee on Quality Management and Departmental Administration (in which OHSU anesthesia faculty member Dr. James Hicks has had a leadership role).[19] Others include the Anesthesia Patient Safety Foundation; The Closed Claims Project (a review of malpractice claims looking for trends

in anesthesia mishaps to provide corrective measures); establishing "Standards for Basic Interoperative Monitoring"; the Foundation for Anesthesia Education and Research (which has already contributed over $12.3 million for research); establishing guidelines for Ambulatory Anesthesia and for Office-Based Anesthesia; Statements on Qualifications of Anesthesia Providers in the Office-Based Setting; Practice Guidelines for the Management of the Difficult Airway and also for Pulmonary Artery Catheterization; and acceptance of anesthesiologist assistants as educational members. Members of OSA have supported these activities to varying degrees. Several members have participated in either the ASA Overseas Teaching Program or have participated in providing anesthesia and anesthesia education in other international programs.[20]

This growth has led to the Society hiring executive secretaries. These include Joyce Gullickson, serving from 1984-90; Shirley Johnson, 1990-94; and Sondra Gleason, from 1994 to the present.

Reviewing of all of the activities and history of the OSA illustrates that the growth of the Society mirrors the evolution of anesthesiology as a branch of medicine. There are several facts to consider. The vast scientific body of knowledge gained by anesthesiology research has come from anesthesiology departments. The ever-increasing challenges required by newly innovative surgeries on sicker and sicker patients have required anesthesia to be administered by physicians with a deep knowledge of many facets of medicine. Finally, the dedication and sacrifices of so many physician anesthetists has brought the specialty to the level that exists today. Therefore, the goal of proving that anesthesiology is truly the practice of medicine, so adamantly believed by those early physicians, has been met.

Chapter Three

Nurse Anesthesia in Oregon

Suzanne Brown, CRNA

In 1896, Sister Andrew Moreau entered into her diary the first record of anesthesia administration by a nurse in Oregon. This was one year after the Sisters of Providence opened their new hospital in the west hills of Portland. All the sisters of the Catholic Order were encouraged by their superiors to keep detailed diaries of their duties. In Astoria's St. Mary's Hospital, Sister Mary Vincent Brown reported her nurse anesthesia duties in 1897.[1]

Because nurses in surgery were often called upon to give ether or other anesthetics in addition to their other duties, it is unlikely that these sisters were the first nurses to take up the practice of anesthesia in Oregon. The sisters' diaries stand as the first records of nurse anesthesia. The first identifiable nurse anesthetist in the country, as identified by Virginia Thatcher in her *History of Anesthesia,* was Sister Mary Bernard in St. Vincent's Hospital in Erie, Pennsylvania, 1877.[2]

These nurses administering anesthesia in the 19th century did not consider themselves "nurse anesthetists," but nurses who responded to a need. In 1893 Isabel Adams Hampton Robb, an early nurse educator, devoted an entire chapter to administration of anesthetics in her book: *Nursing: Its Principles and Practices for*

Hospital and Private Use. Clearly, nurses were performing or administering anesthesia prior to the publication of this book in 1893, but it was considered a part of the nursing practice, and not a separate function, as we know it today.[3]

Early Providers of Anesthesia

During the early years, it was likely that anyone who was available — nurse, resident or medical student — provided the anesthetic. An editorial of 1897 outlined the practice:

> Not infrequently, as all operators are aware, the life of the patient, no less than the success of the operation, is jeopardized by the careless or ignorant manner in which this important part of the procedure is carried out by a novice just out of the medical school. In almost all institutions it is the junior on the staff, who is going through the process of gaining knowledge and skill rather than applying that previously acquired to who this important duty is given over.[4]

Although not specifying Oregon, this description reflects the situation throughout the country as the 19th century drew to a close. Surgery was the important function; anesthesia was secondary.

At the beginning of the 20th century, the ability to control pain with anesthesia and the incorporation of the concepts of sepsis and antisepsis created more marketable circumstances for surgery. As demands for the services of surgeons rose, so did the surgeon's prominence in the operating theater and in the medical community. Medical students became more interested in being surgeons.

The administration of the anesthetic was a secondary role to the emerging eminence of the surgeon. This task interfered with the student's main goal, learning surgical techniques. The administration of the anesthetic was often ignored until the patient moved, complained or became morbid. Residents and students began to rebel against the assignment; anesthesia duties were not considered an important step in their surgical career.

These residents and students knew other facts about anesthesia duties. In earlier days (1875), it was common for the surgeon to provide a portion of his fee to the anesthetist. The surgeon had

control: the income of the anesthetist was at the mercy of the surgeon. The ethical issue of this fee-splitting practice raised many issues of conflict of interest.[5,6] The economic remuneration was not satisfactory for other physicians. Anesthesia was not seen as a career choice, and nurses were increasingly used to provide anesthesia.

The First School of Anesthesia, the Rise of The Trained Nurse Anesthetist

In 1908-9, Good Samaritan and St. Vincent's hospitals were still using interns to deliver anesthesia care. The interns of 1908-9 rebelled and passed a resolution stating that "they were not going to spend their internship giving anesthetics." [7] This revolt solidified the position of the nurse as anesthetist and the first school of Nurse Anesthesia in the United States was founded at St. Vincent hospital in 1909. (Also see Chapter One). Dr. Sternberg was the first medical director of the new school, and Agnes McGee became the director. See Figure 1. Agnes McGee was a nurse who graduated from St. Joseph's Hospital School of Nursing in Chicago in 1907. She traveled to Heidelberg, Germany after graduation to train in anesthesia administration and surgical supervision.

When St. Vincent's Anesthesia School was founded, Agnes McGee was apparently already working at St. Vincent. It is not clear if Miss McGee was only employed at the school or if she combined supervision of the operating room and directing the school. Many nurse anesthetists of this era were assigned additional duties beyond that of nurse anesthetist.

The School for Nurse Anesthetists at St. Vincent expanded and flourished under Miss McGee's leadership. The initial duration of the course was four months. The students studied anatomy, physiology of the respiratory tract, pharmacology of anesthetic agents and techniques of the administration of anesthesia. By 1939, the term of study for nurse anesthetists had expanded to one year in duration.

The numbers of students enrolled at one time are not known, but the OANAgram for March 1953 lists five students as having started their course of study in February. It is likely that the class

Figure 1 – 1953 Award of Appreciation to Agnes McGee from AANA President and Oregon resident, Josephine Bunch.
By permission of Christoff Studios and the AANA Archives File)

size was smaller in the early years of the school. As of July 20, 1949, a letter from Sister Agnes notes that 142 students had graduated to date. The school continued to teach the administration of anesthesia until 1956.[8]

The School was a force in elevating the practice of graduate anesthetists. The introduction of ethylene (1923) and cyclopropane (1933) prompted the offering of a refresher course for graduates of the school, who were invited back for lectures and clinical experience in new agents. The exact number of refresher courses is not known.

Learning the Art of Anesthesia

When Agnes McGee first came to Oregon, neither oxygen nor nitrous oxide were used in local hospitals. She reported that she ordered the first tank of oxygen for $11.50, a significant sum in the early 1900s. Eventually she was able to obtain commercial oxygen, which was much cheaper. It is not clear where or from whom the first tank was procured.[9]

When she arrived in Portland, Miss McGee brought many of the advanced methods used in hospitals back east. She also traveled east in the following years, visiting hospitals and bringing the latest ideas about anesthesia to Oregon when she returned.[10]

The art and science of anesthesia was frequently learned by traveling to a medical center to study the techniques used in that institution. Although we do not know the exact places that Agnes McGee traveled to learn about anesthesia, the Mayo Clinic in Rochester, Minnesota is one likely center where she might have gone.

By 1899 Alice Magaw, a nurse working with the Mayo brothers, Drs. Charles and William Mayo, had administered three thousand anesthetics. A paper published in the *Northwest Lancet* brought increased attention to the Mayo brothers and fame to their anesthetist, Alice Magaw. Many physicians and nurses traveled to Rochester to learn surgery and anesthesia techniques.

The British physician Dr. Dickinson-Berry reported one learning experience to the Royal Society of Medicine in 1912:

> There was seldom any trouble during the first stage of anaesthesia, the anaesthetist continued to talk to the patient, describing in an encouraging manner the process of going under and assuring him he was taking the anaesthetic well…The essential feature of the open ether method in America was the absolutely continuous administration; a drop on the mask every two seconds was the rate. In fact, at Rochester it was called the drop method. In this country (England) the anaesthetist would often pour 2 dr. or 3 dr. on the mask, then stop for a few minutes and then pour a few more drachms on the mask. This was not open ether as

> practiced in America…Ether by the open method with the skill exhibited at Rochester requires much practice.[11]

The separation of physician training and nurse training in anesthesia was not distinct in these early years of both professions. In Oregon, Agnes McGee taught an anesthesia course at the Oregon Medical School in 1915.[12] The Mayo Clinic, in Minnesota, saw both nurses and physicians coming to learn from Ms. Alice Magaw.

Other notable early institutions of early training in anesthesia were the University of Pennsylvania and Lakeside Hospital in Cleveland. There was often an emphasis on a particular technique at each institution. In Cleveland, Dr. George Crile and his nurse anesthetist, Agatha Hodgins, emphasized the use of nitrous oxide, with the addition of oxygen supplemented by ether, morphine or scopolamine. They reported over 10,787 operations without an anesthetic death in 1909.[13] At the Mayo Clinic, Alice Magaw preferred the open-drop method of administering anesthesia. In her 1906 paper, Miss Magaw reported over 14,000 cases performed without a death attributable to the anesthetic.[14]

Through shared information, progress was clearly being made in the science and art of anesthesia. Alice Magaw stressed the need to be sensitive to the needs of each patient when she wrote in 1906: "It is a mistake to think that the same elevation of the head will do for all patients…All jaws can not be held in the same manner."[15]

Controversy Develops

A few physicians practiced anesthesia in Oregon during the early 1900s. Some of these, Drs. Coe, Browning, J.B. Barker, and others, felt that anesthesia was the practice of medicine and nurse anesthesia was inappropriate.[16,17,18,19] Editorials in the *Medical Sentinel* expressing opposition were common. The titles alone give an idea of the intent of the writer: "The Nurse Anesthetist" and "Haphazard Anesthesia." Writers argued nurses did not have the proper education to provide sufficient medical judgments to manage pre-, inter-, and post-operative medical problems, and, anesthesia was more than a technical exercise.

The most influential Northwest surgeon in the early 1900s, Dr. R.C. Coffey, was in favor of nurse anesthesia. He stated in a 1908 editorial in the *Medical Sentinel* that many times it was impractical to have a doctor give an anesthetic, commenting that the average physician did not give enough anesthetics to be familiar with the condition of the patient during the various stages of a serious operation. He believed anyone not in the habit of actually administering many anesthetics was dangerous.

Dr. Coffey stated experienced surgeons found that a nurse who has good training, good judgment, and intuition, gives anesthetics with less danger than any doctor. He cited the experience of the Mayo Clinic and most leading U.S. physicians, including Drs. Murphy and Oviatt.[20] The surgeon's increasing reliance on the quality of anesthetic delivered by trained nurse anesthetists in Oregon was also true in other parts of the country.

Reports by Agatha Hodgins and Alice Magaw of thousands of anesthetics given by nurses without an anesthetic-related death were very influential in supporting the growth of nurse anesthesia throughout the country. It is fair to say that the nurse anesthetist contributed a significant role in Oregon anesthesia in the first half of the 20th century.

The discussion about anesthesia providers, nurse or physician, was mirrored across the nation. Although the conflict between nurses and physicians in Oregon did not erupt into legal warfare, it did in other parts of the country. Court cases in Kentucky (Frank v. South, 175 Ky. 416, 1917) and California (Chalmers-Francis v. Nelson, 6 Cal.2d 402, 1936) continued to recognize the validity of nurses providing anesthesia care. This issue would again be raised in the national arena during the 1980s and is likely to continue to be discussed. However, the facts were clear: a significant need for providers existed nationwide. World War I, and later, World War II created an acute shortage of anesthesia providers. This demand would change the profession of anesthesia.

World War I

During World War I, Dr. George Crile, a noted surgeon who had been associated with the nurse anesthesia program at Lakeview

Hospital, Cleveland, was responsible for starting a civilian nurse anesthetist program in Neuilly, France. He was so successful that in 1918 the British trained some two hundred nursing sisters in anesthesia in France. The military shortage was so acute that the army drafted dentists to staff anesthesia positions for hospitals in England and France.[21]

World War I found the United States military short of anesthesia providers at a time when the demand was strong and equipment limited. Anesthetists had to be creative and work with some significant limitations. It is of general interest to note that the list of anesthesia supplies during the war included ether, chloroform and ethyl chloride, but no equipment.

Other medical advances occurred because of the war. Significant advances in the understanding of the mechanisms and treatment of shock developed due to the sheer numbers of patients suffering from trauma and the resulting blood loss. Blood transfusions became practical, and the importance of maintaining fluid volumes by mouth or rectum was established. The necessity of keeping the patient warm and the usefulness of elevating the foot of the bed to encourage the return of the blood to the abdominal cavity were confirmed.[22] These wartime advancements were later applied to the anesthesia care of civilians.

Between the World Wars, Professional Organizations Develop

Nurse anesthetists had proved very useful and necessary during WWI. Their place in the delivery of anesthesia care was further established. Nearly all of the civilian operating rooms in the United States utilized nurses for anesthesia after World War I. This included the military.

Nationally the numbers of nurse anesthesia programs grew and so did the professionalism of the group. In the 1920s, attempts to form a special interest group for nurse anesthesia within the American Nurses Association (ANA) were not fruitful. There were nurses who characterized anesthesia care as outside of the defined practice of nursing or, more strictly speaking, within medicine. The ANA rejection of a nurse anesthesia section within

their organization led to the formation of a separate professional organization.

The first alliance of the fledgling group was with the American Hospital Association. (Starting in 1937 the Oregon State association would have a strong alliance with the Western States Hospital Association that would last for decades, with only a brief interruption during World War II.) In June 1931, the American Association of Nurse Anesthetists (AANA) was founded.[23]

In Oregon, an organizing meeting for the Oregon Association of Nurse Anesthetists (OANA) was held on October 8, 1935. The organization of the State Association and a resolution to affiliate with the American Association of Nurse Anesthetists was made at the November meeting. Aimee Doerr was elected president, Alvine Amort as vice-president and Bernice Maher as secretary-treasurer. Executive and membership committees were appointed.[24]

A major purpose of the newly formed organization was to further education. The fourth meeting of the group, in March 1936, had a discussion of Avertin given by Dr. Pease. The June meeting featured a paper given by Mrs. Shaw of San Francisco and in September, Dr. J. M. Roberts gave a lecture on medication. (See appendix of education meetings)

The meetings of the new organization during its first decades were held in Portland, which limited attendance by members outside of the urban area. The OANA newsletter, the *OANAgram,* frequently carried detailed notes from a speaker or educational presentation. By 1942 some eighty copies of the newsletter were sent to members throughout the state.[25] Although the state association did not produce a journal, then or now, the early *OANAgrams* frequently contained the equivalent of journal articles.

In the *OANAgram* of 1942, Aura Hakala writes a detailed technique for administering cyclopropane, including suggestions on dealing with pulse irregularities. “An irregular or rapid pulse…may denote a toxic reaction to the gas, and it may be wise to lighten the anesthetic mixture by the addition of [more] oxygen. If the trouble persists, it may be wise to change to some other agent, such as ethylene or ether.”[26]

The alignment of the OANA with the Western Hospital Alliance in the late 1930s allowed the small group to hold regional meetings under the umbrella of this larger group. Their shared interests made this relationship a good one for several years. (There was a brief period during the war where the OANA only paid dues to the local Oregon Hospital Alliance, due to the difficulties of traveling.) [27] Many hospitals, especially those in non-urban areas, did not have physician anesthetists. The interests of those anesthetists and the hospitals they served were often similar.

OANA meeting notes reflect the somewhat strained relationship between some physicians and nurse anesthetists continued. An item discussed during the October 11, 1937 meeting was "the attitudes of doctors toward nurse anesthetists." No further details were noted in the minutes, but many local physicians continued to support the organization with lectures given on anesthesia topics. Nurse anesthetists gave some educational lectures but local physicians did the majority of educational sessions during the next couple of decades.

The educational column was one of the features of the early newsletters of the OANA, the *OANAgram.* In October of 1940 the following lecture on Operating Room Hazards noted:

> During the past few months there have been reports of several serious accidents occurring while flammable anaesthetics were being used. To help minimize dangers from electro-static discharges, we have found a few helpful hints:
>
> Forbid the use of rubber or crepe soled shoes in the OR unless these are equipped with conductive metal straps (now available).
>
> Before starting the anaesthetic, breathing tubes and bags forming part of the machine should be thoroughly rinsed with a similar solution, 4% calcium chloride. It should not be used on the face cushion, as it would cause skin irritation.
>
> Live cauteries, radio knives, and high frequency machines, as well as X-ray of fluoroscopic equipment, should not be used during the administration of Ethyl Ether, Vinyl Ether, Ethyl Chloride, Ethylene, or Cyclopropane.[28]

Continued Growth in Nurse Anesthesia Training

Nurse anesthesia continued to grow in Oregon in the period between the wars. A second school was founded at the Oregon Medical School, now known as Oregon Health & Sciences University. The exact dates of the existence of the school are not clear, but the February 1942 *OANAGram* gives the following information:

"Dr. Hutton has decided to continue his School of Anesthesia at the Medical School. The school comes up to all requirements, is now being surveyed, and will probably be recognized by the AANA. Dr. Hutton enrolls one student a year."

The actual numbers of nurse anesthetists, in the early years, is unknown. In the Medical Sentinel of 1914 a mention is made of some 11 nurses who were registered with the Medical Board as giving anesthesia. It is not clear if this was a mandatory requirement of all such practitioners in the state. There is no evidence that this was mandatory in latter years. Other nurses may have not applied, or already had registered. We can say there were at least 11 nurses giving anesthesia; there may have been more.[29]

In 1925, Good Samaritan Hospital in Portland listed floor nurses and anesthetists in the same category. In 1927, the anesthesia department at Good Samaritan had five trained anesthetists — both physician and nurses.[30] The Oregon Association of Nurse Anesthetists recorded 53 members in the state in 1938; by 1945, there were 93 paid members of the OANA. By 1949, the St.Vincent's school of nurse anesthesia had graduated 142 nurses trained in anesthesia; the school would close in 1956.[31]

World War II and Post-war Professional Growth

Whatever the numbers were, there was an immediate shortage of all nurses created by the advent of World War II. Once again, there was a critical need for anesthesia care. Both military and civilian hospitals struggled to furnish surgeons with anesthesia providers. The war affected the Oregon anesthetists in other ways: lectures covering damage of high explosive bombs, incendiary bombs, methods of decontamination from gas warfare, and detailed blackout procedures were now on the OANA program. (Appendix)

In 1942, the OANA decided to join the Oregon Hospital Association. Their membership in the Western States Hospital Association (WSHA) was discontinued due to the difficulty traveling with wartime restrictions on gasoline.

The OANA newsletters of the time reflected wartime problems. There were staffing shortages as nurses joined the army or moved out of state as husbands were transferred for military training. One of the members, Marie K. Faust from Good Samaritan Hospital in Portland, was lost at sea when her ship, transporting refugees home, sank. Annie Mealer, CRNA, who served in the Pacific Theater, spent three years in a Japanese prisoner of war camp.[32]

After the war, the Oregon association resumed their membership in the Western Hospital Association. The June 1946 newsletter notes that the national association has greatly increased the education requirements for anesthetists and outlined some of the relationships between state hospitals and the state association:

> The Hospitals feel free to call on us (the State Association) not only for new anesthetists but also for any other problem that may involve our members. Infrequently a girl's personality doesn't quite fit in with the staff, and then an understanding change may be made.
>
> This relationship with Hospitals has resulted sometimes into improved working hours and wages…
>
> No one can doubt that the shortage of nurse anesthetists which developed during the war period will continue for some time to come.[33]

The above letter, written by former OANA President Josephine (Bonnie) Bunch, indicates a very close relationship with the state hospital association, and one that would not be considered legal by today's standards. Nevertheless, the relationship was a proactive one.

OANA members were also encouraged to bring problems or issues with hospitals or employment to the association. At times educational forums describing new agents or methods would be arranged for members to attend, in response to their requests for

additional training.

By 1946, OANA activities had expanded. The April 1946 minutes indicated the nurse anesthetist association was becoming involved with resolving complaints about their members. A meeting was held between officers of the state association and two members who had been reported to the association with complaints. The exact complaints are not detailed in the minutes, but eventually one of the members was dropped from membership in the association.[34] There are no additional materials related to this matter in the files. In 1968 the minutes carry a notation that all non-essential and routine materials prior to 1961 were destroyed.[35] This rather remarkable action of removing someone from membership is of interest, as it most likely indicates the association's commitment to maintain standards for the profession. It is not entirely possible to make that claim, however, since the exact nature of the complaints is not detailed. In the current legal climate, such action would be more difficult, and certainly would create a much larger and more detailed paper trail.

Surveys were also performed in 1946. A survey of the weekly hours of work and call at various hospitals reported in the April minutes read:

Coffey Hospital	64 hours
Emanuel	64 hours
St. Vincent (Portland)	48 hours
Portland Sanitarium	64 hours
Multnomah County	100 hours

Although actual hours of work versus stand-by call are not noted separately, the nurse shortage was still a large factor. The state association mentions several negotiation sessions with the Western States Hospital alliance over hours of work and scales of pay.[36]

The Oregon Association of Nurse Anesthetists and the hospital associations, either the Western States or the Oregon Hospital Association, continued to set standards for freelance (non-

employee) pay until the late 1960s. In the 1950s these rates were often negotiated by the officers of the OANA and unspecified parties from the hospital association. Later, by the mid-1960s the rates appear to have been set by the OANA, with members expected to clarify the rate of pay with the local hospital administrator.

An example of a revision to the freelance rates, set in February 1965, is below:

Each case 5-30 minutes	15.00
Each case 35-60 minutes	20.00
Each additional 15 minutes	1.50
O.B. vaginal delivery	15.00
O.B. C/sections — charged at per case rate	
Night cases (7pm to 7am) extra	2.50
Standby call, per hour	1.00
(Case time subtracted from call time)	

Out-of-Town rate, measured from 10 miles beyond anesthetist's own city limits to destination, an additional 8 cents per mile.[37]

Men, Licensure, and the Fifties

In the early years, the American Association of Nurse Anesthetists did not admit male members. Bylaw changes to allow male membership were attempted in the thirties and early forties. In 1947, any graduate of a school of nurse anesthesia was allowed to take the national exam, and the issue was resolved.

In Oregon, the first male member appears to have been Henry Knapp, working at the Portland Sanitarium. He arrived sometime in 1952.[38] Before his arrival, admonitions to get dues in on time, etc., are often made to the "girls." There are no comments in the Oregon minutes or newsletters about the issue of male anesthetists.

In 1955, the Army Reserves opened commissions to male nurses as medical specialists in August. This was significant enough to reach the *OANAgram.* General Silas B. Hays, Surgeon General of the Army, was quoted as saying: "For the Army Nurse Corps this is an historical event comparable to the granting of

relative military rank in 1920 and the establishment of permanent commissioned rank by the Army-Navy Nurses Act of 1947."[39]

By the mid 1950s, the issue of equality between the sexes in anesthesia was moving towards a level playing field. Over the next several decades, the number of men and women would become essentially equal. Currently 123 (58%) of the 212 members of the Oregon Association of Nurse Anesthetists are male. There are 89 female members as of February 2004.[40]

State Recognition

State licensure of nurse anesthetists was addressed during the 1950s. The possession of an Oregon nursing license to practice anesthesia was not enforced prior to about 1954. The following notice was published in the October 1954 *OANAgram:*

> Nurse anesthetists must hold a license to practice as a graduate or registered nurse in the State of Oregon. This opinion has been obtained from the Attorney General of the State. Since Anesthetists must be licensed Physicians, Dentists or Registered Nurses. [sic] The giving of anesthesia by nurses constitutes nursing practice. Attention is called to Sec. 54-621 the Nurse Practice Act, which states 'It shall be unlawful hereafter for any person to practice Nursing in this state as a trained, graduate or registered nurse without a certificate from the board.'[41]

The issue of who should license nurse anesthetists has its roots in the development of anesthesia. As discussed earlier, often the person providing the anesthesia was the most junior person: resident, intern or the nurse. Many of the very early anesthetists felt that anesthesia was somewhere beyond 'regular' nursing, although it was not the practice of medicine either. Advanced nursing specialties are numerous and well established today, but they did not exist in the early 1950s. As mentioned above, when the early organizers of the American Association of Nurse Anesthetists tried to form a group within the American Nurses Association, they were rejected.[42]

This move to entrench nurse anesthesia practice within

nursing was not readily accepted by all nurses, or by all nurse anesthesia practitioners. In 1956, a year after the first announcement of the requirement to have a nursing license in Oregon, OANA President Margaret Cox French reported there were still 25 nurse anesthetists practicing without a current license. Both state and national associations became stricter in their requirements. By 1959, membership in either state or national nurse anesthetist associations required documentation of a current state nursing license in the state of practice.[43] Nurse anesthetists were nurses. This issue would no longer be debated within the nurse anesthesia community.

Parallel to the issue of licensing was a discussion about what initials nurse anesthetists would use to distinguish their training and status. Various initials had been used: RNA — registered nurse anesthetist, NAANA [meaning not listed]. The *OANAgram* reports that the issue was taken up with the American Hospital Association and the American Association of Nurse Anesthetists and the initials, CRNA, for Certified Registered Nurse Anesthetist, were adopted. The bylaws were changed, and in 1956, CRNA became the official designation for the nurse anesthetist.[44]

Continued Controversy and Professional Growth in the 1950s

The 1950s saw a strain in the relationships between professional nurse anesthetists and the growing numbers of anesthesiologists. There was a division among the anesthesiologists into at least two camps: those who chose to work with nurse anesthetists and those who felt that the practice of anesthesia was a specialty best left to the practice of medicine. Dr. Fredrick Haugen at the University of Oregon Medical School stood with the latter group. Others, such as Dr. Jack Edwards, the first anesthesiologist at Kaiser Permanente, favored working with nurse anesthetists in a team approach. This division in opinion among anesthesiologists has continued.

A National President

Josephine (Bonnie) Bunch was president of the OANA in 1941 and 1942. She was elected president of the American

Association of Nurse Anesthetists from 1952 to 1954, the only Oregon member to ever serve as president of the AANA. Mrs. Bunch was quite active in the issues of licensure, adequate pay for services and advancing the professionalism of the anesthetist.

The 1950s saw not only the incorporation of men into the field, and the solidification of nurse anesthesia as a practice of nursing in Oregon, but also the continued growth in the provision of continuing education. All day workshops increased, and attendance at the anesthesia section of the Western States Hospital Alliance grew. The closure of St. Vincent's school of nurse anesthesia in 1956 ended Oregon's leadership and involvement in the education of nurse anesthetists. The state, which opened the first school was to end the century without a school of nurse anesthesia.

The Sixties

A review of the minutes and *OANAgrams* of the decade of the 1960s reveals a growing organization. Significant outside issues were not in evidence.

The number of meetings was reduced from seven to five per year. There continued to be one annual meeting, with an emphasis on education, held in May. The committees appointed in 1960 were advisory, by-laws, education, program, publications, social, government relations, and press.

It is interesting to read the minutes of the decade and note that reports from the Government Relations Committee were unusual, and none were received from the Press Committees. The primary communications of the group came from the Education, Program, By-Laws and Social Committees. This activity level would change significantly in just another decade or two.

The *OANAgram* contained more information about national and western states educational opportunities than in previous years, but less of the detailed reports of educational talks or specific clinical information. Where in the 1940s the *OANAgram* served primarily as a source of clinical information, the *OANAgram* of the 1960s contains more personal information about individual members—when they changed jobs, their vacations, weddings, births and health issues.

The association undertook a survey of the membership in 1962 regarding the nurse anesthesia environment in the state. Surveys were sent to 147 members, with a 50% return rate. The issues covered salaries, work schedules, holiday and vacation time, and sick leave.

The survey revealed a gross monthly salary range from $325.00 to $800.00. It is not clear if all the respondents were working full-time. As might be expected, the lowest salary rates were found in the Portland area, and the higher rates among those who worked alone or with one partner in the other areas of the state.

Differences in days and hours of work also existed. The Portland-area CRNAs working in group settings, had a five-day week. Those outside the metro area were more likely to work a six-day week and take more call with no coverage for sick leave.

The survey group was divided into three sections: A — working in Portland in groups of three or more, B — working in groups of three or more in smaller cities, C — working alone or with one partner in any area of the state. The question of working relationships with physicians was addressed by the question:

Do you work with an anesthesiologist?

Group A 100 % do Group B. 80 % do Group C. 20 % do

That question today would be broken down into more details about that relationship, but in 1962, only the basic question was asked.

The question about freelance work revealed that 50% of the Portland employed group did some freelance work; 50% of group B augmented their salary, but 20% of this group made their entire living by freelance. Freelancers worked in hospitals and dental offices. The majority of freelancers used the Oregon Fee Schedule, negotiated by the OANA and the Hospital Association, as the basis for their fees.[45]

A group of recommendations were developed from the survey material, and in August of 1963, the Nurse-Hospital Relations Committee of the Oregon Association of Hospitals met with members of the association to address some of the concerns. The fact that this discussion occurred within the Oregon

Association of Hospitals is of more interest than the outcome of the recommendations. Again, such a discussion between professional organizations would now be considered in violation of antitrust laws.

The Seventies, a Transition

One of the first items mentioned in the OANA minutes in the new decade was the issue of paying speakers. A movement to increase the quality of educational offerings had begun. With the exception of one instance in the 1940s, speakers had not been paid for their lectures. Olga Pollock was appointed to look into the matter. Further impetus for improving and expanding continuing education was the 1977 decree by the AANA requiring continuing education documentation. This continuing education was required for renewal of membership in the association.[46]

By the end of the 1970s, the education meetings of the association had taken on a different tone. Speakers were paid and members were charged for the meetings, which were now held at a local hotel or resort facility. The meetings encompassed the entire weekend, with the goal of providing sufficient continuing education points to meet mandatory educational requirements within the AANA. By the end of the decade the organization offered wider regional education opportunities. The meetings had a decidedly more professional tone.

As educational professionalism increased, the importance of the OANA alliance with the Western States Hospital Association (WSHA) began to decline. This relationship had assisted the nurse anesthetists in their quest for education and had been a significant force in some labor-management issues. A national effort to stop all Association-assisted bargaining began to diminish the value of this cooperation between the two groups. In April 1977 the OANA ceased paying dues to the Alliance. In response to this national move formal connections were severed. In October 1977 the OANA rescinded all previously enacted guidelines for freelance pay.[47] Nevertheless, the relationship between the OANA and the WSHA had been long and fruitful.[48]

The Nurse Practice Act

During the early 1970s there was a movement by the Oregon Nurses Association to clean up and codify the Nurse Practice Act, especially as it related to Nurse Practitioners. They wanted the act changed to require all nurses in advanced practice areas to have a master's degree in nursing or a nursing specialty. The driving force behind this move was the fact that many of the programs for nurse practitioners were not well regulated, and were a mere six months in length. No national certification exams were required upon graduation. The quality of the practitioners was questioned. Oregon eventually did pass one of the most restrictive Nurse Practitioner Acts for the time. It identified nurse practitioners as having advanced training and responsibilities.

The nursing community felt it was an important step forward. However, the Nurse Anesthetists had some conflicts with the proposed Nurse Practice Act. Before the early seventies, the anesthesia community had been a leader in setting national standards for their schools. Each school was required to meet minimum standards, regardless of the degree granted on graduation. A national certification exam was required for all nurse anesthetists.

The vast majority of the schools of nurse anesthesia in the 1970s were granting diplomas or certificates upon graduation. Graduate schools in anesthesia were usually not part of colleges of nursing. They might be in health sciences, graduate education, or even medical schools. The difficult issue for nurse anesthetists was that graduates of all nurse anesthesia programs had to meet the same minimal number of clinical cases and didactic requirements. They all took the same certification exam. However, these graduates came from their basic program with different degrees: diploma, bachelor's or master's degree. The confusion was to plague the anesthesia group for nearly two decades. (Requirements have changed over the years. Since 1998 all nurse anesthetists graduate with a master's degree.[49] The certification exam is still taken by all anesthesia graduates.)

The nurse anesthesia community wanted to extend the grandfather clause to cover nurse anesthetists trained before a specified time, thereby allowing them to continue practicing. Kaiser, the

largest employer of nurse anesthetists, supported this stance.[50] The nursing community felt strongly that the educational standards of some of the other advanced nurses were too lax to allow grandfathering. Thus the two groups agreed to omit the practice of nurse anesthesia from the confines of the Advanced Nurse Practice Act.

This issue appears, from the documents available, to have involved largely the nursing community and the Oregon Board of Nursing. This crisis forced the OANA to begin to form working relationships with outside groups in a different manner than had been evident in the prior decade. The Nurses' Association and the OANA continued to meet and talk about issues of concern to both groups.

The activities of the seventies brought a strong improvement in the OANA commitment to continuing education. The conflict with the nursing community over the Advanced Nurse Practice Act also brought a greater knowledge of legislative and regulatory expertise to the whole group.

The minutes of this decade provide regular and detailed reports from a government relations committee. The first lobbyist for the group would not be hired until the middle of the next decade, but the organizational awareness of such issues had clearly taken a step forward. These actions in the 1970s would turn out to be only the opening round in the quest for CRNAs to gain regulatory recognition.

A Foundation Decade, The 1980s

In the 1980s the OANA began to focus on the issues of practice independence and raising the image of the profession. Economic competition, the need for prescriptive authority in rural practice, and forging effective relationships with other interested parties in health care delivery would be the main challenges of the decade for the OANA leadership.

As the number of anesthesiologists increased, the economic competition also rose. Many urban hospitals underwent a change in staffing ratios. For example, Emanuel Hospital had some 8-12 CRNAs during the beginning of the 1970s. They performed anesthesia for both surgical and obstetric cases. Anesthesiologists

joined the medical staff, and the number of operating room cases available for the CRNAs decreased. Complex cases, and patients with good insurance, were assigned to the physicians. The CRNA staff were relegated to doing the "easy" cases, those patients without insurance, and obstetrics. By 1980, Emanuel CRNAs only worked in obstetrics.[51] With the exception of the Kaiser system, anesthesia in urban areas was increasingly administered by private practice anesthesiologists. CRNAs were left with obstetrics, and some non-hospital practices.

In contrast, rural hospitals had always relied very heavily on the nurse anesthetist for their anesthesia coverage. Many of these hospitals have always used CRNAs and continue to do so today. The urban vs. rural reality was to produce a need for clarification regarding the parameters of nurse anesthesia practice.

A Move to Secure Practice

The first issue to arise was prescriptive authority. Rural providers needed to prescribe narcotics for pain relief in the recovery room. Some administrative and crediting bodies questioned CRNAs' authority to prescribe drugs for their patients in the recovery phase of anesthesia. Rural providers raised this issue in 1981 with the OANA board. They felt that lack of this authority compromised their ability to provide optimum care. It would take another decade to resolve this problem. The increased utilization of CRNAs in or out of hospital anesthetizing sites would again make this a focus issue by the 1990s.[52]

The majority of urban CRNAs supported the move to independent practice, though the issues involved were less important in their daily practice settings. A minority of CRNAs did not support the increased legislative activity. They felt a higher profile in the regulatory arena had the potential of eliminating some of the gains that had been made and might result in negative regulation. Nevertheless, the process of moving to more regulatory recognition, and hoped-for independence, had begun.

The OANA sought to raise the public awareness of their profession and practice by initiating a public relations campaign. The OANA found media outlets to run stories, air public service

announcements about nurse anesthesia and it set up booths at county and state fairs. A state seal was developed and used on all association letterheads, giving a more professional representation to the association.

The association became more involved in the legislative arena, and began to form liaisons with nursing groups. Informal contacts were established with the nurse midwives, nurse practitioners and others in the nursing community. A formal liaison with the Oregon Nurses Association was formed; the author was appointed as the first official liaison person to ONA.

The need for organization representation in Salem required the services of a lobbyist. Brian Delashmitt became the first paid lobbyist. The initial agreement was to share the services of a lobbyist between OANA and ONA. This changed in 1985 when the OANA contracted directly for its own lobbyist. Lobbying legislative telephone trees were established, and Government Relations committee reports became a consistent and important part of business meetings.

The Nurse Practice Act, Again

In 1984, the Nurse Practice Act was re-opened. Task forces from the Board of Nursing were formed and prolonged discussions were held. The goal was to investigate the possibility that all specialized nursing categories be grouped under the title "Oregon Nurse Practitioner." To meet the requirements of this all-encompassing specialty, a candidate would need verification by a National Credentialing Body, mandatory continuing education requirements and a minimum educational level of a master's degree. Over the next 15 years the Oregon Society of Anesthesiology (OSA) and many other interested parties were to weigh in on the final Board regulations. The issues would not be settled until the passing of the formal 1997 Nurse Practice Act addressed in Division 52 of the act.[53]

Dental practice and the use of anesthesia during dental procedures was another major issue for the OANA during the eighties. The issue was: could the dentist/doctor perform oral surgery, administer anesthesia drugs and be responsible for monitoring the

patient at the same time? The OANA strongly felt that patient safety was a concern in this case. This issue was raised in 1984 and would continue to be a point of discussion between the dental society, Dental Board and the OANA for twelve years. Mary Diggles would be the chairman of this subcommittee for most of that time. Eventually guidelines were established that separated the dental and anesthesia functions, requiring a provider to do the procedure and another person to give and monitor the anesthesia.[54]

A Fiftieth Anniversary

1985 marked the fiftieth anniversary of the OANA. Governor Victor Atiyeh proclaimed November 2-8, 1985 as Nurse Anesthetist Week. Bud Clark, mayor of Portland, also proclaimed the first week in November as Nurse Anesthetist Week. Many hospitals held their own celebrations to recognize the service that nurse anesthetists had provided. The Regional Medical Directors of Kaiser Permanente sent the following message:

> Congratulations on 50 years of outstanding service to our community. Your pride in your profession is infectious and justly deserved. You represent an enlightened model of how belief in the value of one's contribution leads to excellent in patient care and service.
>
> Ron Potts, MD and Stuart Bowne, MD [55]

The celebration banquet was held on November 3, 1985. Twenty-four of the 37 past presidents attended the banquet. See Figure 2 for earlier group of presidents and Figure 3 for later presidents. Aimee Doerr, the first president, was not able to attend due to her health. Honored guests included:

Dr. Kathy Gartner, Immediate Past President, OSA
Ed McClone, Exec. Director, Oregon Board of Dentistry
Dorothy Davies, Exec. Director, Oregon State Board of Nursing
Beth Gandara, Vice President, Oregon Nurses Association
Joan Johnson, District 5 Representative, AANA
Paul Fleiffner, President Oregon Association of Hospitals

Figure 2 – . Front Row – left to right Jeanne Fagan, Bonnie Bunch, Leah Wolfe, Helen Stastny, Sara Parcel. Back Row – Eleanor Fixen, Betty Reed, Ruth Schierman, Margaret French, and Marian Seguin.

Figure 3 – Front Row – left to right Frances Podhora, Frances Hoesly, Katrine Foster, Sandy Wilson, Mary Jane Boye.
Back Row – Suzanne Brown, Mildred Singer, Richard Egan, Maurie Herron, Carol Tanner, Ken Chamberlin, Jim Young and Brent Boothe.

Alan Tate, OANA president in 1987, attempted a discussion with the OSA about areas where the two groups might be able to find mutual areas of support. This effort was not successful.[56]

The number of nurse anesthetists in Oregon at the end of the decade was slightly larger, but the job distribution was different. Kaiser continued to be a large employer of CRNAs, but several other urban hospitals had replaced their surgical CRNA staff with private practice anesthesiologists. The rural settings continued to be largely CRNA practice areas. The coming decade would see more demand for CRNAs in dental and office-based practices.

The decade of the 1980s was a pivotal one for the OANA. Nurse anesthetists emerged more sophisticated and successful in the legislative arena. Legislative and regulatory issues were to again dominate in the last decade of the 20th century.

The Modern Era

The focus of the 1990s would be the drive to have the practice of nurse anesthesia codified in legislative and regulatory statutes. Although there were other ongoing issues, the overwhelming focus would be regulatory clarity. The other significant change would be the improvements in rural anesthesia access to information and education. Oregon Health Sciences University was to be a partner in this effort.

The Need for Statutory Recognition

In spite of a long history of service in Oregon, there was no specific identification of Nurse Anesthesia requirements in Oregon statute or Oregon State Board of Nursing Regulations. Before 1997, Oregon nurse anesthetists practiced as registered nurses with a national certification or re-certification from the Council on Certification/Re-certification from the American Association of Nurse Anesthetists. In addition, hospital by-laws and medical staff rules proscribed nurse anesthesia privileges and scope of practice in individual hospitals and ambulatory surgery centers. The only Oregon regulatory acknowledgment of nurse anesthetists could be found in the Oregon Department of Health Regulations Division 76, identifying nurse anesthetists as anesthesia providers.[57]

Prior to 1997, there was no uniform structure to the medical staff's designation of nurse anesthetists in Oregon hospitals and Ambulatory Surgery Centers. Urban hospitals with the availability of more anesthesiologists often created a limited scope of practice for nurse anesthetists restricting regional anesthesia and/or placement of invasive central monitoring. Nurse anesthetists in these facilities were often categorized as dependent allied health care providers supervised by an anesthesiologist or other physician. On the other hand, rural hospitals and other medically underserved areas such as obstetrics, with a lack of anesthesiologist availability relied heavily upon nurse anesthetists for anesthesia services. These facilities created a broader scope of practice and categorized nurse anesthetists as independent providers.

If the state statutes or regulations had no physician supervision requirement for nurse anesthetists, JCAH standards permitted nurse anesthetists to be classified as Licensed Independent Providers. This provision, along with the relative silence in Oregon law pertaining to nurse anesthetists, was the means that many hospitals used to designate nurse anesthetists as independent providers. Also supporting this designation was the concept of "Custom in the Industry." Classifying nurse anesthetists as independent providers was a customary practice in Oregon healthcare.

The 1965 Medicare law required physician supervision of nurse anesthetists. This physician supervision requirement conflicted with many state statutes and regulations that did not require physician supervision of nurse anesthetists. Further confusing the issue, there was no definition in the Medicare regulations of what constituted supervision. Hospitals were left to create mechanisms demonstrating the supervision of nurse anesthetists. These mechanisms varied from facility to facility. To confound matters even further, hospitals that were JCAH-accredited were deemed by Medicare to be in compliance with the revision of the 1965 law. This inconsistency created significant confusion about nurse anesthesia practice in Oregon and created a major debate over physician supervision. Therefore supervision and regulation of nurse anesthetists could be interpreted in many different ways,

depending on what regulation or accrediting body's position was referenced. Clarity was needed and a legal opinion sought.

Karen Creason, a lawyer from Stoel Rives, LLP opined that nurse anesthetists could not be classified as independent providers. Ms. Creason exposed the lack of statutory and regulatory recognition of nurse anesthetists in the state. This opinion caused hospitals to re-examine how nurse anesthetists were classified and brought to the forefront the urgent need for legislation codifying nurse anesthesia practice.

Legislative Preparation

Oregon hospitals, faced with conflicting positions from JCAH and Medicare, were unsure how to designate nurse anesthetists in their Medical Staff structure and recommended the establishment of either statutory or regulatory recognition of nurse anesthetists. Earlier attempts to codify nurse anesthesia practice in regulation or statute had not moved beyond the planning process. As previously stated, when the Oregon Nurse Practitioners began seeking statutory and regulatory recognition in the late 1980s, it was thought that perhaps nurse anesthetists could be enveloped into that process. However, differences in education preparation, continuing education, and other factors did not make that a feasible solution.

In November of 1996, representatives from the OANA and OSA met to discuss this proposed legislation. Philosophical differences between the two groups left little ground to build any type of consensus or joint legislative effort.

Legislative Action

Finally in 1997, legislation was introduced in the Oregon Senate with the intent of defining Nurse Anesthesia Practice in Oregon.

The purpose of Senate Bill 412 was to codify the practice of nurse anesthesia as it currently existed in the state of Oregon. The main elements of the bill included scope of practice language and regulatory oversight of nurse anesthetists by the Oregon State Board of Nursing. A unique system permitted individual hospitals

to establish whether nurse anesthetists were dependent or independent and did or did not require physician supervision. Practice in ambulatory surgery centers required that nurse anesthetists collaborate with anesthesiologists, but if an anesthesiologist was not "readily available," a CRNA could practice, as designated by the facility by-laws as dependent or independent.[58]

The AANA strongly cautioned the Oregon Association of Nurse Anesthetists to not allow Senate Bill 412 to move forward. The concern was that the provision for collaboration between anesthesiologists and nurse anesthetists in Oregon ambulatory surgery centers as outlined in the final version of the bill would set a precedent not seen in any other state statute, regulation or federal regulation. After careful consideration the OANA decided to move forward. Senate Bill 412 was passed by the Oregon Legislature. In August of 1997, Governor John Kitzhaber signed the Oregon Nurse Anesthetist Act into law.

The Oregon State Board of Nursing began to write the regulations. Once again, the major stakeholders in the Oregon Nurse Anesthetist Act, the OANA, OSA, the Oregon Nurses Association, and the Oregon Association of Hospitals and Health Systems worked out the details. This became Division 52 of the Nurse Practice Act conforming to the provisions of the original bills.

A question arose regarding CRNA practice outside of hospitals and ambulatory surgery centers. The largely unregulated area of physician office surgery is an area readily serviced by nurse anesthetists. Oregon Assistant Attorney General Kim Cobrain opined that the Oregon Nurse Anesthetist Act did not limit practice settings to only hospitals and ambulatory surgery centers: "The Act was designed to codify existing CRNA practice. There was no evidence of legislative intent to tie the CRNA scope of practice to a limitation on the settings in which CRNAs may practice."[59]

Medicare Physician Supervision Requirement

In December 1997, the Federal Government's Health Care Financing Administration (HCFA) proposed a major revision, part of which involved anesthesia services.[60] The specific proposal put the new Oregon Nurse Anesthetist Act and the federal regulation at

odds.[61] The Oregon Nurse Anesthetist Act gave delegation of supervision to the facility; the federal change required state law to give deference to state scope of practice laws.[62] This legal confusion is more clearly defined in a document prepared by Yuri Chavez.[63]

> The OANA, having just codified the practice of nurse anesthesia, was back in the legislative arena. The federal law changes caused problems in practice settings in our state as well as others. The federal law created problems in defining independent practice. The potential for fines from Medicare disrupted practice settings in the state.

While HCFA reviewed comments and research regarding the Medicare change, the American Society of Anesthesiologists (ASA) and the AANA introduced legislation in both houses of the United States Congress specifically addressing the physician supervision of nurse anesthetists. The ASA bills directed HCFA to maintain the physician supervision of nurse anesthetists. Conversely, the AANA bills directed HCFA to defer the supervision issue to state law. Neither professional organization was successful in moving their particular bill forward out of committee review.

After an exhaustive review of public comment and current research on anesthesia outcomes, HCFA finalized the Medicare revision in November 2000. In the final rule, HCFA reiterated its goal of "moving toward standards that are patient-centered, evidence-based and outcome-oriented."[64] The agency explained that in over three years since the publication of the proposed rule, it had considered carefully the numerous comments and "scientific literature cited by commenters" and had "found no compelling scientific evidence that an across-the-board federal physician supervision requirements for nurse anesthetists leads to better outcomes, or that there will be adverse outcomes by relying on State licensure laws instead."[65] Significantly, the agency noted that the final rule would not "allow nurse anesthetists to practice beyond the scope of their practice or authority granted them by States." [66] In short, the agency found a "lack of evidence to support maintaining a special federal requirement for physician supervision of nurse anesthetists that would have the effect of superseding State requirements."[67]

In May of 2001, the Bush administration announced the rejection of the January 2001 final rule and the reevaluation of a federal physician supervision requirement for nurse anesthetists. Two important questions needed to be addressed:

1. The effect of the new rule on states that had been relying on the federal physician supervision requirement in the development of their own scope of practice rules.
2. Whether some sort of study should be conducted "to assess the impact [in terms of patient outcomes] in those states where nurse anesthetists practice without physician supervision."[68]

Also announced was a name change for the Health Care Financing Administration to the Centers for Medicare and Medicaid Services (CMS).

On November 13, 2001, the CMS published a new final rule. CMS also reiterated its belief that "states are best positioned to regulate practitioners' scope of practice."[69] President George W. Bush signed the new rule into law. The new rule retained the old physician supervision requirement for Medicare/Medicaid coverage of anesthesia services provided by nurse anesthetists in hospitals, ambulatory surgery centers and critical access hospitals. At the same time, however, CMS provided a mechanism for states to "opt-out" of the federal physician supervision requirement and thereby regulate the provision of anesthesia services by nurse anesthetists in the above settings under state law. Specifically, the rule required:

1. That state law must permit independent nurse anesthesia practice.
2. The governor consults with the state boards of medicine and nursing to determine if removing the physician supervision requirement is in the best interest of the citizens of the particular state.
3. The governor writes a letter to the CMS administrator requesting an exemption or opting-out of the Medicare physician supervision requirement.
4. The option to have the Agency for Healthcare Research and Quality conduct a study of anesthesia outcomes in those

> States that choose to exercise the supervision exemption compared to those States that have not.[70]

Notably, the federal rule spoke approvingly of Oregon's approach to the provision of anesthesia services by nurse anesthetists, explaining that Oregon was a state with experience in the collaborative approach envisioned by the rule's opt-out provision: The following quote reiterates the previous material describing Oregon's Division 52 of the Nurse Practice Act.

> In 1997, Oregon passed a Law (SB 412–69th legislature) requiring the State Board of Nursing to adopt a scope of practice for nurse anesthetists, and establish procedures of issuing certification of special competency for a nurse anesthetist. This law, which allows nurse anesthetists to deliver specified services in hospitals without medical collaboration, and allows nurse anesthetists to deliver specified services if no anesthesiologist is available, was a direct result of collaboration and compromise between the Oregon Medical Association, the Oregon Association of Hospitals and Health Systems, the Oregon Association of Nurse Anesthetists, and the Oregon Society of Anesthesiologists.[71]

Because Oregon had adopted a nurse anesthetist scope of practice with the 1997 Oregon Nurse Anesthetist Act, the final rule also observed that:

> Oregon and any other States that have such laws should experience[a] decreased burden associated with this final rule.… We applaud the past efforts in Oregon and believe the State will continue to make prudent decisions regarding the delivery of anesthesia services that are in the best interest of the citizens of the State. [72]

The Oregon State Board of Nursing held public hearings on the physician supervision of nurse anesthetists in February of 2002 and recommended an exemption be granted.

The Oregon Board of Medical Examiners held public hearings on the physician supervision of nurse anesthetists in April

of 2002. In a majority opinion, the board recommended an exemption be sought for the state.

These recommendations would have to wait for a new governor to be elected and state budget issues to be addressed. At last, on December 5, 2003 the request was made. Governor Ted Kulongoski stated the following in his letter:

> Oregon law assures that those closest to, and who know the most about healthcare delivery are the primary decision makers accountable for the outcomes of patient care. Nurse anesthetists have for years provided safe, high quality anesthesia services to Oregon citizens. Exercise of the federal opt-out should provide clarity and consistency between Oregon and federal law, ameliorate confusion regarding supervision and liability issues for physicians and surgeons, and ensure access to anesthesia care for rural Oregonians."[73]

Many of the questions about physician supervision of nurse anesthetists have now been placed at the local level, as was the original intent of SB 412. Hospital administrators and medical staff can best utilize the anesthesia manpower available to them. The Governor currently holds the ability to withdraw the exemption should it be necessary and in the public's interest. Oregon became the eleventh state to receive the exemption.

A Rural Focus

Sharon Fassett worked in Lakeview, Oregon, in the mid 1990s. The Lakeview Hospital was a small rural facility, with one nurse anesthetist. Fassett wrote and was awarded a Rural Health Transitions Grant. The grant addressed three major issues: the isolation of the rural provider, the need for monitoring quality of care in rural settings and recruitment of providers to the rural setting.

The grant allowed funds to equip about ten small rural hospitals with a computer system for the hospital anesthesia department. Each department was then connected via the Internet to the OHSU server. This provided free access to the medical library and online resources. A unique outgrowth of this effort was an e-mail

link with all the rural providers (and eventually all the CRNAs in the state). This allowed rural colleagues to talk to each other, ask questions about cases and foster the collegial relationships that naturally develop in large group practices. Dr. Harry Kingston, Chief of Anesthesiology at OHSU, worked out an agreement whereby the anesthesia department at OHSU could serve in a consulting role to isolated rural providers. This was a significant and innovative move to integrate the rural and university communities.

Collection of data related to the types of cases, outcomes and complications were collected by each hospital on a scanned data sheet. This allowed each provider to assess how their cases and results compared with other rural hospitals. Although the data was subjective and independent chart audits were not possible, the demographic information on patients served, types of cases, and anesthetics in the rural community was valuable.

The third portion of the study involved 'internships.' Senior students in nurse anesthesia were allowed to visit and work in a selected rural practice. The rotations were popular, with students coming from several states. This exposure is credited for several of the students choosing to go into a rural practice setting.[74]

The economics of health care delivery in the rural community continues to be difficult. The grant is no longer in force, but some of the lessons and relationships that were established have continued. The CRNA community in Oregon continues the e-mail discussion between providers. It allows colleagues in small practices to inquire of their colleagues about issues and case management. The hospitals with computer links moved into the telecommunications era quickly, and continue to utilize some of those resources today.

The 1990s saw fierce, sometimes bitter struggling between the two anesthesia organizations. The nurse anesthetists felt very strongly that the practice of nurse anesthesia needed to be codified and acknowledged. The OSA felt that such codification was an encroachment on the practice of medicine and should not be allowed. Many of the issues mirror the arguments made in some of

the 1911 debates. Nearly a century later, the basic philosophical differences still remained.

Regardless of the struggles between the professional organizations, the public enjoys greater success in the delivery of anesthesia services. The quality of the services offered to the public far exceeds those of a few decades past. Anesthesia services are available to the obstetric patient, for the office procedure, and to the rural hospitals in the state. As of this writing, the bigger issue for the public may be who pays for health care, not who delivers it.

Chapter Four

Dentists and Anesthesia in Oregon

J. Henry Clarke, DMD

Death from dental infection was fairly common before the mid-1800's. Toothaches and dental abscesses were considered inevitable vicissitudes of life, but contrary to common belief, people did not rush to have teeth extracted at the first sign of pain, nor the second or the third. Extraction of a tooth was extremely painful and dangerous. There were nowhere near enough trained dentists to fill the need, so when teeth were extracted, it was more often done by a blacksmith, a barber or some other non-dentist. The methods were crude and unsanitary. The crowns of the teeth were generally broken off and the diseased roots left in. It was also not uncommon for the operator to get the wrong tooth, extract adjacent teeth and fracture bone. Many people died following extraction.

Toothaches are characterized by periods of apparent remission when the inflammatory elements find an escape route and the pressure is temporarily relieved, so sufferers tended to try folk remedies as long as possible until the pain became constant and unbearable. By then, they frequently had swollen jaws and submandibular abscesses or other serious spread of the infection. If one of the few qualified dentists extracted a tooth, he would make

sure the entire root was removed, but the procedure was still extremely painful and dangerous.[1,2,3]

Progress

Two innovations began to change this picture: the invention of anatomic forceps by an American dentist, Cyrus Fay, in 1826 and the introduction of surgical anesthesia by Boston dentist William T. G. Morton in 1846.

In 1840, the first dental school, the Baltimore College of Dental Surgery, opened, and soon there were more schools and more well trained dentists. Some non-dentists continued to extract teeth, but now more people could have the teeth extracted efficiently and painlessly by a dentist. (Before 1900, extraction was the only effective way to treat a dental abscess).[4]

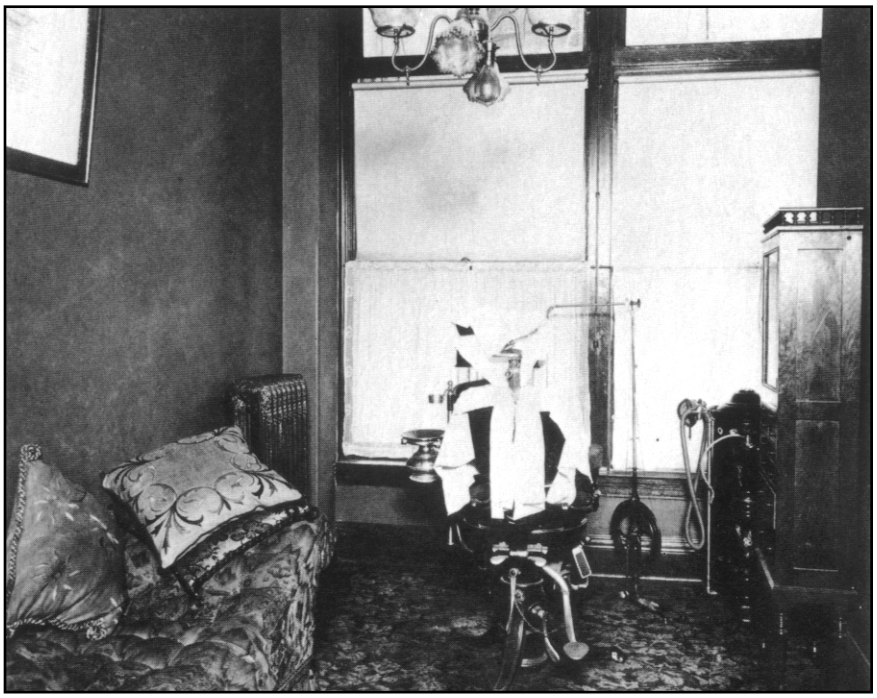


Figure 1 – Early dental office circa 1890- note nitrous oxide canisters on the right.

By permission of the Minnesota Historical Society.

Claude Adams writes of a young toothache sufferer working in his father's drugstore in Philomath, Oregon. A man in the store offered to extract the boy's tooth. Later, the "patient" related the following:

> He reached in with an old pair of forceps [probably common pliers] and just pinched off the top of the tooth and left the root in. I had twelve roots that had been left in. So I went to a dentist who rubbed my gums with a piece of cotton and took out the whole twelve one at a time.[5]
>
> The dentist may have rubbed chloroform or ether. Both were used to "freeze" the tissue by evaporation before local anesthetics were discovered.[6]

Anesthesia and Oregon's First Dentists

Oregon's first dentist, a Dr. Sacket, arrived by ship in Astoria in 1846 and established a practice in Oregon City that same year. Beginning in 1850, more dentists began to arrive in Oregon. Whether they had attended a dental school or been trained by a dentist-preceptor, anesthesia was part of their education.[7,8]

The journal *Dental Cosmos* began in 1860 and it was widely read by dentists in Oregon, and throughout the country. The earliest issues contained many articles on anesthetics and agents including chloroform, ether, nitrous oxide, chloromethyl, ethylidene chloride, ethyl bromide, magnetism (hypnosis), electricity and turpentine![9,10]

Chloroform and ether became the early favorites due to the depth of anesthesia regularly achieved. Dr. H. D. Longaker, a dentist practicing in Olympia, Washington, in 1859, offered patients either chloroform or ether for anesthesia.

However, some of the early issues of *Dental Cosmos* began to report a large number of deaths from both ether and chloroform, but very rarely from nitrous oxide. Nitrous began to be more popular among dentists.[11,12,13] The *Ashland Tidings* carried the following announcement on May 13, 1881:

> Dr. Will Jackson, Dentist, Jacksonville, will visit Ashland four times a year, nitrous oxide will be administered when desired, for which extra charge will be made.[14]

An article in the *Western Dental Journal* in 1889 summarized the prevailing attitude. The author stated that, with the progress being made in dentistry, the age of wholesale extraction of teeth was rapidly disappearing, and the need for profound anesthetics in dentistry was diminishing also. He concluded that there were very few dental cases in which chloroform or ether were indicated. In such cases, he recommended that the anesthetic be administered by a physician, stating: "[But] Nitrous oxide may be administered by the dentist himself, without the aid of an MD, and is the most desirable one for all minor operations in the mouth.[15]

Anesthesia and Medical/Dental Education

In 1867, Willamette University established a Department of Medicine, the first school-based medical education in the state. In 1873, the first Oregon State Dental Society was formed. Dr. H. Carpenter, Dean of the Willamette University's Department of Medicine, offered the new organization two Chairs of Dentistry as part of the medical faculty, but the first state dental society disbanded in 1876 and the Chairs of Dentistry were never filled. (The Oregon Dental Association was re-organized in 1893 and still exists.)[16]

The first dental school in the Northwest, the Tacoma College of Dental Surgery, opened in Tacoma, Washington in 1893. The 1897 catalog (the earliest one available) stated that the department of Operative Dentistry and Oral Surgery taught, "The use of anesthetics for the extraction of teeth." One might infer that anesthesia was not considered necessary at that time for other dental procedures, such as filling teeth. (If so, it was kind of an assumption that did not endear dentists to the public.)[17]

The Tacoma school moved to the much larger city of Portland, Oregon in 1898, and adopted the new name of North Pacific Dental College. Another school, the Oregon College of Dentistry, opened the same year; so in 1899, there were two dental schools in Portland. In 1900, the schools wisely decided to merge, and took the name North Pacific Dental College. About one-third of the faculty were physicians. This was typical of the degree of collaboration between the two professions. In the original Oregon

College of Dentistry in 1899, Anesthesia and Physical Diagnosis were taught by E. P. Geary, MD. The school catalog stated the following:

> **Anaesthesia**
>
> The importance of this subject to the dental practitioner cannot be overstated. Instruction will be didactic and clinical in the use of both local and general anesthetics, setting forth their use as well as the conditions contraindicating the employment of general anesthesia, the diagnosis of heart and lung lesions etc., will be given in a practical manner.[18]

When the two schools merged, the new dean, Herbert C. Miller, MD, DDS, taught Oral Surgery and Anesthesia. From then on, anesthesia was taught along with Oral Surgery.

Local Anesthesia

During much of the nineteenth century, dentists were searching desperately for some kind of local anesthesia. In 1848, James Arnott wrote a short article, "On Cold as a Means of Producing Local Insensibility." He described a technique in which a small pig bladder was filled with crushed ice to which tepid salt water was added to lower the freezing point. The bladder was then placed over the region to be made numb for 15 to 20 minutes.

In 1856, a Philadelphia dentist, J. B. Francis, described a technique in which the negative pole of an electric battery was attached to extraction forceps and a positive pole was attached to a metal rod held by the patient. When the circuit was completed the extraction was "made at once!" Neither of these techniques became very popular.

In 1860, Benjamin Ward Richardson suggested filling a dental impression tray with cotton soaked with chloroform. Then in 1866, he developed a technique to spray ether on tissue with an atomizer to "freeze" the area by evaporation.

When Austrian ophthalmologist Carl Koller discovered the anesthetic effect of cocaine hydrochloride in 1894 and surgeon

William Halstead developed regional nerve block anesthesia, dentists finally had the tool they had been looking for. [19]

On display at the Oregon Health & Science University (OHSU) School of Dentistry is a cocaine vial for a local anesthetic from Dr. John Pike Gage. Dr. Gage was a farmer-dentist and the founder of the town of Stafford, Oregon. The School of Dentistry has, on display, his dental instruments, supplies and daily record book from 1882–1906. (The cocaine has been removed and disposed of.) Fortunately, in 1904, procaine (Novocaine) was synthesized, and a long series of safer and more effective local anesthetics became available.

Twentieth-Century Contributions

Ralph L. Huber graduated from North Pacific Dental College in 1919. He invented the Huber Needle, now used throughout the world for epidural anesthesia. He was concerned that with the orifice at the tip of the needle, a piece of tissue would be punched out and then injected with anesthetic. This seemed especially important with large gauge needles. So he designed a needle with the orifice near the tip but opening on the side. Then he developed a variety of lengths and curvatures to facilitate passing through vertebrae in administering epidural and continuous spinal anesthesia. He received a patent for his invention but never submitted an article about it. One of his medical colleagues, Dr. Edward Tuohy, did publish an article about the new needle and its use, and for that reason they have been called "Tuohy Needles." Actually, the names Tuohy or Huber are used interchangeably for the needle. This type of needle is also used for major intravenous access. Huber has been recognized for his invention in the Wood Library Museum of Anesthesiology in Park Ridge, Illinois.[20]

In the 1970s, a dentist, Dr. Harry Langa, presented workshops in Oregon (and throughout the country) on a technique he called, "Relative Analgesia." The technique is widely used by dentists and generally referred to as nitrous oxide sedation. It amounts to simply delivering a mixture of around 60 to 80 percent oxygen and 20 to 40 percent nitrous oxide to produce sedation and mild analgesia. [21]

The idea was actually proposed in an article in the Dental Gazette in 1912. However, with the equipment available at the time, the method consisted of having the patient take one breath of 93 percent nitrous oxide through the nasal inhaler and then two breaths through the mouth to dilute the mixture to approximately the right proportions and continue doing that throughout the procedure.[22] It never caught on!

Dental Specialties and Anesthesia

In the 1950s and 60s dental specialty programs were added to the dental school. One of the first was Pedodontics (now Pediatric Dentistry). Residents attended a five to eight week rotation in anesthesia at the University Hospital. They received instruction and experience in sedation, intubation, patient monitoring and general anesthesia since many of their future patients would need to be treated in hospitals, under general anesthesia. A few individuals chose to take longer courses and continued at OHSU. Drs. Douglas Anderson, Richard Nevis, Bradley Carpenter and Thomas Osterlind all acted as anesthesia providers at OHSU for varying lengths of time, with Dr. Anderson serving the longest tenure.

Due to budget cuts, the Pediatric Dental Residence has been discontinued, but efforts are being made (as of 2004) to reinstate it.[23]

Programs were added in Periodontics and Endodontics, and these residents are trained in intravenous sedation techniques but not general anesthesia. The Oral and Maxillofacial Surgery residents receive extensive anesthesia training, and at the completion of the residency, receive an MD degree in addition to their dental degrees. [24]

In the 1950s and 60s it was not uncommon for some pediatric dentists to administer general anesthetics, such as rectal suppositories of thiopental, in their offices. Today, standard practice is that general anesthesia is only administered in the hospital and by an anesthesiologist. [25]

Dental Anesthesia Licensure

Dental licenses in Oregon specify certain permits, such as Class 1 (Nitrous Oxide), Class 2 (Conscious Sedation), Class 3

(Deep Sedation) and Class 4 (General Anesthesia). The requirements for the different levels are: Class 1, at least 14 hours of approved instruction in Nitrous Oxide Sedation; Class 2, at least 20 hours of approved instruction in Conscious Sedation (primarily oral sedatives); Class 3, a comprehensive approved course in Parenteral Sedation; and Class 4, approved Advanced Education in General Anesthesia. [26]

Dental Hygienists and Local Anesthesia

In 1972, Oregon became one of the first states to legalize administration of Local Anesthesia by Dental Hygienists, and the subject was added to their curriculum.

Hypnoanesthesia

In 1933, an Oregon dental student, Angus McPhee, was given a failing grade and required to repeat a year for having used hypnosis at the clinic.[27] Today, OHSU School of Dentistry is one of only a few dental schools with a comprehensive elective course in Clinical Hypnosis, which is accredited by the American Society of Clinical Hypnosis.

In 1956 (two years before the AMA officially recognized hypnosis as a legitimate part of medicine, and three years before the ADA did) a group of Oregon dentists, physicians and psychologists formed the Portland Academy of Hypnosis. This organization, now called the Oregon Society of Clinical Hypnosis, is a component of the American Society of Clinical Hypnosis and is still active. The first president was a Portland pediatric dentist, Dr. Walter Lindsay. Dr. Oscar Lucas, a member of the Portland Academy of Hypnosis, and a faculty member at the School on Dentistry, conducted clinical research on hypnoanesthesia for hemophiliac patients to avoid injections of local anesthetic for dental extractions. He made significant contributions to the use of hypnosis for anesthesia and hemorrhage control before Coagulation Factor replacement was available. Some of his methods are still used to aid patients with hemophilia.[28,29]

A number of local members have been very prominent in the national organization and the use of clinical hypnosis including hypnoanesthesia.

Conclusion

Control of pain and anxiety has always been of paramount importance to dentists, especially since the discovery of anesthesia. Oregon dentists have been quick to employ the latest techniques, even when many innovations came from great distances and without today's rapid communication. As they have done in the past, they are likely to continue to be on the front line in the progress of anesthesia.

Chapter Five

Historical Oregon Community Anesthesiologists

Roger L. Klein, MD

This chapter is dedicated to the early community hospital anesthesiologists in Oregon. Their pioneering efforts were instrumental in leading the way to the high-quality anesthesia that exists today. As can be seen from the earlier chapters, Oregon anesthesiology was a relatively late-developing medical specialty. California and Washington had practicing community anesthesiologists for many years, but the Oregon Medical School had to train its own anesthesiologists before the specialty got started. Looking back it seems a little surprising that the early graduates of Dr. John Hutton's program found such ready acceptance by surgeons and the community hospitals. Initially, these individuals received support from a few surgeons who asked that they provide anesthesia for all their cases. Gradually, the number of surgeons requesting physician anesthesia increased. In time, hospital administrations asked these pioneers to assume a supervisory role for all anesthetics administered.

Before and during World War II, there were too few anesthesiologists and nurse anesthesia continued to predominate. Drs. N. Hamilton and R. Enos were called into the service and the only

remaining community anesthesiologists were Drs. Hutton, Dolores Defaccio Mills, Marjorie Noble, and Fern Greaves.

At the conclusion of the war, the male anesthesiologists returned, more residents were trained, and within five years, all the major community hospitals in Oregon had anesthesiologists.

Because these pioneer individuals were so important in promoting anesthesiology, they deserve to have a brief summary of their careers preserved for posterity. It is also appropriate to give most of the doctors in this group credit for being part of what national news commentator and author Tom Brokaw has called "The Greatest Generation."

We have elected to include the first anesthesiologist who started in each of the major community hospitals. If two individuals started within a year or two, we have mentioned both. In addition we have also included several doctors who have made career lifetime contributions to the specialty. Our list is not inclusive, and there are probably several doctors that could have been included. We apologize to those individuals, living or dead, who (or their friends or families believe) should have been included. Information has been supplied through several sources. Living individuals were interviewed where possible, and relatives or friends who were able to give us additional information are so identified. In some instances data has been obtained from the records of the American Board of Anesthesiology and supplied to us by Karen Bieterman, assistant librarian of the Wood Library-Museum Of Anesthesiology.

Norval Hamilton, MD (1908–1976)

This information was supplied from ABA records, and by Dr. Harry Evans, a longtime associate at Emanuel Hospital.

Dr. Hamilton, known to his friends as "Hammy," graduated from the University of Oregon Medical School in 1937. He was Dr. Hutton's first resident (1938–40) and therefore the first person to receive formal residency training in anesthesiology in Oregon, and for that matter, on the West Coast. According to the school's records, he apparently had an academic appointment at the U of O

Medical School. He probably was also in community anesthesia practice before the war. He joined the military and on discharge returned to Portland and established a practice at Emanuel Hospital. It is unclear from conflicting bits of information whether he was initially an employee of the hospital. Certainly by the late 1940s he was in private practice. Dr. Hamilton was head of the department for many years. He was the first secretary of the Oregon (State) Society of Anesthesiology, and its second president. He retired in 1973. We were unable to find any living relatives.

Russell Enos, MD (1912–1997)

This information was supplied by his widow, Mrs. Frances Enos.

Dr. Enos was born in Holdridge, Nebraska. He was educated in Kearny, attended undergraduate and medical school at the University of Nebraska, and graduated in 1937. He had a two-year internship at the Jenny Edmonton Hospital in Omaha.

A member of the Nebraska National Guard since 1930, he intended to have a military career, but an injury caused him to be discharged. He decided to become an anesthesiologist and took his training in Oregon, where he was Dr. Hutton's second resident from 1939 to 1941. Mrs. Enos was uncertain, but thought he probably was at St. Vincent hospital a short time before being called into the service in 1942. He was stationed at Bremerton Naval Base until assigned to a hospital ship in the South Pacific. He was discharged in 1945 and resumed his practice at St. Vincent. He assumed the role of physician advisor-supervisor to the St. Vincent's School of Nurse Anesthesia in 1946, and continued in this role until the school was closed in 1956. Dr. Enos moved his practice to Tuality Hospital in 1964 where he worked in close association with CRNAs Marion White and Betty Conrad. He then moved to the Portland Medical Surgi-Center in 1978. He retired in 1989.

Dr. Enos was a charter member of the Oregon (State) Society of Anesthesiology, its first vice president, and third president. His hobbies included woodcarving and building model ships. He was an auxiliary member of the Coast Guard and taught water safety on the Columbia River.

Fern Greaves, MD (1904–2002)

Information supplied primarily from the records of the ABA.

Dr. Greaves was the first woman anesthesiologist to devote most of her career to practicing anesthesiology in Oregon. She joined Dr. Enos as the second anesthesiologist at St. Vincent Hospital. For a short time while Dr. Enos was still in the U.S. Army, she was the only anesthesiologist there. She graduated from Washington University School of Medicine in St. Louis in 1940. She interned at the Children's Hospital in San Francisco, and took her anesthesia training at the U of O Medical School. She apparently went back for an additional two years of training at the Hartford Hospital in Connecticut, 1954-55, and at the Lahey Clinic in Boston, MA, 1955-56. She returned to St. Vincent and practiced there until 1976. She was a charter member of the OSSA and its fourth president.

Anton (Tony) Kirchof, MD (1913–1982)

This information supplied by Dr. Kirchof's daughter, Mrs. Dorothy Dilling.

Dr. Kirchof was born in Alberta, Canada. As his father was an American, he had dual citizenship, and the family later moved to Seattle. His undergraduate education was taken in Seattle, where he attended Seattle University. He graduated from the University of Oregon Medical School in 1943. Dr. Kirchof took a combined MD-PhD (pharmacology) program. He was a research assistant during his last two years of medical school.

He served in the Navy in the South Pacific from 1944 until the end of the war. On discharge he took his anesthesiology residency from 1946 to 1948. He then started practice at Providence Hospital in Portland as its first anesthesiologist. He was head of the department for many years and continued to practice there until illness forced him to retire in 1980. He was also on the staff of Holiday Park, Portland Medical Center, and Matson Memorial Hospitals.

For many years Dr. Kirchof had a clinical appointment in the department of Pharmacology at the U of O Medical School. He

co-published scientific papers on subjects dealing with LSD, respiratory mechanics, oxytocics, and chemotherapy for colon cancer.

Tony served as the secretary of the OSSA in 1948-9. He enjoyed horticulture and was a member of several horticultural societies.

John Branford, MD (1915–1997)

This information provided by Dr. Branford's daughter, Julie Branford, Dr. Branford's longtime associate, Dr. Donald Dobson, and by personal recollections of the author.

Dr. Branford was born in Spokane, Washington. His father was a Lutheran minister and had hopes that his son would follow in his footsteps. John attended Concordia College in Moorhead, Minnesota. He decided he preferred to be a physician. While working as a gas station attendant, he so impressed the owner that this person volunteered to bankroll John's medical school training. As his family had moved to Eugene, he elected to go to the U of O Medical School, where he graduated in 1946. He debated a career in pediatrics, but chose anesthesiology on the advice of Dr. Hutton. He started his residency in 1947 as Dr. Hutton's last resident and, as it turned out, became Dr. Haugen's first graduate. He joined Dr. Hutton at Good Samaritan. Dr. Hutton was taking a reduced role there and John quickly assumed a leadership position, later becoming chairman of the department. He held this position for many years, a role described by an anonymous source as a benevolent dictator.

The Korean War interrupted his practice, and John was drafted and served in the Army from 1953 through 1954. He was stationed at Valley Forge Hospital near Philadelphia, Pennsylvania. While there, he was exposed to the academic anesthesiology atmosphere in the area and was offered an academic appointment at Columbia University in New York. He considered it but was persuaded to return to Good Samaritan by his colleague, Dr. Peter Green.

In 1975, when John was 60, Dr. Norman Bergman invited him to accept a teaching position in the OHSU department of

anesthesiology. John had a successful second career in anesthesiology education until 1985. When Dr. Bergman stepped down as chairman of the department in 1981, he served as interim chairman for a year. He actively recruited Dr. Wendell Stevens to the chair position. When John left the university, he took a full-time position at the Shriners Hospital, working there until 1990. He was finally forced to retire because his invalid wife required his full-time care.

Probably no other Oregon community anesthesiologist played a more influential role in all aspects of Oregon medicine. He served in many capacities in every medical organization open to him. These included holding office, chairing committees, and promoting these societies through out his life. His C.V. is very extensive. Medical organizations in which he made considerable contributions include the Medical Staff at Good Samaritan Hospital, the Multnomah County Medical Society, the Oregon State Medical Society, the Oregon Society of Anesthesiology, the Western Biennial Anesthesiology Society, the American Society of Anesthesiology and the American Board of Anesthesiology (ABA). He was instrumental in initiating the Haugen Lectureship series and served as its first chairman.

The author met John in 1963 when applying for a staff position at Good Samaritan. The job interview was conducted while following John about the OR and while he was making pre- and post-operative rounds. Most of the time was spent conducting a quiz of my anesthesia knowledge. I thought I was doing okay until he asked me about the differences between atropine and scopolamine. On later reflection, I realized that my answer was incomplete, and for whatever reason I didn't get the job. I guess I learned a lot in the ensuing 12 years, and was lucky to have him as a colleague at OHSU. We enjoyed a close friendship from then on until his death. With his many contributions, John should be considered the epitome of a model anesthesiologist.

Peter Carlyle Green, MD (1922–)

Dr. Green was born and raised in Idaho. His undergraduate work was done at Weber College in Logan, Utah. At age 18, he had

an auto accident with resulting severe back injuries. After three and one-half years convalescence, including a back fusion, he regained normal function and at that time decided to go to medical school. He graduated from the University of Utah Medical School, and interned at Emanuel Hospital in Portland. While there, he was influenced by Dr. Norval Hamilton to choose anesthesiology as a specialty. He was the first resident chosen by Dr. Haugen, and had John Branford as his senior resident. He joined Dr. Branford at Good Samaritan in 1950. Interestingly, his first 6 months there was spent in sort of a post-residency position under the tutelage of Dr. Hutton. Peter was always interested in pediatric anesthesia and did some early research on infant endotracheal tubes with Dr. Haugen. He considers himself the first Oregon anesthesiologist to do extensive pediatric anesthesia. Peter was drafted into the Army in 1955, and spent his two years in Germany. He returned to Good Samaritan and practiced there until retirement in 1982. He served as an OSSA officer as well as on many committees.

Dr. Green was always interested in playing music professionally and worked his way through college and medical school playing bass viola in the Utah Symphony. He also played with several jazz bands. On returning from the army, he helped organize the Dixie Doctors. This group made records and donated the profits to a diabetic camp for children. In the 1960s, he was part of the New Oregon Singers, a 75-voice choral group who were named by Governor Tom McCall as Oregon's Official Ambassadors of Song. This group performed all over the world, singing for many important dignitaries. They were on numerous television programs including The Bob Hope, Danny Kaye, Laurence Welk, and Arthur Godfrey shows. Since retirement, he has continued to participate with different bands; currently he and his wife play at senior citizen centers. (The author had an opportunity to hear them play and found them delightful.)

Marion E. Palmer, MD (1916–1996)

Dr. Palmer received her medical school education at Washington University Medical School in St. Louis, Missouri. Her anesthesiology training was at the U of O Medical School as one of

Dr. Hutton's last residents and Dr. Haugen's first. She finished in 1949 and took an appointment at the Portland Veterans Administration Medical Center. She held this position until retirement. While at the VA she participated in directing the anesthesia care team. Since the residents rotated through the VA she had an academic appointment and would have been, along with Dr. David Boals, either the first or the second "full-time" Oregon academic anesthesiologist, after Dr. Haugen. She was active in the OSSA during its formative years and was probably a charter resident member. She later served in officer positions, including president.

David Boals, MD (1923–1998)

Information provided by David Boals Jr., Dr. Ted Barss, and a personal letter from Dr. Boals to Julie Branford describing his early experiences.

David Boals has the distinction of being either the first or second anesthesiologist at the Portland VA Hospital and the first one at the Rogue Valley Hospital in Medford, Oregon.

He was born in Seattle and went to the University of Washington as a undergraduate. He was on the varsity rowing team. He attended medical school at Northwestern University in Chicago, Illinois. His anesthesia training was at the University of Oregon Medical School and on completion he stayed on at the VA. He was in the army from 1951 to 1953 and was stationed in Helena, Montana. On discharge, he returned to the Portland VA, but moved to Medford in 1955. While he was in Portland, he served as secretary-treasurer and then president of the OSSA.

In a letter sent to Julie Branford (at the death of her father), he described his experiences with Dr. Hutton's training program. He implied that Dr. Hutton had some deficiencies as an anesthesiologist, and felt Dr. Hutton recognized this. He had a high regard for Dr. Haugen and Dr. Branford. Perhaps this quote from that letter provides a short synopsis of Dr. Boals and his times:

> I left Portland in 1955, a move I never regretted. With your Dad's passing, my last Portland tie is cut. This is just the rambling of an old man remembering the wild days after

WWII when anesthesiologists came to Oregon. I suspect most of Oregon's current crop of gas passers would be totally aghast at most of our early antics. I have become somewhat of a legend down here especially when I relate all the other services I rendered when I was a real doctor.

Dr. Boals died the following year.

Ted Barss, MD (1922–)

Dr. Barss was born in Corvallis, Oregon. His premed was taken at the University of Maryland, and he attended George Washington University Medical School in Washington, DC. He took his anesthesia training at Massachusetts General Hospital in Boston, finishing in 1950. He practiced in Lexington, Kentucky for a short time and then came to Good Samaritan in Portland. He was drafted in 1953. On discharge he elected to go to Medford where he started anesthesiology practice a few weeks after Dr. Boals. He had a longtime professional partnership with Dr. Thomas Upton who joined him in 1960. Dr. Barss is most proud of the fact that Medford has had exclusive physician anesthesia since soon after anesthesiologists came to the city.

Charles E. Gray, MD (1919–)

Dr. Gray graduated from the University of Iowa Medical School in 1943. He served in the military and after discharge took his anesthesia training at Iowa. He is listed as a guest speaker from Iowa in the minutes of the first record we have of the OSSA meetings. He started practicing anesthesiology in Salem in 1948, joining Dr. Thad Moreland. He was very active in the OSSA during its early years and was elected president in 1956.

Thad Moreland, MD (1912–1989)

Dr. Moreland graduated from Ohio State University Medical School in 1941. After internship he served three and one-half years in the U.S. Army. He took his anesthesia training at the U of O Medical School and practiced in Salem from 1948 until 1972.

Charles B. Hinds, MD (1912–1991)

Information supplied by ABA records, The Bend Bulletin *obituary, and reminisces of Walter Ford, MD, a longtime colleague.*

Dr. Hinds was a native of Portland, Maine. He graduated from Dartmouth University's two-year medical school in 1934 and from Harvard Medical School in 1936. He took his anesthesia training at the Hartford Hospital in Hartford, Connecticut. He was chief of Anesthesiology at Memorial Hospital in Worcester, Massachusetts from 1940 until he went into the Army Medical Corps. He served in the U.S., the Philippines, and Japan. On discharge, he returned to Worcester until 1952. He then moved to Bend and was chief of anesthesiology at St. Charles Hospital, and its only anesthesiologist, for many years. He retired in 1975. For many years, he worked in close association with Dr. Walter Ford, a general practitioner who over the years obtained informal anesthesia training. Dr. Hinds needed additional help and, unable to recruit other anesthesiologists to come to Bend, asked Dr. Ford to help provide anesthesia coverage. Dr. Ford took several short courses in anesthesia training at the University Medical Schools of Utah and Oregon and became quite proficient.

Dr. Hinds was active in Bend civic affairs, serving as chairman of the Bend School Board, the Bend City Commission and as mayor of Bend in 1966-67. Dr. Hinds was an avid ham radio operator and was active in emergency radio organizations.

Charles Fluke, MD (1915–1999)

Information provided by longtime associate Dr. Tim Brinton and Dr. Fluke's obituary in the Eugene Register-Guard.

Dr. Fluke was born in Winnipeg, Canada. The family moved to Oregon and he attended Tigard High School. He went to Oregon State University and graduated from the U of O Medical School in 1940. He served in the U.S. Public Health Service from 1941 to 1946 and then took his anesthesia training at the Oregon Medical School. He moved to Eugene in 1948 as Sacred Heart Hospital's first anesthesiologist and practiced there until 1980. He was active

in the OSSA, serving as its second secretary-treasurer, and later vice president and president. With his colleague Dr. Tim Brinton, he actively pursued a strong anesthesiology department at Sacred Heart. They established the first of what would become an anesthesia care team in Oregon. They employed nurse anesthetists and provided all anesthesia services.

Dr. Fluke has been described as being quiet and unassuming. He enjoyed the outdoors and was active in the Boy Scouts.

Tim Brinton, MD (1919–)

Dr. Brinton states that he was born in North Dakota. The family moved several times in his youth, settling in Oregon. He graduated from Baker (City) High School; got a teaching certificate from Eastern Oregon College in La Grande, and graduated from the U of O in 1944. He took his anesthesiology training at the University of Utah Medical School from 1949-1951. He moved to Eugene in 1951 and joined Dr. Fluke. Tim's brother, Dr. Donald Brinton, also joined them a few years later. As stated under the biographical sketch of Dr. Fluke, the Brinton brothers, along with others, were instrumental in establishing a very strong department of anesthesiology in Eugene, described in detail in Chapter Six.

Dr. Brinton and his brother Don remained active in the OSSA/OSA for many years serving as officers and on committees of the society. Tim in particular was also active in ASA affairs and was along with Dr. Branford a longtime participant in the Western Biennial Anesthesia Conference. Dr. Brinton remains active, enjoying life and writing his memoirs.

Jack Coleman Edwards, MD (1923–1968)

Information supplied by the Wood Library and Dr. Rex Underwood.

Dr. Edwards had all of his education at the University of Oregon and took his anesthesia residency at the Oregon Medical School. He then started his private practice in Portland. He had a clinical appointment in anesthesiology at the school and must have been fairly active as an instructor. Dr. Rex Underwood recalls that Dr. Edwards taught him. He was active in the OSSA and elected

president in 1960. He had severe diabetes and for health reasons decided to take the newly created Directorship of Anesthesiology position at the Permanente Clinic and Bess Kaiser Medical Center in Portland. This caused considerable furor in the OSSA. At the time the mainstream medical community was at odds with the physicians in the Kaiser system, and refused to accept them into the Multnomah County Medical Society. This caused a big problem because the American Society of Anesthesiology had a component membership requirement stating that members must belong to the local county and state medical societies. Dr. Edwards was put in the position of losing his membership in the ASA while serving as president of the Oregon component society. He was asked to resign, and reluctantly did so. Dr. Branford, as vice president, assumed the presidency. This conflict between the two community medical groups was resolved within two or three years. Dr. Edwards, however, remained bitter over what he felt was unfair treatment. He continued to lead the anesthesia care team at Bess Kaiser until his death from diabetic complications in 1968.

The next group of biographical sketches is included because of the extensive service the individuals gave to the Oregon (State) Society of Anesthesiology as well as the ASA throughout their careers. As such they deserve special mention. We apologize to any others who might have been included, but in the opinion of the authors this group stands out.

Clarence (Larry) Hagmeier, MD (1914–2003)

Dr. Hagmeier was born in Pittsburgh, Pennsylvania and received his undergraduate education at the University of Pittsburgh. He served aboard a submarine in the US Navy during World War II and went to medical school at the University of Pittsburgh, graduating in 1950. He interned at Good Samaritan Hospital in Portland, and took his anesthesiology residency at the U of O Medical School. He practiced at Physicians and Surgeons hospital as well as the Shriners Hospital in his later years. Larry had a very long history of distinguished service in several medical organizations. He served in all officer capacities with the OSSA,

and served as its delegate to the ASA House of Delegates for many years. He also helped write numerous changes and amendments to the OSA constitution and by-laws. He was president of the Multnomah County Medical Society in 1974, and the Oregon Medical Society in 1976–77. He served as Assistant Secretary to the ASA for several years, as an alternate delegate of the ASA to the American Medical Association and as Vice Regent to the International College of Surgeons. He received the Multnomah County Medical Society Service Award in 1970 and the Oregon Doctor-Citizen Award in 1982. Larry also served on the Executive Council of the U of O School of Medicine Alumni board from 1999 until his death.

Dr. Hagmeier was also very active in civic affairs, serving on Republican Party political boards and on the Ronald McDonald House board of directors. He was a longtime member of the Rotary Club of Portland and his contributions and honors from this organization are too numerous to mention. These activities continued until shortly before his death. *Dr. Hagmeier also provided the authors with considerable information for this book.*

Donald P. Dobson, MD (1924–)

Dr. Dobson was born in Montana in 1924. His undergraduate education was in Montana and at New York University. He served in the U.S. Army as a Pfc. from 1942–46. He went to medical school at Boston University School of Medicine (1946–50) and took his anesthesia training at the U of O. He joined Dr. Branford at Good Samaritan in 1956 and practiced there until 1986. His services to the OSSA/OSA include serving as secretary-treasurer from 1957–62 and president in 1963. He was a delegate to the ASA from 1970–74, Alternate District Director from 1971–74, District Director from 1974-86, and served on several ASA committees.

He was a member of the Oregon Medical Association's House of Delegates from 1968 to 1974, on the board of trustees from 1974–79, executive committee, 1975–79, secretary-treasurer, 1977–79, president-elect, 1979, and president, 1980. He was always active at Good Samaritan Hospital, serving on numerous committees, was president of the medical staff in 1976 as well as

chairman of the anesthesiology department from 1975–79. Don has provided much information to the authors and the minutes he took while he was secretary-treasurer of the OSA were very informative.

Robert T. Capps, MD, PhD(1920–)

Dr. Capps was born in Ohio. His initial profession was as a pharmacist, graduating from Ohio Northern University in 1942. He enlisted in the U.S. Navy as a Pharmacist's Mate. On discharge he moved to Madison, Wisconsin and enrolled in the Department of Pharmacology at the University of Wisconsin School of Medicine. During the next few years he was involved in teaching and research and also enrolled in the medical school. He received a PhD in Pharmacology in 1950 and an MD in 1954.

He received a research fellowship from the American Heart Association in 1950 and participated in research at the Cardiovascular Laboratory at the University of Wisconsin. His investigations dealt with the effects of anti-hypertensive drugs on cerebral blood flow and metabolism.

While doing research, he was influenced by Dr. Sid Orth and would later join the anesthesiology program as a resident in 1955. On completion of his residency, he joined the faculty at the University of Texas, Southwestern Medical School from 1957–59. He then moved to the University of Washington as Associate Professor of Surgery (Anesthesiology). In 1960 he decided to go into private practice at Providence Hospital in Portland.

Dr. Capps was very active in OSA affairs, serving as president in 1965. He then became very active in the ASA, serving as a delegate from 1967–69 and as District Director from 1969–72. He also served on numerous committees of the ASA and as President-elect in 1982 and President in 1983. There were numerous national anesthesiology practice issues during those years. These included interactions with nurse anesthetists, adequate Medicare/Medicaid reimbursements, adequate salaries for all residents in training, and the need for sufficient numbers of academic anesthesiologists. Two issues that he specifically tried to address were adequate nurse anesthetist supervision and the problems with anesthesia personal and chemical dependence.

Dr. Capps continues to lead an active life since retiring in 1985.

Richard R. Johnston, MD (1942–)

Dr. Johnston was born in Iowa. His undergraduate and medical school training was at the University of Iowa, graduating in 1967. His anesthesiology residency was at the University of California-San Francisco Department of Anesthesiology (1968–71). His third year involved participating in a "research traineeship." He was on the staff in that department from 1972–74 as an Assistant Clinical Professor. He then moved to Eugene where he continues to practice at Sacred Heart Hospital.

Like the previous physicians involved in anesthesiology organizations, Dr. Johnston has had a long history of service. He has served on many committees at Sacred Heart, and has been chief of the department of anesthesiology. He has been active in the Lane County Medical Society, serving as board member, legislative committee member, chairman, and president of the society in 1988. His service to the Oregon Medical Society includes member of the executive and legislative committees, trustee, and president in 1989. He has been and continues to be very active in OMPAC.

He has been a secretary-treasurer, vice president, and then president of the OSA, in 1979–80. He has been an OSA delegate to the ASA from 1988 to the present and was an alternate director and then director from District 26. At the present, he is the Director from Oregon. He has served on numerous ASA committees, particularly the Government Affairs Committee. He has also been an alternate ASA delegate to the American Medical Association (AMA) and has very recently retired form the chair of the AMA Section Council for Anesthesiology. He was also an ABA examiner from 1975 to 1980.

Joanne Jene, MD (1935–)

Dr. Jene was born in Portland. She attended Willamette University as an undergraduate, and went to the University of Oregon Medical School. She took her anesthesiology residency at Oregon and then went to the University of California-San Francisco

for an additional year. From there she spent two months with Project Hope. She then returned to Emanuel Hospital in Portland where she continues to practice part-time. She has been active in the formation and development of the Oregon Anesthesiology Group, a large consortium of practicing anesthesiologists.

Joanne has participated in anesthesiology governmental affairs for many years. She has been an OSA secretary-treasurer, vice-president and president. She has also been an alternate, and then delegate to the ASA House of Delegates. Her national offices included alternate director and District Director, Assistant Secretary and then Secretary of the ASA. She is on the SAMBA and FAER boards. She also continues to take an active role in the national legislative conference.

Chapter Six

Anesthesiology Experiences at Sacred Heart Hospital in Eugene

Tim Brinton, MD

The following chapter is from material sent to us by Tim Brinton, MD, longtime anesthesiologist at Sacred Heart Hospital in Eugene. Dr. Brinton's biographical sketch is already included in Chapter Five. Here Dr. Brinton describes the establishment of the anesthesiology practice in Eugene and because he has taken the trouble to give this historical perspective, we have decided to include major excerpts from original documents, written in April 1981. Dr. Stephen Bennett published some of this material in the May 1993 *Anesthesiology Newsletter.* Dr. Brinton begins by describing his initial experiences at Sacred Heart. He switches from past tense to the present as he writes; we have decided to keep this format and style.

> When I came to Eugene in 1951 to Sacred Heart General Hospital (SHGH), I had visited with my brother Dr. Donald M. Brinton, who at that time was practicing family medicine. He introduced me to hospital administrator Sister Theodore Marie and several surgeons including Drs. Carl Phetteplace, David Judd and Donald Slocum and to my soon-to-be longtime associate Dr. Charles Fluke. At that time he was the only other anesthe-

siologist here and had been in practice for approximately two years. I decided to join Dr. Fluke and was immediately taken on the medical staff with an application followed by a handshake from the chief of staff and a nod from Sister Superior. Licensure and references were merely paperwork to be done later.

The background for private anesthesia practice had been well established by Dr. Fluke. He had taken the firm position that he was a physician in private practice and not a hospital employee. His relationship with the physicians and surgeons of the Medical Staff was as an equal and as a consultant in anesthesiology. As a private practitioner he looked to the patients for payment for his services. This concept has been permanently established in our group and there has never been any question of our being hospital employees or having a department dominated by hospital administration.

For several months in 1951 and 1952, Drs. Fluke, John Kimmel and I had a rotating call schedule so that an anesthesiologist was available on a twenty-four hour basis. This concept of full-time availability of a physician anesthesiologist was another principle that was established very early in the development of our department.

We all had our own gas machines and equipment and in order to avoid having hospital charges for anesthetic drugs and materials, we each purchased our own drugs and equipment. In this way there was never any question about the patient's bill from the hospital containing anesthesia charges. We made a small charge for anesthetic materials in addition to our bill for professional services.

Dr. Kimmel moved to Portland in 1952 and Dr. John Siebs joined our group. Some of the other early additions were Dr. Donald Brinton in 1954 and Dr. Kenneth Hillyer in 1960.

The organization of the anesthesia department resulted from a request in 1952 from Sister Theodore Marie to have the anesthesiologists provide supervision for the nurse anes-

thetists. Sister Theodore had confidence in Dr. Fluke and wanted the best anesthesia care. We felt that the only workable way for us to have supervisory responsibility was to have the nurse anesthetists employed by us and to have an employer-employee relationship. Since that time we have continued to employ the nurse anesthetists and other personal of our department and remained independent of the hospital.

We have never had a written contractual arrangement between the anesthesiologists and the hospital but have always had a very amicable working arrangement whereby anesthesia needs have been met for surgery, obstetrics, emergency room, radiology and other areas giving complete and adequate anesthesia coverage at all times. In 1951 there were 10 anesthetizing areas and this served surgery requirements until 1975, when the Ancillary Building was completed with 12 operating rooms.

The use of many regional anesthetic techniques has been a part of our anesthesia practice from the beginning. It was readily accepted and even encouraged by surgeons such as Dr. Slocum in orthopedics and others. Dr. Don Brinton has been the leader in offering consultations in pain management since his arrival.

During the 1950s, our staff felt the need for a post-anesthesia recovery room. Space limitations prevented PAR development until 1958, when a 10-bed unit was established. Anesthesiologists have always been responsible for supervision.

SHGH has always been a large referral center for western Oregon. In years past, we received orthopedic, GU, neurosurgery and general surgery patients from a wide area. Dr. G. Stainsby started the neurosurgery department in 1954. Dr. R. Bowen started doing chest cases in 1953 and Dr. R. Hodam started open-heart surgery in 1971.

With the building of community hospitals in some of the adjacent cities, our patient mix changed and we began to have a larger percentage of complicated cases requiring the supportive services of a regional center. The main develop-

ment of Intensive Care Units took place in the 1960s with the building of the south wing. There had been a temporary ICU in the north wing. These facilities were combined in 1975 with completion of the fifth floor of the south wing. A neo-natal ICU was also developed in the 1970s. Dr. Foster came as a pediatric surgeon and Dr. Brian Oberst as a pediatric anesthesiologist.

Members of the anesthesiology staff were leaders in urging development of a short stay unit in the 70s. This came to fruition in 1980 with a facility built in the adjoining medical office building. Anesthesia utilization has been a problem with this unit due to scheduling problems and under-utilization. A barrier to greater utilization exists due to the limitation against most tubal ligations.

Our department has always provided obstetrical anesthesia coverage. An anesthesiologist is available for complicated deliveries and Cesarean sections at all times. Periodically we have received requests for "more coverage" from newly trained young obstetricians accustomed to having in-house anesthesiologists. As their confidence increases over time they are usually satisfied with our arrangements. By being readily available and responding promptly to OB calls, we can forestall demands for "in-house" coverage.

Progress in medical care has been evident in the practice of anesthesiology. Many new drugs have been developed and others like ether and cycloproane have become obsolete. Monitoring, including invasive techniques, is common.

Many of our anesthesiologists have been officers in our professional organizations. I was active in the Biennial Western Conference in the 1950s. Brother Don has been President of the Lane County Medical Society. Dr. Bennett has been chief of staff at SHGH. Dr. Hillyer and others have been active in the Oregon Society of Anesthesiology. This includes Dr. R. Johnston who has also been president of the Oregon Medical Society.

Formation of our PC has provided a sound basis for our business and professional organization. It has provided liberal fringe benefits and a pension plan. Active interest and participation by our MDs must continue because we need to be involved with our own business affairs.

Dr. Brinton went on to make some predictions.

Population increases will increase anesthesia demand. Future recruitment will require sub-specialty trained individuals with a background in cardiac, neuro-anesthesia and critical care. These individuals should enhance the caliber of anesthesia by sharing information. Periodic shortages in anesthesiologists on the national scene may require more time to obtain qualified individuals. Increasing demands for more anesthetizing areas in OB, Short Stay and Radiology will require additional staff.

We need to address the problem of adjusting income to different workloads and allowing more flexible scheduling. This will require continued attention. Free-time scheduling also requires attention. This includes time for vacations, meetings and days or afternoons off after call. It is difficult for a service organization such as ours to provide optimum coverage while maintaining complete free-time flexibility.

Our decision managing requires attention. Should we consider a managing committee? It could gather information, consider options and bring questions and suggestions to the group. Over the years our best group decisions have been made when we had good discussions and wide participation in making decisions. Our group has always operated democratically and should continue to do so. Groups with a "strong leader" tend to limit group participation. We need to encourage group discussion. Individuals with an interest in medical political activities should be encouraged.

We would like to conclude by quoting Dr. Stephen Bennett's 1993 statements on Dr. Brinton's ideas:

Dr. Brinton's 40-year notion of giving good service, ensuring patient safety, providing around the clock coverage and having rigid professional standards may be still relevant.[1]

Chapter Seven

Kaiser Anesthesia

Suzanne Brown, CRNA

In 1959, Bess Kaiser Hospital opened in Portland, Oregon. Kaiser had been operating in a facility on Evergreen Boulevard in Vancouver, Washington before the new hospital opened. Nurse anesthetists were the anesthesia providers at Vanport Hospital, and they would move to the new state of the art facility in Portland.

The relationship between nurse anesthetists and Kaiser in this region predates the opening of Bess Kaiser Hospital. Nurse anesthetists were, in fact, the first anesthesia providers in the Northwest Kaiser system. Geraldine (Jerry) Searcy was the first nurse anesthetist at Kaiser Permanente. She worked in Mason City, Washington at the site of the medical facility Kaiser opened to support the workers on the Grand Coulee Dam. Searcy was actually the only anesthetist employed by the facility at that time, so any time she would leave the facility to go shopping or on an outing, she had to remain available for emergencies. Without pagers or cell phones, this required the help of others to stand by phones or drive out to pick her up when she was needed.[1] Kaiser has utilized nurse anesthetists since it began to provide anesthesia services.

The first nurse anesthetists in what became the Oregon Kaiser group are not clear. The Kaiser organization does not have the

records on nurse anesthesia personnel back to its beginning. Other sources have provided some information.

Lee Roche was employed by Kaiser in 1948 as a telephone operator and worked with Kaiser until 1958. She became a friend of one of the anesthetists by the name of Dorothy Poulson. Lee and Dorothy both lived in the nurses' home, across from the hospital. The home housed nurses, support staff and even a few physicians. The nurse anesthetists often lived there, as it was handy for days on call.

Lee recalls that Dorothy Poulson was the senior anesthetist at that time. Dorothy started working for Kaiser in 1945 and was employed when Lee left in 1958. Lee recalls there were always three anesthetists employed and that they did all types of anesthesia, including spinals and general anesthetics. Dorothy talked a lot about her balanced technique of anesthesia and its advantages over other techniques. The other anesthetists Lee recalls are Olga Schriber and Anne Gordon.[2] The *OANAgram* of February 1948 notes that Frances Johnson, Jane Osborne and Dorothy Paulson were working in the Kaiser Vanport facility.

Bess Kaiser Hospital opened with an anesthesia department staffed largely by nurse anesthetists and one anesthesiologist. Besides Dorothy Poulson, the names of the other anesthetists are not clear.[3] Jim DeLong, hospital administrator at Bess Kaiser, recalls that recruiting nurse anesthetists was extremely difficult: "They were hard to come by." The first anesthesiologist in the Oregon/Washington Kaiser region was Dr. Jack Edwards. Dr. Edwards had a relationship with the University and worked at St. Vincent's Hospital prior to joining the Kaiser staff. Dr. Edwards had been elected as president of the Oregon Society of Anesthesiologists for 1960, but when he joined Kaiser's physician group, he was pressured by members of the Oregon Anesthesiologist Society to resign from the presidency. He did.[4]

Dr. Edwards had lectured to the OANA group on several occasions prior to joining the Kaiser staff. He clearly had a rapport with anesthetists and supported, in some measure, nurse anesthesia. One nurse anesthetist that Edwards tried to recruit for Kaiser recalled that his decision to join Kaiser was in part due to his need

for health care for himself and his family.[5] Surely Dr. Edwards knew the general feeling in the community about Kaiser and would likely have known that this action would not be popular in the medical community. Dr. Edwards was well-liked in the Kaiser Anesthesia group. Sadly, he died suddenly in April 1968.

This animosity between the community and the Kaiser physicians would continue for several years. In the early 1970s some of the new physicians hired by Kaiser threatened legal action against their exclusion and the issue of membership in the county medical society was resolved. Kaiser physicians were admitted to membership.

The second anesthesia chief for Kaiser in Oregon, Dr. Rex Underwood, became president of the OSA in 1973. However, in general, Kaiser anesthesiologists were not significantly active at the level of officers in the OSA. In contrast, the nurse anesthetists were very active in their professional association; 12 anesthetists from Kaiser were to be elected president of the OANA during the following years. Many Kaiser CRNAs would hold offices and chair committees.

Dr. Rex Underwood, who had joined the staff in 1967, became the Chief of Anesthesia in 1968. Recruitment of good quality staff became one of the continuing challenges of his tenure. Kaiser was not offering competitive salaries at the time, and the work schedule was often as rigorous as those in community practices. Sandra Wilson, CRNA, became the first Chief Nurse Anesthetist for Kaiser during Underwood's tenure. Together they developed a monthly education program, organized the department, wrote policies and moved the group into a more progressive and cohesive unit.

The ten years from 1965 to 1975 saw many changes in the delivery of medicine and in Bess Kaiser Hospital. For example, there was no ICU or CCU when the hospital opened. The anesthesia department under Rex Underwood played a major part in organizing and opening an ICU. Obstetrical anesthesia coverage was added as a full-time service during this time period.[6]

Physicians' salaries were determined by the Permanente group, and the nurses were paid by the health plan. This rather

unique set of economic facts may well have relieved the group from the economic and competitive pressures felt by other groups.

Physicians choosing to work within the Kaiser system did so fully realizing the nurse anesthesia practice was an ongoing feature of the organization. Physicians who did not agree with nurse anesthesia practice were not likely to join the Kaiser model. This self-selection and unique economic dynamics accounted for the collegial relationships that continue to exist in this model.

In September 1975 Kaiser opened a second hospital, Sunnyside Medical Center. Dr. Underwood moved to Sunnyside Medical Center as Chief. Dr. Bhawar Singh became Chief at Bess Kaiser. Both departments continued to add nurse and physician staff to meet the growing demands of the membership. Since the closure of Bess Kaiser hospital in 1996, the anesthesia department now administers anesthesia in eight different locations throughout the Portland area. After the closure of Bess Kaiser, all Kaiser patients were relocated to several regional hospitals. The former Bess Kaiser section of the anesthesia department staffed most of the additional locations. Sunnyside Medical Center's anesthesia department continued to function on its growing campus.

A unique change for the Kaiser anesthesia department was the negotiation of a contract with the Sisters of Providence Hospitals to provide anesthesia coverage for the Obstetrical Services in three area hospitals (Providence St. Vincent Medical Center, Portland Providence Hospital and Providence Milwaukee Hospital). This contract was the first of its kind for the Kaiser Health Plan to provide anesthesia services to patients, in other facilities, who were not members of the Kaiser Health Plan.

The Kaiser enrollment in the early 1960s was about 60,000 members, with a routine daily schedule of about five surgical procedures. As of 2004 there are about 450,000 members, with nearly 30,000 surgical procedures annually.[6]

The Kaiser anesthesia department began humbly with three nurse anesthetists. Today there are 25 physicians and 80 CRNAs on the staff roster, working in nine different facilities in the Portland metropolitan area. It is an impressive accomplishment for a unique group of dedicated professionals

Chapter Eight

History of the Oregon Anesthesiology Group

Angela Kendrick, MD

No history of anesthesiology in Oregon would be complete without the story of the Oregon Anesthesiology Group (OAG). This group of anesthesiologists is one of the largest physician groups in Oregon and is responsible for the delivery of anesthesia and preoperative medical care at over 23 hospitals and surgery centers throughout Oregon.[1]

During the late 1980s, the climate for the delivery of health care by physicians was changing. Solo practices were merging, malpractice premiums were rising, Independent Provider Organizations (IPOs) were being created. As hospitals and insurance companies were creating new business entities, the HMO Act of 1973 established federal rules for qualified HMOs.[2] Physician's groups were being scrutinized for antitrust violations if they attempted to negotiate prices for their services. (Antitrust laws were not originally applied to physicians because as members of a "learned profession" they were not considered in trade or commerce. The US Supreme Court eliminated this exemption in 1975.)[3]

The statewide trauma system was established in the mid 1980s, with Emanuel and OHSU competing to receive the Level 1

designation. The level 1 designation requires an attending anesthesiologist immediately available (in house) to respond to trauma calls in the emergency department. The Emanuel administration offered their staff surgeons a stipend to provide this coverage, but expected their anesthesiologists to provide this coverage without similar support.[4]

The Emanuel anesthesiologists, with some early managed care experience, realized that if an "entity" was established, then insurance companies, managed healthcare organizations and others would negotiate for services. They each contributed $500 to engage the services of a health care attorney, Herb McGuire (then attorney for the California Society of Anesthesiology). The anesthesiologists met on designated Sundays for 6-8 months during 1987-1988, becoming educated on forming a group. After another round of individual funding, articles of incorporation were drawn up and The Anesthesiology Group (TAG) was founded. TAG was successful in negotiating its first Anesthesia Trauma Contract, which included a stipend for being in house. Drs. Stuart Rosenblum and Joanne Jene were the designated anesthesiologists to represent, negotiate and speak for the group. Dr. David Farris and others stepped into leadership roles as the group continued. The experience of successfully creating TAG created a group which had learned about strength through negotiation, as well as the dedication and flexibility required to become a true team.[5,6]

In addition to the TAG anesthesiologists, the nucleus of the group of physicians who would form OAG had been utilizing the Portland billing cooperative, Anesthesia Associates, Inc. (AAI). The idea of self-insurance grew out of discussions within AAI and a preliminary feasibility study led to the conclusion that this would not be possible in the absence of a means to control risk. From this point, the idea of a multi site group began to be discussed by two of the physicians, Drs. Stephen Kelly and Doug Erickson, and the CEO of AAI, Dave Schlactus. There was significant interest among the AAI anesthesiologists to develop a mechanism that would allow legal discussion about common problems (liability, billing expenses, payer policies). A task force (funded through an initial contribution of $1000 from 40 of the physicians) was created. The

task force hired a business consultant (Herb McGuire) and formed smaller working committees to refine the components that would form the functioning parts of any future group. Key areas of focus included bylaws, finance and legal. The task force was a group effort that took countless hours of physician time over several months. The task force committees and the consultant developed a blueprint for a single or a multi-site group.[7]

The governing analogy was the model of the US federal government and the 50 states. Each individual hospital was a state with its own call system, caseload, staff, and the business group, Oregon Anesthesiology Group (as it came to be called), was the federal government with billing, purchasing and negotiating power. Another key to the OAG structure was that indentured servitude was to be avoided. Productivity based reimbursement was important to each physician participant. Originally, physicians from Bend were part of the interest group, but they decided not to join as the corporation moved forward.[8]

The group was incorporated in Portland in November 1989[9] with Dr. Steve Kelly serving as its first president. OAG formation was a group creation from its inception, so singling out individuals for recognition is not an attempt to minimize the work of all who were part of the task force efforts. Drs. Steve Bunnage, Jim Gulick, Heide Goetze and Paul Rose, were key task force members. Dr. Reg Bruss was also a key strategist in the creation, growth and stability of OAG. The first executive Board members were Drs. Steve Kelly, Reg Bruss, Brian Marsh, Doug Erickson, and Tim Baldwin. An initial fifty physicians from seven different sites signed on as employee—owners. See appendix for the original members.[10] All TAG members joined OAG (1/1/90 was the actual hire date) and TAG's functions were taken over by OAG.

Hospital administrators and other physicians did not greet the new group enthusiastically, but rather with suspicion and mutterings of "antitrust violation."[11] The Department of Justice and the Federal Trade Commission have statements that describe "antitrust safety zones" or "safe harbors" for physician joint ventures. Concerning the number of physicians in a group; if the number of physicians in a network is limited to 20% (for an exclusive

network) or 30% (non exclusive) of the providers in a specialty within a geographic region that organization will not by definition be engaging in anticompetitive behavior. Participating physicians must share "substantial financial risk" to qualify. Actions (not just size) of the group are also important. If the group doesn't engage in "unreasonable" or "anticompetitive" behavior, antitrust violations are not created.[12]

OAG had gone to considerable effort to avoid any such violations in the structuring of its business model.

During the 1990s OAG separated from AAI and Tom Friar became the next CEO. Mr. Friar brought more financial expertise to this role. OAG had 60 to 70 members during this era, with Drs. Reg Bruss, Kent Homnick and David Farris providing significant physician leadership within the group during the 1990s.[13] The mission of the group to insure that patients get the best quality of care in any setting has remained constant through the years.

During the last fifteen years, the group has grown to over 190 anesthesiologists working at 16 hospitals in Oregon.[14] OAG has been remarkably successful in attracting physicians to join and to stay with the group. It is a fully integrated professional corporation with a nine member Board of Directors led by the President of the Board. Each board member is elected for a three-year term. To become a board member, a shareholder must have served on a committee within the corporation, and no one hospital site is allowed to dominate the board. Smaller sites are assured their representation on the board. The Chief Executive Officer serves as a de facto member of the board and carries out the Board's directives.

The committee structure includes the Hospital Anesthesiology Chairs committee, which acts in an advisory role to the Board of Directors. Other standing committees are: Finance, Pension, Hospital Affairs and Risk Management, and the recent additions: Pain Medicine, Billing Compliance and Technology.

There is a Medical Director position currently held by Dr. Geraldine (Geri) Pulito. The Medical Director serves a key role in physician recruitment by interviewing each candidate. Other responsibilities of the Medical Director include serving on the advisory board of the Doctors Company (the OAG liability carrier),

and serving as the physician reviewer for any medical concerns that are brought to the OAG Board. These concerns may be about a physician (e.g. professionalism, quality of care, or health issues), or about case management. These concerns are investigated and with the appropriate assistance acted upon by the Medical Director. Each physician and executive receives a yearly 360-degree personal evaluation from his or her colleagues, surgeons, and nurses. The Medical Director provides feedback on these evaluations to the individual. Quality Assurance/Improvement is accomplished largely as a hospital site-specific task, but notable cases are discussed at the annual shareholder meeting or reported in the weekly shareholder newsletter.

OAG performs its own credential verification service including a thorough evaluation of physician training, certification and recommendations prior to a physician joining the group. There is an initial two-year service period for new physicians. If the fit is felt to be mutual, a physician is then given the opportunity to buy in as a shareholder, or to continue in a non-shareholder position.

OAG has an excellent pension plan, and currently about 30% of the physicians are in the 48-52 year old range. Some of their recent retirees continue to work on as-needed basis. OAG has its own CME requirements and actively supports the OSA, the ASA and its various foundations including the Patient Safety Foundation and FAER.[15]

OAG was instrumental in the founding of TSI (Trauma Services Inc.), the physicians group at Emanuel which provides trauma services. Dr. Kerry Keeler is the current anesthesiology chief of trauma and Joy Ketchum is the CEO.

In 1994, the Board conducted a search for a new chief executive. Joy Ketchum was recruited from within the Brim Corporation's physician practice management team to join OAG as CEO. Mrs. Ketchum brought significant experience in health care management to her role as chief executive officer. She has become an influential health care executive in Oregon, and so her background prior to joining OAG is described here.

Mrs. Ketchum was originally from New York where she obtained her BS in medical technology at Union College /Albany

Pharmacy. She spent eleven years as a clinician in the medical technology field. After her marriage to a naval officer, their family relocated to Hawaii. She spent the 1970s and 1980s in Hawaii where she was a faculty member in Medical Technology at the University of Hawaii. While in Hawaii, she developed an interest in health care policy. She served as a congressional aide to Representative Cecil Heftel, a member of the Health Care subcommittee for the House Ways and Means Committee. Mrs. Ketchum moved out of the clinical arena and into heath care management. She completed her Masters Degree and her family moved stateside to the Bay Area.

She was hired by the Alta Bates Hospital System in Berkeley to help with its merger with another health system. She was part of the management team that developed the first physician IPA in the 1980s in the Bay Area, as well as its first Preferred Provider Organization. Her last role, before leaving the Bay Area, was to serve as president of a seven hospital PPO. Her husband retired from the Navy in the 1990s and they agreed that relocating to Oregon seemed like a good compromise between New York and Montana.

Since Mrs. Ketchum joined OAG in 1994, the group has matured as a physician organization. In 2003, the gross annual revenue was about 70 million dollars, with their operating expenses being 1-1.5% less than their peer groups of the same size. OAG participates in two different networks of anesthesiology providers. One of these, The Anesthesiology Business Group, provides six other partners, meets once a quarter and focuses on common operational issues.

When asked about areas for improvement within OAG, Mrs. Ketchum highlighted the issue of communication. A weekly newsletter, and a web site with a secure server are in place for the organization, but having consistent electronic communication between the members of the organization is a goal. In addition to the 360-degree personal evaluations, having an organization wide quality improvement system is something she would like OAG to implement.

The aspect of OAG that she is most proud of is its "unique success in being a big organization with a little company feel to it," (e.g. the full array of practice opportunities each with its own unique small group structure). The corporation payroll system utilizes a sophisticated formula including per site conversion factors, call coverage requirements, but maintains the "each physician is reimbursed for each unit billed" philosophy that has been present since the start up.[16]

For a closing note for our interview, I asked Mrs. Ketchum to look into the future of health care delivery in the US and to offer her thoughts about where we may be going. As it turns out, her graduate thesis had been on this topic and she reflected on how her outlook has evolved. She is not encouraged about the current trends, citing the significant amount of uncompensated care that must be delivered, and the crumbling health care infrastructure that exists at the state and federal level. Technology has also not proven to be as helpful as we as a society hoped/assumed that it would be. We are facing significant issues in health care delivery as a society and we need to work together to solve them.[17]

Part II

Anesthesiology at the University of Oregon Medical School and Oregon Health & Sciences University

Chapter Nine

The History of Oregon Medical Anesthesiology Training

Angela Kendrick, MD

In the beginning, the history of medical anesthesiology education was entwined with the history of surgical training. Specialty training (residency) for anesthesiologists began to be formalized in the 1930s. Before this, anesthesiology was part of one's medical school surgery experience. This chapter summarizes the development of medical education in Oregon, with emphasis on the coursework and clinical experience that eventually led to the creation of a Department of Anesthesiology at what was then known as the University of Oregon Medical School in Portland. Hospital development in Oregon as related to medical education is also briefly described.

In 1861, Dr. J. C. Hawthorne built the first Oregon non-military hospital, Oregon Hospital for the Insane, in east Portland. Multnomah County made provisions with Dr. Hawthorne to care for the county's indigent sick at his hospital in 1862. This arrangement eventually created the Multnomah County Hospital.[1]

By 1864, there were not enough trained physicians to meet the demands of Oregon's rapidly growing population. Governor A. C. Gibbs and a group of physicians asked the Board of Trustees at Willamette University in Salem to establish a medical department

in Portland. Willamette was a young university, having graduated its first class in 1859.[2]

In February 1865, in response to the Governor's request, the Board established the "Oregon Medical College" with six faculty members. Temporary offices were set up in Portland, but no student was ever given instruction there.

Willamette University decided to try again in Salem. The first faculty selected in 1866 consisted of nine Salem physicians. The entire University consisted of one building, and so the facilities for training physicians were primitive. The first formal course of medical education began on March 3, 1867 in Salem with 24 students. The *Salem Daily Record* of June 14, 1867 mentions that "to give opportunity for clinical instruction [in] this, their first season, the faculty have offered to perform any needed surgical operations free of compensation when the parties are unable to render it."[3]

The Willamette Medical Department was the third medical school to open west of the Mississippi, and the first north of San Francisco. Almost immediately, the medical faculty and the University began to disagree over the administration of the medical school. Arguments and dissension marked the school's administrative structure but it continued to operate in Salem for ten years. In 1876 the faculty recommended a move to Portland (by this time a town of 19,000 people).

The first faculty meeting of the Willamette University Medical Department in Portland was in June 1878; some rooms were rented above a livery stable at the corner of SW Park and Jefferson. Instruction began in December 1878.[4] The school adopted the articles of confederation of the Association of American Medical Colleges, and in 1880 was admitted to this group. Admission standards were that a candidate must be no less than age eighteen, of good moral character and pass an admission examination. The course of lectures continued for twenty weeks, and attendance at two courses were required in order to be eligible for medical examinations.

By this time additional hospitals had been erected in Portland. In 1875, the Sisters of Providence established St. Vincent

Hospital at NW 12th and Marshall. Dr. Alfred C. Kinney, an Oregonian who had done his medical training in New York, was a key figure in this hospital. He was known as a good surgeon and performed the first operation (an amputation) at St. Vincent. The building accommodated about 50 patients. Dr. Kinney taught the Sisters to be nurses, keep records, dress wounds and give his anesthetics (chloroform).[5]

Good Samaritan Hospital (established by the Episcopal Church) also opened in 1875. By 1882, it had five endowed beds and included an orphanage. The orphanage took in sick children. Eventually the orphanage moved, freeing the space for more hospital beds. In 1889, 25 beds increased the hospital capacity, thus requiring more nursing staff. To meet that need, the hospital officials committed $25/month, plus room and board, to a graduate nurse to organize the first nursing program in the Northwest. The nursing school opened in 1890, established by Miss Emily Loveridge, who had trained in Bellevue, NewYork.[6]

Another attempt to establish a separate Portland "Oregon Medical College" occurred in 1877. This attempt also failed, but the proposed nine-member faculty was absorbed into the Willamette University Medical Department, thereby strengthening its faculty. The school outgrew its location above the livery stable. A new medical school building was erected at NW 14th and Couch in 1887. This building was a source of pride for the school, because it contained a 150-seat auditorium, a dissecting room large enough for 20 tables, and a refrigerator large enough to hold 30 cadavers for use in dissection.[7]

The Oregon State Medical Society was founded in 1874 and began a campaign to increase the standards for doctors in the state. Oregon passed its first medical practice law in 1889. This law grandfathered all who were in medical practice in Oregon (some without degrees), but required "registration" with the state board to practice. By 1891, the law was strengthened to require an examination of all new applicants for a license to practice medicine and applicants were required to have a medical diploma.[8]

While efforts were being made to improve standards for medical practice in the state, more dissent occurred in 1887 among

the faculty of the Willamette Medical Department over the appointment of the chief of obstetrics. Despite the opening of the new facility, the entire faculty resigned. Four of the dissenting faculty, along with several other local Portland practitioners set about organizing a rival school. This group of physicians, Drs. K. A. J. Mackenzie, H. C. Wilson, George M. Welles, S. E. Josephi (all former Willamette faculty). A. C. Panton, Arthur D. Bevan, Otto Binswanger and Curtis C. Strong borrowed $1000 from the First National Bank of Portland to finance this venture. The charter granted from the Board of Regents of the State University was for a two-year school to be called the Medical Department of the University of Oregon. One historian notes that Dr. Strong's brother-in-law (Judge M. C. Deady) was then president of the Board of Regents of the State University.[9] Dr. Josephi was elected Dean.

Instruction began in a former grocery store, which was moved to the grounds of Good Samaritan Hospital (NW 23rd and Marshall). The first class enrolled 18 students. The medical catalogue for that first year of instruction proudly announced that "arrangements have been perfected for the one passing the most satisfactory examination" to have an appointment as House Surgeon to Good Samaritan Hospital. "The appointment is for one year, during which time, board and lodging will be furnished free at the Hospital. An excellent opportunity is thus afforded for the graduate to acquire, in the wards of a well-equipped hospital, without any expense, a practical knowledge by clinical experience and actual practice."[10] Two years later the school moved to the corner of NW 23rd and Lovejoy. It stayed there until 1893, when a new building was constructed. The medical school remained there for 25 years, until construction of the campus on Marquam Hill in 1919.[11] (See Figure 1 and Figure 2.)

The two medical schools competed with each other for students and to maintain quality instruction. Much discussion took place among Oregon's established physicians as to whether Portland, or even Oregon, could support two medical schools.[12]

The Willamette University Medical Department was forced to move back to Salem in 1895 due to the closure of its last affiliate hospital (the Methodist Hospital). No other clinical facilities

Fig 1 Oregon Medical School Campus 1893-1919.
By permission OHSU Historical Collections and Archives

Figure 2 – Multnomah County Hospital Built 1919.
By permission OHSU Historical Collections and Archives.

existed for them in Portland, because the rival University of Oregon Medical school faculty controlled the staff at Good Samaritan and St. Vincent. A new building was constructed in 1905 in Salem for the Willamette Medical School. Medical instruction continued in Salem until 1913, when it was discontinued and merged with the University of Oregon Medical School.[13]

One of the factors leading to the merger of the two schools was Abraham Flexner's report to the Carnegie Foundation. He visited 155 medical colleges in the U.S. and Canada to rate their facilities and quality of instruction.

The Flexner report of 1910 was highly critical of both Oregon medical schools: "Neither of these schools has either resources or ideals. The Salem school is an utterly hopeless affair, for which no word can be said. Portland may conceivably some day maintain a distant department of the state university."[14] The University Medical School was able to make improvements by appealing to the board of regents for increased funding. The regents in turn were able to persuade the legislature to appropriate $10,000 for equipment and $20,000 for maintenance.[15] Approximately 10% of the nation's medical schools closed after the Flexner review of their facilities.

Descriptions of Anesthesia Training

Medical coursework was described in the catalogues of the two institutions. The first description of anesthesiology as part of the surgical curriculum occurs in the Willamette University catalogue of 1886. A fire at Willamette in later years destroyed much of their historical record. This catalogue describes the courses during Portland tenure of the Willamette Medical Department (before the schism which led to the University of Oregon Medical School). One section of the catalogue described "Clinical Instruction at St. Vincent Hospital: Clinical Surgery — Professor Bevan: A surgical clinic will be given every Saturday by Prof. Bevan: The students will be instructed in the use of anesthetics, surgical appliances, bandaging, etc."[16]

The next significant reference to anesthesia training comes from the Willamette catalogue of 1905: "The subject of anesthesia so often neglected, and yet of vital importance, both to the patient

and the surgeon, will be taken up at length and the essential features explained. Members of the senior class will be given an opportunity to administer these agents under competent supervision, thereby gaining practical experience so necessary in their use."[17]

The first reference to teaching anesthesiology in the University of Oregon's catalogue is in 1913. Mary Vera Madigan, MD, is listed as an Instructor in Anesthesia. She is listed the prior year as an Instructor of Physiologic Chemistry in the Physiology Department. The catalogue recounts, "for mammalian experiments there are tables, animal holders, instruments and anesthetic apparatus."

She continues to be listed through 1915 as Instructor in Physiology and Anesthesia, and then in 1916 as an Assistant Professor of Physiology.[18]

The 1915 University of Oregon's catalogue describes anesthesia experience as part of the surgical clinic:

> The attempt is made in this course to teach surgery in the most practical manner and during the past eight years a method of instruction has been followed which has been commended in many quarters for its thoroughness.
>
> The classes are limited at the present time to twenty-five students. Four students, who have been previously strictly trained in methods of asepsis, enter the amphitheater with the operating surgeon; two of them are assigned to assist the operator and actually take part in the operation and learn practical lessons in hemostasis, ligation of vessels, and general technique; the other two students are stationed at the head of the bed under an expert anesthetist who studies anesthesia with them and instructs them in all methods of administration. While one student is engaged in giving the anesthetic under instruction, the other is being taught how to make observations with the sphygmomanometer studying the re-action of the patient to the various operative procedures.
>
> That part of the period which is usually consumed in preparation for the operation and the administration of the anesthetic; namely twenty or twenty-five minutes, is

devoted to the study of pathology from specimens collected at previous operations under a special detail from the department of pathology.

Six hours a week entire 4th year. St Vincent Hospital. Professor MacKenzie.[19]

Andrew J. Browning, MD is listed as an "Instructor in Anesthesia" as part of Dr. MacKenzie's Surgery Department in 1916–18. "A course in the physiologic effects of anesthesia and the technique of administration of anesthetics is taught one hour a week during the 1st semester of the 4th year." This is in addition to the practical exposure during surgery clinic where "each senior student is assigned in rotation to take part as an assistant in surgical operations and as anesthetist under proper supervision, in the clinic."[20]

During 1918–19 a new team, Ms. McGee (Agnes McGee, RN, who taught anesthesia to nurses) and Dr. L. F. Snyder (dentist) are listed as teaching "individual instruction in the administration of anesthetics (one hour a week) at St. Vincent Hospital."[21] (See Figure 3).

1919 is an important year in the University of Oregon's Medical School history because of the move to Marquam Hill.

Development of Marquam Hill

There are in-depth descriptions of the development of the Marquam Hill campus (see References, 1, 3 and 11.) Chief among the reasons for moving the medical school to this location was Dr. Mackenzie's vision. His ability to obtain the land from the railroad, lobby the legislature for support, and his ability to convince the county to accept a parcel of land there to build a new County Hospital were all key to its development.

As previously stated, the Multnomah County Hospital had its origins in the care of the indigent sick on the grounds of the Oregon Hospital for the Insane. In 1868, the county purchased a "Pauper's Farm" located out on Canyon Road, and by 1876, the sick were being cared for as well. Major surgeries on the indigent were contracted out and performed at St.Vincent or Good Samaritan. The county authorities agreed to a support rate of one dollar per day. By

Figire. 3 – St. Vincent Surgical Suite. House Staff administering anesthesia as part of their education.
Circa 1920 Courtesy of Providence Archives, Seattle, WA.

1908, the hospital accommodations at the pauper farm were quite inadequate, and the county purchased an old mansion on SW 2nd Avenue between Hooker and Hood Streets.[22]

The care of the indigent sick had markedly improved with the hospital on Hooker Street, but by 1915, the facility was crowded and unsafe. After a political battle over where to build a new facility, the county began construction in 1920 at the Marquam Hill site, and opened its new hospital in 1923.[23] (Figure 2 page 139.)

There were 50 students in the first class on the hill (1919). Most were ex-servicemen. The university deeded land in 1926 to the U.S. government for construction of a 300-bed Veteran's Hospital. The Doernbecher Children's Hospital was next to be constructed, opening in 1926 with 63 beds. The State built a tuberculosis hospital on the grounds in 1939. These facilities offered the

clinical teaching for both students and residents. Postgraduate training had become more formalized. In 1923, the State Board of Medical Examiners began to require a minimum of one year of postgraduate training before a license was granted.[24]

Anesthesia Training after the Medical School Came to Marquam Hill

From 1920–26 there is no separate listing for a course in anesthesia. In 1927, Dr. Clarence W. Brunkow is listed for lectures, demonstrations and an elective in anesthesia. Dr. Brunkow was a surgeon who developed expertise in pediatric cleft palate repair. From 1931–35, Dr. Eugene P. Owen was the teacher for *Surgery 629 Anesthesia,* as the course had become known in the school catalogue.

Anesthesia was being discussed as an integral part of the surgical care of patients in the County Hospital as evidenced in the notes from 1933 and 1934: Nov 17, 1933: "Dr. Mathieu presented a paper on the use of luminol preoperatively and postoperatively in 250 operations, mainly laparotomies, approximately half of which were private cases. It was found that 12 grains gave the best results, that many cases required one or two doses of morphine, and less nursing care is required. Forty-six of the two hundred fifty patients vomited. The advantages are 1. Ability to take fluids at once postoperatively; 2. Relief from apprehension, dread and worry pre and post operatively."[25]

From the minutes of a Staff meeting in 1934: "The first paper by Dr. Allbert Mathieu: Subject: Preliminary report on Evipal anesthesia. Type and number of cases reported. Found to be satisfactory for surgical anesthesia over periods of 10-20 minutes. Postoperative headaches seem to be the only complication and occasional barbiturate post-anesthetic reaction. Discussion and questions: Dr. Belknap: "How soon do the patients awaken?" (answer: 40 minutes.) Dr. Myers: "The drug is true barbiturate but excretion is the most rapid of any barbiturate. Impairment of liver function may be a contraindication to its use."[26]

[Author's note: Luminol was the first synthesized barbiturate; Evipal is hexobarbitone, which was developed in Germany by

Helmut Weese in 1932. Waters and Lundy developed Thiopentone in 1934.]

Dr. Joe M. Roberts, "resident in surgery," is listed as being responsible for the anesthesia course from 1935 through 1937.

Anesthesiology as a Division of the Department of Surgery

The first separate listing of Anesthesiology as a division of the Department of Surgery occurred in 1938. Dr. John H. Hutton, who had done a fellowship year in anesthesia at the Mayo Clinic with Dr. John S. Lundy, came to Portland. He was listed as instructor. (Additional details are covered in a later chapter.) He started the first anesthesiology residency training program in Oregon with the first resident being Norval Hamilton. Dr. Hamilton was an Oregonian from Klamath Falls, Oregon Medical class of 1937.[27]

By1939, Dr. Hutton, was now an assistant clinical professor and head of the division of Anesthesiology. Norval Hamilton was listed as his clinical fellow, and Virgil C. Larson and Russell W. Enos were the residents. *(Dr. Larson must have left the state because we cannot find any other information about him.)*

"Anaesthesiology" had its own more prominent listing in the medical school curriculum in 1939. Dr. Hutton took on the development of an anesthesia curriculum for the third and fourth year students. During the third year, the required course was: "Surgery 661, 662 Lectures in Anaesthesia. Lectures in anesthetics, with demonstration and description of equipment employed; discussion of history, physiology, signs and methods of anesthesia; the various agents employed. Lectures, 2 hours; 22 hours."

"The required fourth year course is Surgery 663. Clerkship in Anaesthesia. One section each term. Observation of anaesthetic procedures in the operating room and directed supervision in assisting to administer the various types of anesthesia. Two hours a week for 5 1/2 weeks."

The elective courses available included "Anaesthesia seminar" in the third year. "Discussion of special methods such as regional anaesthesia and diagnostic blocks; actual case histories from the standpoint of anesthetic procedures; experimental reports

and reading assignments. One hour a week for one term." A fourth year elective "Anaesthesia" was also offered with lectures and demonstrations on general and local anesthesia. Dr. Hutton is listed as the teacher for all the courses.[28]

Dr. Hutton is quoted in the *Oregonian* in 1941 about his presentation to the California Medical Association on the use of avertin and nitrous oxide as a successful combination for major operations.[29]

On the national level, physicians limiting their practice to anesthesia were making efforts to forge their own specialty organization. By 1938 the American Board of Anesthesiology was approved as a sub-board of the American Board of Surgery. The first written ABA exam was given in March of 1939.[30] Oregon's Division of Anesthesiology was similar to other institutions in not having academic independence during its early years.

Dr. Hutton continued as Head of the Division (while maintaining his private practice at Good Samaritan Hospital) until 1948. He continued to train residents. (See Appendix for the complete resident list.) Dr. Marjorie Noble trained with Dr. Hutton beginning in 1941; she has contributed a letter and an oral history interview describing her experiences, edited portions of which are found in Chapter 11.[31] Dr. Hutton also began a nurse anesthesia training program, with one nurse trained annually.

In 1948, Dr. Frederick P. Haugen joined the Medical School staff as an associate professor and new head of the division of Anesthesiology. Dr. Haugen had a profound impact on anesthesiology training in Oregon, and his contributions are also highlighted in a separate chapter. His tenure begins the era of full-time faculty for the division. He had a collegial and academically productive relationship with his chief of surgery, Dr. William Livingston.

The medical school catalogue continued to list the required Surgery 661, 662 for the third-year students with a required fourth year clerkship. The elective available was the third-year "Anesthesia Seminar" with the same description as before, but with the note that it was limited to 12 students. Dr. Haugen was now responsible for these courses.[32]

During the 1950s, Dr. Haugen trained four residents per year and utilized the Multnomah County Hospital and Doernbecher for their training. The residents also had rotations at the VA Hospital, supervised by Drs. David Boals and Marion Palmer. The resident teaching conferences at that time were held on Tuesday and Wednesday afternoons from 3-5 pm. The Tuesday conference centered around the basic problems of anesthesiology. On Wednesdays current literature was reviewed.[33] Dr. Haugen also conducted a pain clinic one afternoon per week in conjunction with Dr. Livingston, where they saw patients with chronic pain problems.[34]

The residency eventually grew to 6 residents per year. Dr. Haugen remained as Division Chief for 22 years, retiring in 1970. After his retirement the Oregon Society of Anesthesiology honored his tenure with the creation of the Haugen Lecture fund. This endowed lectureship brings a noted anesthesiologist to lecture in Portland on an ongoing basis.

Dr. Haugen secured department status for his division to coincide with the arrival of the new chairman, Dr. Norman Bergman, in 1970. Dr. Bergman came to Portland from the Salt Lake City Veteran's Hospital where he had served as Chief of Anesthesia Services. Dr. Bergman's professional achievements, and an oral history interview with his widow are in a separate chapter. During the 1970s there was a decrease in student interest in anesthesiology with some residencies having trouble filling their positions. Dr. Bergman's residency training program remained stable with clinical demand ever increasing. The University Hospital became Oregon Health Sciences University during the 1970s. Dr. Bergman was a driving force within the university to create a practice plan for physicians on the hill. This allowed direct billing of the patients and was the beginning of financial solvency for the department. Dr. Bergman had eleven faculty members, an expansion from the six who had been with Dr. Haugen. The anesthesiology residents continued to have educational conferences, including Morbidity and Mortality and a journal club.

Dr. Bergman stepped down from the Chairmanship in 1981 and Dr. John Branford served as interim chair for that year.

Dr. Wendell C. Stevens was recruited to Oregon in 1982 from Iowa. He was serving as the Department of Anesthesiology Chairman at Iowa. Dr. Stevens's ten-year chairmanship at OHSU was marked by a dramatic increase in faculty numbers as well as expansion of the residency. Anesthesiology expanded the qualifications for Board Certification from requiring internship plus two years to internship plus three years in 1988. At its peak size, the residency was training ten residents per year. Dr. Stevens expanded the visiting faculty program that exposed his residents to faculty from around the world. Supervision requirements for residents in training changed during this era. Faculty began to spend the night in the hospital (to be immediately available for the newly implemented trauma system), and cases were no longer performed by residents on their own (after discussion with faculty). A popular program for medical students was the paid anesthesia "externship" which allowed students to help the OR team at night. Several residents were recruited into the specialty after participating in exciting cases and having a chance to play a significant role in the care of the patients while they were students. There was an off-campus rotation for the residents at Emanuel Hospital in Portland until 1987. This rotation gave residents an exposure to private practice and the opportunity to participate in the care of burn patients.

The fourth year elective remained available for medical students, but the third year rotation from the surgery block was dropped. By now conferences were in the early morning and included Monday M&M, Tuesday resident conference (discussion led by resident), Wednesday staff seminars and Friday visiting professor lectures. The faculty helped the residents prepare for the ABA examination experience by conducting mock oral exams.

Dr. Stevens retired in 1992 and Dr. Per-Olof Jarnberg served as interim chair during the search for his replacement.

Dr. Harry G. G. Kingston, a faculty member at OHSU since 1982, became chairman in 1993. Dr. Kingston did his medical training in South Africa, anesthesiology training in Liverpool, and a pediatric critical care fellowship in Toronto. One of the cyclical swings in anesthesiology popularity occurred in the mid-1990s.

There was a big nationwide push to train primary care residents, and students were encouraged to avoid anesthesiology training. The resident applicant numbers plummeted, including those for the Oregon training program. The anesthesiology program shrank to five per year. Additional faculty and CRNAs were hired to meet the clinical demand. The structure of the anesthesiology training began to include careful consideration of hours worked and case assignments to maximize educational benefit. More faculty expertise in pain management, regional anesthesia, and pediatric anesthesia was acquired. The third-year student rotation in anesthesia was re-instituted as an option during the surgery block. Resident numbers rebounded by the end of the 1990s with rotations occurring at the University Hospital, the Casey Eye Institute, the VAMC, and the Doernbecher Children's Hospital. The pain practice grew sufficiently to offer two fellowship positions. The pediatric group opened their fellowship in 2002. The educational component of residency training had reached a degree of complexity to call for not only a physician director, but also someone with expertise in education. The first PhD in the Director of Education role, Kris Wessel, was hired in 2002.

Dr. Kingston retired in 2002, and Dr. Jarnberg again served as interim chairman during the search.

The university was interested in candidates who would bring a strong research program to OHSU. The search committee successfully brought Dr. Jeffrey Kirsch from Johns Hopkins University to be the new Chairman in December 2002. Dr. Kirsch also recruited his longtime collaborators Dr. Richard Traystman and Dr. Patricia Hurn to join him at OHSU. This group of NIH-funded scientists have catapulted OHSU's anesthesia department into the top tier of national funding. Dr. Kirsch also brought a name change for the department: the Oregon Health and Science University Department of Anesthesiology and Peri-operative Medicine, which reflected the broader mission of training complete perioperative physicians.

Figure. 1 – John Hutton MD (1901-1979)

Chapter Ten

John Huntington Hutton, MD

Angela Kendrick, MD
Roger L. Klein, MD

John Hutton was born June 16, 1901, in Detroit, Michigan. He went to Highland Park High School and graduated from the University of Michigan in Ann Arbor. He continued his education there and received his MD in 1927. He apparently had a six-month internship in Michigan and then went to San Diego General Hospital for six months of additional training. He may have received some anesthesia training there, because he then went to Hollywood, California where he practiced general medicine and anesthesia from July 1928 until August 1930.[1] He married Thelma Hamilton in September 1929, and moved from Hollywood to Calipatria, California, where he practiced until January 1935. He was employed there as the city health officer and was the district surgeon for the Southern Pacific Railroad.[2]

He started a one-year fellowship in anesthesiology at the Mayo Clinic in January 1935. While at the Mayo, he was the senior author of two anesthesia papers. Dr. A. Tovell is listed as a co-author on one of these articles dealing with Pentothal. He may have spent part of 1936 and 1937 in New York, as the Mayo Clinic had his permanent address there when he left his fellowship. He must have maintained his Mayo ties because in 1937, he was asked to

come to the University of Oregon Medical School by the chairman of surgery, Dr. Thomas Joyce. Dr. Joyce was a Mayo graduate and always tried to recruit physicians from the Mayo Clinic.[3] Dr. Hutton received a Assistant Professorship and the title of Head of the Division of Anesthesiology. His application for membership in the American Society [of Anesthetists] (ASA), dated November 13, 1940, includes a statement indicating he was a diplomat of the American Board of Anesthesiology (ABA). A copy of the application has been supplied to us by the Wood Library Museum.

Dr. Hutton started a training program in anesthesiology in 1938. This was the first attempt at formal anesthesiology training on the West Coast. At that time, the U of O Medical School clinical curricula was taught by faculty with only clinical appointments. In a sense, they were part-time, as they made their livelihood in private practice in the community hospitals. The teaching hospital was the Multnomah County Hospital and most of the resident training including anesthesiology was done there. Dr. Hutton's private practice was primarily at Good Samaritan Hospital.

This anesthesiology program initially consisted of usually training one resident a year. Norval Hamilton was his first resident. A school of nurse anesthesia was started at nearly the same time. There was cross-teaching by Dr. Hutton and the employed nurse anesthetists. After the first year, much of the of the first-year resident training was done by the second year resident.[4] Dr. Hutton made evening rounds in person or by phone, discussing the cases of the day and the pre-ops for the following day.[5,6] Before he died in 1947, Dr. Joyce would operate at the "County" in an amphitheatre setting.[7] Dr. Hutton would give the anesthetic on occasion and discuss anesthesia with the students before the surgical procedure.[8]

Dr. Hutton apparently avoided confrontation. Other recollections by trainees included the statement that he would occasionally take residents to Good Samaritan. These eventually became six-month rotations.[9] Even then supervision remained minimal. A secondhand report did mention that he didn't allow a lot of hands-on training with his private patients.[10] Residents would get only one chance to do a spinal.

Dr. Hutton was liked and respected by the surgeons and nurse anesthetists.[11] They described him as short of stature, quiet, unflappable, unassuming, dour and occasionally eccentric. He could be stern with the nurse anesthetists.[12]

After the war, there were a sufficient number of anesthesiologists in Portland to have monthly educational meetings in homes or at the school. Dr. Hutton was instrumental in initiating these. The Oregon Society of Anesthesiology began in 1946, an outgrowth of these sessions. Dr. Hutton was the first president.[13] The early Oregon Society of Anesthesiology minutes of meetings suggest he maintained a close relationship with his Mayo Clinic mentor, Dr. Lundy.

After Dr. Haugen replaced him as chair of the Division of Anesthesiology in 1948, Dr. Hutton continued a full-time anesthesiology practice at Good Samaritan Hospital. He took a refresher sabbatical in 1952 to improve his skills in regional anesthesia.[14] From then on he confined his practice to regional anesthesia. He retired in 1967 and died in 1979.

Dr. Hutton's primary legacy includes starting the first training program in anesthesiology on the west coast and starting the Oregon Society of Anesthesiology. He trained 11 anesthesiologists. Several of them established departments of anesthesiology in a number of larger community hospitals in the state.

Dr. Hutton's published papers are as follows:

1. Hutton, J. H. and R. M. Tovell, "Pentothal Sodium for Intravenous Anesthesia," *Surgery, Gynecology & Obstetrics,* 64:888-892, May 1937.
2. Hutton, J. H. "Methods of Assay for Local Anesthetics," Proc. Staff Meet. Mayo Clinic, 12, 56-59, January 27, 1937.
3. Hutton, J. H. "Choice of Anesthetics Agents & Methods for Surgical Procedures," *Western Journal of Surgery, Gynecology & Obstetrics,* 47-673-678, December 1939.
4. Hutton, J. H. "Avertin Nitrous Oxide Anesthesia in Thoracic Operations," presented at the anesthesia section of the 1941 California Medical Association in Del Monte, CA.

Chapter Eleven

Anesthesia in the 1940s, An Oral History of Marjorie Noble, MD

Interviewed by Linda Weimer

and Roger L. Klein, MD

June 14, 1998 at the Portland Marriott Hotel

This oral history interview with Marjorie Noble, MD (resident from 1941-1943) is a first-person account of the beginning of Oregon anesthesiology training. At the time of the interview, she was the oldest living Oregon-trained anesthesiologist.

Weimer: Dr. Noble, we ask everyone that we interview to tell us a little bit about themselves. Can you tell me where you were born and raised?

N: Boise, Idaho, March 27, 1915 but my folks moved to Portland when I was two.

W: Where did you go to school in Portland?

N: Irvington. I actually started school in Astoria when I was five and a half. My father was a manager of a big wholesale grocery store in Astoria during World War I, and we lived between Astoria and Seaside. After starting school in Astoria, we returned to Portland where my father became sales manager of the same wholesale group. So we lived in Irvington, I went to Irvington Grade School and Grant High School.

W: Where did you go to college?

N: We moved to Tacoma as I was finishing high school. My father was in the same sort of position in another wholesale grocery, and I went to the University of Washington pre-med for three years.

W: And after pre-med, where did you go?

N: Well, I went to the University of Oregon Medical School.

W: Can I ask you, what made you decide to become a doctor?

N: I don't know. I think there was a lot of illness in the family. I remember when we were in Astoria, my grandmother (my mother's mother) required a live-in nurse. She died during that period. My mother also had several operations, and I was always interested in science in high school. I got my best grades in math and science.

W: Did you think it a bit unusual — being a woman going to medical school?

N: Well, everybody else did but I just didn't see any reason why I shouldn't. My folks thought it was an awful lot to ask to put a girl through school. At the end of my freshman year in college they said "Well, don't be a pre-med." So I was a science major, which was the same thing. When I finished my first year, the folks said "What would you like to do now?" and I said "Well, oceanography, archaeology, anthropology, or medicine." And the folks said, "You can't earn a living at anything else than medicine, so you better go on," so I did.

W: How many other women were in your class?

N: I think there were seven the first year, I can't remember what happened, but by our sophomore year there were only four.

W: And what year did you graduate?

N: 1940.

W: And then after that?

N: I interned at Children's in San Francisco. I thought it would be nice to go where there were all girls on the house staff. I didn't like it all that well, however. The anesthesia residency programs that were offered at that time for girls didn't include most universities. I would have just had to take a residency like one that was offered at the Children's Hospital, and Children's didn't have enough charity patients. Most of the work was just assisting staff. I didn't think it was going to be a very good residency, besides which

they had poor anesthesia, or so I thought. I knew there was a residency program that had started in Oregon when I was a sophomore or junior and I wanted to go home anyway (laughing), so I applied for Oregon.

W: What made you decide on anesthesiology?

N: I thought the anesthesia was poor at Children's and that somebody with some training ought to be easily placed.

W: So we've got you back to Portland and starting your anesthesiology residency. Was there a chair of your department?

N: Well, I don't know what his legal position was. John Hutton was from Mayo's, and the Chairman of Surgery Tom Joyce took everyone from Mayo's that he could. But I saw very little of John Hutton. He was earning a living down at Good Samaritan. He used to meet with us in the afternoons and discuss what we had done and what we were going to do the next day. But really, the only teaching came from the resident ahead of me, Dolores Defaccio Mills. She taught me and she taught Margaret French and we rarely saw John.

W: So, you felt it was more like the older resident teaching the first year resident?

N: Yes. When Dolores finished, I was the head resident and I taught Fern Greaves who followed. I can't remember John ever being in surgery. He may have been, but it wasn't very often. We didn't have anything like a staff.

W: So this was in the days of only part-time instructors.

N: That was true in most of the medical school departments. I think maybe medicine and pediatrics had someone that was more or less full-time, but practically all of our clinical teachers were men who worked downtown and came and gave their hour or two to teach.

W: You mentioned Dr. Tom Joyce. Could you tell us a little bit about him?

N: (Laughing) Well, he was [a] tough character and very domineering. I did get to know him better after I graduated. He was one of my instructors during school years, and was one of my examiners during junior year. He also had a full-time community practice at St. Vincent and Dolores Defaccio Mills became his full-

time anesthesiologist. It was a five-day-a-week job. He was very opinionated. He knew what he wanted, and he could tell her exactly what she should do. Of course she pretended to agree with him and did what she knew was right. He loved ethylene, which smelled terrible and it was a weak agent, not much better than nitrous oxide, so she always smelled up the room so he would think that she was using it, and then she'd use cyclopropane or ether or whatever was really potent enough to put the patient where she needed to have him. And then, he loved pentothal for things like hemorrhoids, which I thought was absolutely awful, because they go into laryngospasm unless you get them awfully deep. We didn't have muscle relaxants in those days, you know. We were on our own with the agents we had.

One of the happiest days of my life was when Dolores left and one of Dr. Joyce's minions came and asked, "Would you like to quit what you're doing and work full time for Tom Joyce?" And I said, "Oh, no, I would not."

W: You were allowed to say "no"?

N: Well, I could. I was in private practice by this time. I had three nice surgeons that I worked for, and they kept me as busy as I wanted to be. Why should I quit and go put up with Dr. Joyce?

W: Now as a resident, we had Multnomah County Hospital on the hill. Is that where you did most of your work?

N: That's where we did most of our surgery. We also had the chest hospital.

W: Tuberculosis hospital?

N: Yes, we did a few cases over there.

W: Was Dr. Matson the surgeon there?

N: I did all of Ralph Matson's private cases at the little hospital out on the Willamette River. He had a private hospital of his own, and that's where he did all his private cases. When I was in practice, I hauled my anesthetic machine, my tanks, and gas in my car out to that little hospital. In fact, I hauled them to all the hospitals, because the hospital staff, of course, wanted us to do only certain cases. There were only two or three of us in the whole city who were anesthesiologists, and the hospitals wanted the nurses to do the cases because they were hospital employees. I

don't remember ever having to join the staff at any of the hospitals. I was just invited by the surgeon to come do a case. I can't remember that there were any legal attachments, you know, like joining the staff.

W: I'm surprised. You mentioned that you had to bring your own equipment. You packed it in your car. Was that the standard practice back then?

N: Well, nobody ever offered to let me use any of the hospital equipment. I bought a portable gas machine that fitted into a big case that I could carry, and I'd take several trips to bring in my equipment, including all my gas tanks.

W: That was a lot of work.

N: Yes, cyclopropane, nitrous oxide, oxygen and soda lime in a bag with your laryngoscope and that sort of thing.

W: There was also Doernbecher's on the hill at that time. Did you do any work there?

N: They had a nurse anesthetist. I can remember one time that she had a fire, I think it was with ethylene, and I think we had to go over there and do a few cases at that point, but I don't remember very much about it.

W: I wanted to ask about a couple of other people at the school at this time. I think that you mentioned earlier that you knew Dr. Richard Dillehunt, who was the Dean.

N: I really didn't know him. My only recollection of him, actually, is that he gave a wonderfully impressive party for us, when our class graduated. We'd never been in such a nice home, and had never seen house boys that served, certainly not in my middle-class family.

W: What was the social culture at that time at the Medical School? Did you do a lot together?

N: Well, I guess there were the fraternities that used to have parties, and if you happened to have a boyfriend that was in one, you went to the parties or the dances. Really though, you spent so much time studying, there was little time for socializing, unless you had a boyfriend. Boyfriends were different in those days. If you had any intimate affairs, it was nothing that you broadcast the way they do today.

W: How did the nurses work at that time? You must have had some contact with them.

N: I don't know. I didn't have any problems with them. Our senior class published the first annual book. I don't know if anybody after us did. But the nurses who were graduating and our class did a really a nice book. I go through it every now and then. I find John Hutton's picture in it among the snapshots taken at parties. So, we got along pretty well with the nurses. A lot of the boys married them.

W: I think that still happens.

W: World War II had started in Europe in 1939, how did that affect the school or your residency?

N: It didn't affect me particularly, but it did affect my husband who was three classes behind me. His class were given physicals and inducted into the service. They then went through under the government auspices, which paid for their tuition etc. My husband was a cripple; he had a knee that had been injured as a child, so he wasn't eligible for the military. He was drafted however when he was thirty-eight or thirty nine at the end of the Korean War. He was in practice, and the draft board said, "Well, if you can function in private practice, you can practice in the service. You are now in the Navy." He had been out in practice for two or three years at that point. But it was just at the end of the Korean War, and they were all out of doctors, as they had called all those who were in perfect health.

W: After your residency, you mentioned going into private practice.

N: Yes, I had no problem. Dr. Matson asked me to do his chest cases, and Dr. John Hand, a very busy urologist, and head of Urology at the Medical School, asked me to do his private cases. That was at St. Vincent. Then one of the gynecologists who liked spinals for his C. sections, asked me to do his scheduled Cesarians. So with the three, I managed to keep quite busy. That was why I was happy and able to refuse Dr. Joyce.

W: Do you remember the fees you charged back then?

N: Oh, I do. From ten dollars to thirty-five dollars. For thoracotomies, lobectomies, big chest cases, I charged thirty-five dollars. I don't know why. I don't know that anybody had any schedule of

fees. I don't know what other people charged, except I must have talked to Dolores, but I don't remember. To think that I did thoracotomies and carried all my equipment out to the river for thirty-five dollars. I didn't have anybody to do my billing and I did it myself. If anybody didn't pay, I didn't have any record of it, so if anybody didn't pay, I didn't send another bill as I figured they couldn't afford it. Nobody had any insurance, and that's just the way it was. The first year I was in practice, I was tremendously happy to collect $10,000. I had to find a man to do my taxes. I think he kind of laughed at me because I was making so little money. Anyway, I thought it was a lot.

W: Well you had been a student for so long, it would have been quite a bit.

N: Well, of course, heck, when I was married in '42, my husband paid ten dollars for my wedding ring, and I paid thirty-five for his, and they were good gold. That's the way prices were.

W: How long did you stay in private practice?

N: Until my husband had an appointment for a residency at the University of California Hospital in San Francisco. I went there and was introduced to the professor at Stanford, Dr. Bill Neff, who was head of the department. Stanford Medical School was in San Francisco then, it had not moved to Palo Alto. Somebody from here must have introduced me to Dr. Neff, and he showed me around town, every place that needed anesthesia staff. All the hospitals except for Stanford and Cal had nurse anesthetists. I could have been head of the department at Children's, but I didn't like Children's, and I decided that I didn't want to run a department. I had the opportunity to go to Cal as an instructor under a man who trained at Madison, Wisconsin. That was one of the very good training centers for anesthesiologists, so I took the job at Cal.

W: What year was that?

N: 1946.

W: And that's where you spent the rest of your career?

N: Do you want to know about Cal? It's kind of irrelevant to your Oregon history.

W: Yes, but I would like to get Dr. Klein a chance, because I know he wants to ask you about the anesthesiology part.

K: I want to step back a little bit, Marjorie. What was the Medical School like? Did you have any problems with male chauvinism? Why don't you tell us a little more about your medical school days as far as the relationships that you had with your teachers and classmates.

N: I don't think that I had any particular trouble. I know the boys teased one of the gals who was kind of shy and diffident. I wasn't. The only thing I can remember that they ever did was to try to drop a snake down my neck when one of the windows of a lecture hall was level with the outside grass, just opposite Doernbecher. I just picked the snake up and threw it out the window. Snakes don't bother me. I think some of the girls had problems with their cadavers arranged artistically, but I don't think anyone ever bothered me.

K: Who were your teachers? Did you have a favorite teacher in the basic sciences? Did you have a favorite teacher in the clinical years, or do you recall?

N: I can't really remember. Basic sciences. I think the chemist was Dr. (Edward S.) West? He was one of the favorites.

K: He was a fairly famous person, as I recall.

N: He was a nice man. Then there was the pharmacologist, whose name escapes me. I think it was his first year. I can remember him taking me out for a ride in his car. I think that they would have considered that not really nice today, but nothing ever came of it. [laughter]. I liked — oh dear, I haven't thought of their names for so long. The best man in — I can't remember his name, one of our teachers who always teased the boys about having his hands in his pockets, but I thought he was a great lecturer. {She later recalled his name: Dr. Edwin Osgood.} Clinical years, no. There were so many of them. I remember John Guyse in surgery quite well. Howard Lewis, of course, was in internal medicine. I really don't remember very much about any who gave me trouble.

K: Which were your favorite courses, as far as the basic sciences years?

N: Well, I remember I liked the lab in which we were growing organisms and doing microscopic stuff. But I can't even remember their names now. {She later recalled that this was microbiology}.

K: Did you have any instruction in anesthesia during medical school?

N: No.

K: So when you decided to go into anesthesia, you decided to do this while you were an intern? Prior to that time what were you going to do?

N: Oh, I hadn't decided on anything. As a matter of fact, I had thought about gynecology, but I disliked the staff at Children's. The chief resident at Children's was having an affair with one of the staff, and she was top gun in that department. If I had taken the job under her, I knew life would have been miserable. But the reason that I went into anesthesia was I thought anesthesia needed improving at Children's and somebody with some training could do something for the specialty.

K: As far as your anesthesia training goes, can you remember the first time you gave an anesthetic? Did it stick in your mind?

N: Well, at Children's Hospital when the staff found out that I was going to have a residency, they decided they'd let me induce an anesthetic for one of their tonsil patients. You know their technique? You turned on the nitrous oxide, and when they were ventilating like mad, you put an ether mask over their face and poured. They couldn't help but inhale.

K: So then you came here with Dr. Hutton. Were you using endotracheal tubes as a fairly common thing at that time, or was it a rare event?

N: Well, you used them only when they were absolutely indicated. They were not necessarily used for maintaining airways during an abdominal operation. We only used them when you had a case you absolutely had to, like a craniotomy or a thoracotomy.

K: Did you attach the endotracheal tube directly to the anesthesia machine, or did you use a mask over the endotracheal tube in some instances?

N: No, mostly you hooked them to your gas machine. But when I went to Cal, we did an awful lot of putting a mask over them or putting an ether mask over them and just dripping ether.

K: That was an old-fashioned way of doing it?

N: Yes. And then of course you'd run an oxygen catheter under the mask.

K: What agents did you have? You had cyclopropane and ether. Did you ever use chloroform?

N: Not at Oregon. I did a little bit at Cal.

K: Vinathene?

N: That was a little drip job on the mask, for very short inductions. Yes.

K: How about ethyl chloride?

N: I think so, but I don't remember using ethylene.

K: Of course you used nitrous oxide. What about intravenous agents?

N: Pentothal. That's the only one we had and this was before any of the muscle relaxants.

K: How many cases did you do in a year's time as a resident? Would it have been one hundred, five hundred, a thousand?

N: I'd just have to guess but I would presume that we must have done five hundred or more. Boy, I remember doing sections and trying to keep them light enough, with a general anesthetic. We did very few spinals on sections until I was out in practice, when some of the gynecologists wanted to try it.

K: How much regional anesthesia did you do during your residency?

N: Well, we did a fair amount of regional anesthesia. Dolores was very interested in trying to do blocks for Berger's Disease. She had a little program of her own going, trying to judge the room temperature, and do blocks and see if she could elevate the temperature in the patients' legs. I didn't do much of it, but I did learn to do caudals and also parasacrals. We also did intercostal and brachial plexus blocks.

K: Did you do the axillary approach or the supraclavicular?

N: Supraclavicular.

K: Did you use LaBatt's as a textbook?

N: I can't remember, except that I remember I had to look up a lot of things because there wasn't anybody to tell me. Who was the fellow from Mayo's who put out a textbook? That was our bible, because of John Hutton. I can't remember the name.

K: John Lundy?

N: Yes. I went through my library and I thought — I've given all those old books away because they were no use to me anymore.

K: Did you take call during your training?

N: Yes, I can't remember that we were that busy, but sure, as soon as I was able. Dolores and I would have alternated nights on call.

K: Did you stay in the hospital or at home?

N: We stayed at home.

K: Was there any trauma? Where did trauma patients go?

N:I can't remember that we had any great amount of trauma.

K: Obstetrics?

N: Oh, yes, we did obstetrics. I can remember doing one of my friend's wives, but I don't really remember a lot of obstetrics.

K: Let's look at the greater picture in Oregon. How many anesthesiologists were devoted to full-time practice in Oregon at the time you were here? Do you have any idea?

N: I believe that the two residents ahead of Dolores worked for awhile before they got called into service. I don't remember ever meeting them. They went away to the service quite early, and I have no idea what happened to them. I used to remember their names, but now I can't even do that.

K: Were there other practicing anesthesiologists in the Portland area or in the state? Do you have any recollection?

N: I don't think there was anyone except Dolores, John Hutton, and me, because once in a while when he was away, I'd get the call to come and do something at Good Sam. I don't think Dolores worked anyplace except for Dr. Joyce. I didn't do much else. I did do a few cases at Emanuel when I was in private practice.

K: Did the nurse anesthetists view you as a threat?

N: I don't know.

K: When did you take your board examinations?

N: I took them in the ether centennial, which was in '46, in Boston.

K: When did you join the ASA?

N: I don't remember. I think it must have been in San Francisco. I don't think it was while I was here.

K: Well, as far as techniques of general anesthesia go, did you do a fair amount of open drop ether type of cases?

N: In residency?

K: In residency, and in Oregon while you were in private practice.

N: Yes, I think we did, especially in children. I can remember practicing inducing some adults with it. Then you would try it if you had someone who looked like he wouldn't put up much of a fight. That was one of the ways to practice.

K: Did you ever have any explosions or fires?

N: No.

K: Did you practice all of the proper explosion prevention techniques?

N: Tried to. The only explosion I remember was at Stanford, years later. That's when all the insurance companies started saying you shouldn't use ether or cyclopropane in surgeries anymore. That was a problem as halothane was just coming on the scene. So you had to use pentothal and fortunately muscle relaxants were available. Curare came out when I started working at the University of California Hospital. There was one gal who was doing a lot of research papers on curare. The first time I'd ever heard they were using it, and that's five years after my residency. When we first started using it, you gave the patient a great big dose of it and then hoped it would wear off, as antidotes were not available.

K: Did you ever end up having to bag a patient for some time after the operation, until it did wear off?

N: You probably don't realize that there were no such things as ventilators. I was not only in practice here and in San Francisco , but I started working at Mills Hospital in 1948. We'd have patients come in respiratory arrest from one thing or the other and they'd call us, "Come quick." You'd have to sit and bag the patient forever and ever. Even at that late date, I placed patients in iron lungs. We had an iron lung at Mills Hospital and Children's Hospital had a big polio service when I was an intern. I got used to having them come in and putting them in the iron lung and having to figure out how much pressure to give them to keep them from getting tetany.

K: It was a difficult time, wasn't it?

N: [Laughing.] Well, yeah.

K: Are there any other thoughts that you want to express?

N: No, I've probably said too many things.

K: I think you've done great.

W: I have one question. This has to do with nurse anesthestists. When did they taper off and physician anesthesiologists become prevalent?

N: After World War II. You see, when the surgeons that worked in the military found out that the medical anesthesiologists could offer them so much more than nurses, why I think that's when the specialty really took off.

W: Looking back on your long career, medical career, what are you proudest of?

N: Oh heavens, I don't know. I guess it was all somewhat interesting. When I told my family that I was going into anesthesiology, they said, "But that's a nurse's job." I said, "Well, wait and see. I think it's something that a doctor should be doing." They were very pleased with me after awhile, but at first they thought that they had wasted their money sending me to medical school.

I'll tell you the best thing that happened to me was really, I was working at Cal, the fellow I went to work with (I can't remember his name) had lasted two months, and all of a sudden he was gone. There were just the three of us. There was one other man who had finished his residency, and he was getting four hundred dollars a month, I was getting five hundred dollars a month, and there was a doctor, a very nice, bright lady who had not done a residency, but was being trained by this man from Madison. She was doing research on curare. She was actually acting head of the department after the chair was asked to step down because he was taking drugs. (He was the one I had come there to work with.)

Well, I had been working there for about two or three years and we were running six surgeries with the three of us pouring ether with medical students. You'd put the patient to sleep and put an endotracheal tube in him, put an ether mask over his face, and say "Just keep him quiet and watch his eyes. Don't have any trouble, because you are covered with drapes, and they're using a cautery on

the other side of those red drapes." Well, anyway, that's the way we were doing it, and we were doing really major surgery. This was at the University of Cal at Parnassus. I finally went to the Dean, and one of my second proudest moments, after turning down Dr. Joyce, was when I talked to the Dean and I said "You know, you've got to put some more money in this department. We've got to build this department up. It's going nowhere." He said, "Well, we need the money you make to pay the housekeeping help, and I can't pay you more than I pay the Professor of Physiology." I said, "Well, the professor of Physiology can't earn any more, but I can, and I quit." They really built a department after that. I think they improved it because I said "There's nobody [who's] going to do what I'm doing for the amount of money I'm making, and you've got to have a lot more personnel." They finally started the kind of department that Oregon had, with many people.

K: For the benefit of the California Society, maybe we can add a bit here. You told me these things, but I think you said that after the gentleman that was asked to leave left, Dr. Murphy came along and was there for a little while.

N: Well, Dr. Murphy was just out of the service. I don't know why they gave it to him, what his qualifications were, because I know a lot of people told me that he wasn't very good. He proceeded to make a hundred thousand a year. He collected his own fees, and in those days in 1947 or so, that was a huge amount of money. He paid two young men twenty thousand a year, or so we understood, to do the work. The American Board finally told him that was it. He was bleeding the department. Then they finally got an adequate department together.

By then, I went into private practice for a few months with the fellow who had been in the department (the one getting four hundred dollars). He quit and was offered the job of starting a department at French Hospital. There were good surgeons there, thoracic surgeons and whatnot. I did a few cases hither and thither and then I was invited to come down to Mills Hospital and upgrade the department. That was the only private hospital south of San Francisco until you got to Palo Alto. I was invited there because I'd done some cases for a chest surgeon at St. Mary's and the only

urologist in San Mateo County had been a resident with me in Oregon. I succeeded in getting other people added to the department until we finally had a really decent group. Some of the old ladies who had been pouring ether there eventually retired.

And I'll tell you, one of the nicest things that I can remember, for myself, was when the resident surgeons at Cal used to come to Mills and work a few months to get experience with general practice in surgery. The young surgeons used to tell me "We bring all of our relatives down here to get their surgery." I said, "You don't have it done at Cal?" He said, "No, the anesthesia is better here at Mills." [laughter.] It was my department, so that was one of my prouder moments. I'm afraid I'm not telling you anything of importance, it was just fun things that happened.

W: It's been enjoyable. It's a glimpse into a beginning of a specialty in the medical world. A glimpse of the early forties in medicine and I appreciated that very much. Thank you again.

Figure – 1 Frederick Haugen, MD (1908-87)

Chapter Twelve

Frederick Haugen, MD, Father of Oregon Anesthesiology

Roger L. Klein, MD

This material was originally presented at the Ralph M. Waters international symposium on professionalism in anesthesiology. It is presented here with the permission of the Proceeding's editors.

Looking at Dr. Ralph Waters' legacy, one is immediately impressed that so many early anesthesia trainees went on to establish formal residency programs on their own. This was true of both Dr. Waters and Dr. Emory Rovenstine's programs and this emphasis on academic training was planned and encouraged by them.[1] Did these early pioneers have unique talents to face the frequently hostile challenges present in establishing this new branch of medical education, or were they just filling a newly created vacuum?

History suggests that they certainly had talent, and more important, perseverance. In T*he Genesis of Contemporary American Anesthesiology,* edited by Volpitto and Vandam, several illustrious pioneers are referred to as the "Activators" of the physician anesthesiology movement.[2] They include Drs. Stuart C. Cullen, John Adrianni, and Perry Volpitto, among others. An

argument could be made to include Dr. Fred Haugen with these "activators" as he was a contemporary of theirs. The justification for inclusion was Fred's major influence in spreading physician-administered anesthesia in the Pacific Northwest.

Frederick P. (Fred or Fritz) Haugen, was born in Stoughton, WI. The family moved to North Dakota, where he spent his early years through high school. As an accomplished pianist, he played the piano in a silent movie theater and also set type for the family newspaper.[3] He attended Luther College in Iowa for one year before the family moved to Oregon. There he completed his undergraduate and medical school training at the University of Oregon. He interned at Emanuel Hospital in Portland. In early 1936, he moved his wife and infant son to New York City, where he intended to take an orthopedic residency. While waiting to start the program, he was steered toward the new anesthesiology residency program being started by Dr. Rovenstine at Bellevue Hospital.

Apparently, his initial attraction to anesthesia was due to an interest he had in pain management, as he related to his daughter after his retirement.[4] He started his residency with Dr. Rovenstine in July of 1936, and as he remarked in his Wood Library oral history tape, he received comprehensive anesthesia training, which included research and regional anesthesia.

Was it was always his intent to return to Oregon? He later remarked that the climate for physician anesthesia in Oregon was not the best. The chairman of the surgery department, though nationally known, held strong reactionary views toward anesthesia. Dr. Haugen later stated that he had decided to wait until that surgeon retired before he would return to the University of Oregon Medical School.[5]

Meanwhile, with Dr. Rovenstine's blessing, he went to Philadelphia in 1938, where he became Chief of Anesthesia services at Presbyterian Hospital.[6] He later had appointments on the staff of University of Pennsylvania Medical School, Delaware County Hospital, and the Philadelphia Children's Hospital.

During the World War II years, he was one of only three or four anesthesiologists in the city. He had received a deferral due to what was considered civilian needs.

Dr. Haugen established a residency program at Presbyterian Hospital after attempts by two others had previously failed.[7] He trained a number of anesthesiologists during the next 10 years, including Drs. H. H. Stone, Kenton D. King, and H. L. Price.[8] He later stated that during these years he was able to accumulate a modest nest egg that allowed him to later practice academic anesthesia.[9]

He was recruited to the University of Oregon Medical School in 1948 by Dr. W. H. Livingston, the new Chairman of the Department of Surgery. Dr. Haugen was apparently recruited because of the mutual interest in pain mechanisms that he shared with Dr. Livingston.[10] This shared interest would stimulate a very productive pain research program which will be mentioned in more detail below.

The clinical teaching for all residency training at the University of Oregon Medical School at that time was almost universally conducted by physicians with private practices in the community hospitals. Funding for the medical school was quite limited. The number of faculty were quite small. Teaching facilities were limited to a county hospital, which had five operating rooms.

An anesthesia training program had been started by Dr. John Hutton. He had an active clinical practice in a community hospital and rarely supervised the residents at the County.[11]

As the first full-time salaried anesthesiologist, Dr. Haugen joined a medical staff that had very few full-time faculty members. He changed the structure of the residency program to one similar to that at Bellevue and Philadelphia Presbyterian Hospitals. He began to increase the number of residents, eventually reaching six per year. Medical student anesthesia teaching continued and he immediately started a pain clinic (the first on the West Coast).[12] Within two years, he was able to recruit enough residents to drop the clinical nurse anesthesia program. With these changes to the anesthesiology residency, he is recognized as establishing the first accredited anesthesiology training program on the West Coast.[13]

As previously stated, he immediately joined Dr. Livingston in an active bench research program studying pain mechanisms.

During the next 10 years, this partnership was to produce important work in pain perception, and central nervous pain pathways. A sampling of their papers are listed in the bibliography.[14,15,16,17]

He became the chief consultant in anesthesia to the Portland Veterans' Hospital in 1952 and the Portland Shriners Hospital in 1954. During the first eight years at Oregon, he was alone as the only anesthesiologist on the faculty and got very minimal assistance from community anesthesiologists. In his later years at Oregon, he assumed an unofficial but very influential role in the medical school administration.

He became an active member in the fledgling Oregon (State) Society of Anesthesiology (OSA), and was its second delegate to the ASA in 1950.[18] He took a major leadership in a very active OSA educational program as the early minutes of the OSA testify.

Dr. Haugen was involved in both the ASA and the ABA in their formative years. He was on the Board of Directors of the ASA from 1944–48, Business Editor of the *Journal of Anesthesiology* from 1946–48, and Second Vice President of the ASA in 1962. He was "one of a young ambitious group intent upon establishing a democratic constitution and bylaws for the ASA."[19]

His ABA activities include his certification in 1940, the second year it offered an examination. His diplomate number was 95. He was on the Board of Directors of the ABA from 1949–1962, and served as the Chairman of the Examination Committee from 1952–1958. He was on the credentials and residency committee from 1960–1962. He was Vice President in 1958–1959, and President in 1960. As can be seen, Dr. Haugen's most involved national anesthesiology organizational activity was with the ABA. What specific roles Dr. Haugen had with the examination committee and with the rest of the board's deliberations can only be conjectured.

Issues that the ABA examination committee were involved with during this time included: contracting with the Educational Testing Service of Princeton, New Jersey, to assist with development, administration, and analysis of the written examination, and discontinuing the survey examination. The board was also establishing and strengthening the residency program accreditation process, monitoring the performance of senior associate examiners,

establishing a time limit of seven years for certification, and removed the 100% practice requirement for certification. It frequently discussed length of residency programs, licensure for foreign graduates, oral exam structure and grading and the nomination process for ABA directorships.[20]

After Dr. Haugen retired, he authored the chapter on the history of the American Board of Anesthesiology in the previously mentioned book edited by Volpitto and Vandam.[21]

Dr. Haugen was a lifetime member of the Association of University Anesthetists from 1954 on. He served as a Director from 1959-1961, and as its President in 1960. He was the Chairman of the Anesthesia section of the AMA committee on operative mortality in 1949-50, and a member of the Food and Drug Administration Committee on Anesthesia and Respiratory drugs from 1966 to 1968.

Dr. Haugen's accomplishments were many. Besides the "firsts" mentioned above, we can also add that he trained over 80 anesthesiologists during his 22-year tenure at Oregon. He published over 25 scientific papers and book chapters, with emphasis on pain mechanisms, nerve transmissions during hemorrhagic shock, and anesthesia teaching methods.

Perhaps his most important contribution, as has been alluded to, was his major influence in establishing physician-administered anesthesia as the primary means of anesthesia delivery in the Pacific Northwest. Within eight years after his arrival, nurse anesthesia training was on the way out. St. Vincent Hospital's School of Nurse Anesthesia had been established in 1909, claiming to be the first school of nurse anesthesia. It closed its doors in 1956. The minutes of the Portland St. Vincent Hospital Chronicles, 1956, item 23, states, "Permission was asked, (and granted) of the Provincial Council, to close the school of anesthesia. Changing educational trends in the field, as well as encroachment of medical anesthetists into the realm of nurse anesthesia, and financial losses influenced the local council to discontinue the school, in operation since 1909."

For all of these accomplishments, Dr. Haugen received the highest honor of the ASA, the Distinguished Service Award for 1968.

He was certainly universally liked by his colleagues and his residents. They all felt that he was kind and unpretentious. These personal qualities appear to have allowed him to have the influence he had on the local and national scene. He was a practical man, and that was his approach to anesthesia. As an example, in his Wood Library oral history, his interviewer, Dr. Burnell Brown, reminded him of the following anecdote. It seems that Dr. Brown had Dr. Haugen as a senior examiner at his oral board examination. The junior examiner had persistently questioned him about minute adrenergic mechanisms. When it was Dr. Haugen's turn, he said, "Well, let's come out of that esoteric cloud. Tell me, how do you do a caudal?"

That was Fred's way.

Dr. Haugen retired in 1970, and moved to Arizona. He died in 1987.

I would like to come back to the original question I posed, as to what position Fred had with his peers?

I believe that the case has been made to include Dr. Haugen as an "Activator" in developing American Anesthesiology. His teaching and influence in establishing physician-administrated anesthesia, anesthesiology organizational activities, research, and the universal high regard in which he was held, make this so. This is especially true when you consider the very limited resources he had at his disposal. He was uniquely talented.

Chapter Thirteen

Anesthesia at the University of Oregon Medical School 1956–1967

Rex Underwood, MD

Presented in part at the 60th anniversary of the Oregon Department of Anesthesiology, June 1998.

I began my residency training under Dr. Frederick Haugen in July of 1956. My interest in anesthesiology was sparked by the lectures that Dr. Haugen gave to the medical students. During my internship at St. Albans Naval Hospital in Queens, New York, I enjoyed the opportunity to give anesthetics in the department where Dr. Dan Pino was Chief of Service and Dr. Frank Moya was the Chief Resident. I had earned a master's degree in physiology from Oregon, along with my MD degree, and the practice of anesthesiology seemed to be a good way to apply my interest in physiology.

The fact that Dr. Haugen had come to the University of Oregon Medical School in 1948 from Philadelphia is well known. Once, Dr. Haugen told me something that may not be common knowledge. He had wanted to come to the University of Oregon Medical School (his alma mater) for some time, but was unwilling to do this as long as Dr. Thomas Joyce was the head of surgery at the Medical School. Dr. Joyce was a potent force in Oregon, and had reactionary views of physician-administered

anesthesia. Dr. Joyce dropped dead from a heart attack in the faculty lounge at the Multnomah County Hospital in 1947. Ironically, one of the physicians who tried to resuscitate him was a young intern named John Branford who later became a prominent anesthesiologist in Portland.

My first week in residency training was a traumatic one. I was told to give a spinal anesthetic to a patient who was to have abdominal surgery. After I gave the spinal, I placed the anesthesia mask on the patient's face and turned on the oxygen flowmeter as I had been instructed. The patient began to turn cyanotic for no reason I could ascertain. As I continued to give oxygen, she became extremely hypertensive, bradycardic, and then stopped breathing. At this moment, Dr. Haugen came in the room and immediately turned off the oxygen flow meter and turned on the nitrous oxide flow meter. I thought he had lost his mind until he pointed to the nitrous oxide reduction valve, which was covered by a thick layer of frost. The tanks on the machine had been switched when the engineer changed them! At that time gas machines were not pin indexed. We did not have cardioscopes, pulse oximeters or gas analyzers at that time and resuscitation methods were rudimentary, so unfortunately the patient did not survive. Of little consolation to me was the fact that she had terminal cancer and would have lived for only a short time. As I thought back on this incident, I wonder why I continued in such a dangerous specialty. But I realized that this and other similar incidents throughout the country led to the introduction of non-interchangeable anesthetic gas fittings.

The remainder of my training period was much calmer. We only had nitrous oxide, ether, cyclopropane and ethylene as inhalation anesthetic agents and intravenous sodium pentothal or inhaled divinyl ether (used with children) for induction. We also used cyclopropane for induction, especially in children. Induction was very smooth with no excitement and little change in vital signs. The most common general anesthetic gas mixture was nitrous oxide oxygen and diethyl ether abbreviated as G(gas)OE or "Good old Ether" administered with the semi-closed breathing circle. We rarely used to-and-fro systems because the $C0_2$ absorbing canister got so hot. I gave many open-drop ether anes-

thetics and this experience served me well when I went to Ecuador with Project Hope several years later. When the gas machine was used, we had the "number eight" Ohio ether vaporizer calibrated with an arbitrary scale. One quickly learned which number would be enough to keep a patient anesthetized. Dr Haugen taught us to sniff the mixture once in a while to be sure the system was working. Since I hated the smell of ether from a childhood experience, I didn't fall into the trap that many residents did: becoming "sniffers" of anesthetic gases on the sly to get a minor high. (Yes, we had problems with drug-abusing physicians then.) When I started as a resident, monitoring consisted of a hand on the breathing bag, a finger on the pulse, stethoscope on the chest, a blood pressure cuff, and an appraising eye on whatever part of the patient we could see to assess oxygenation. Eleven years later, cardioscopes were common in the operating room (the brochure for this meeting shows Dr. Haugen adjusting the huge Cambridge explosion-proof cardioscope). It wasn't very reliable, and one surgeon remarked that we spent more time getting the thing to work than we did watching the patient). More elaborate monitors were yet to come, but I know Fred Haugen would tell us that we should still rely on our own senses before trusting any electronic device. That is still good advice. Supplementary agents such as narcotics or tranquilizers used in combination and called neuroleptics, were used with caution. The common belief then was that narcotics caused severe cardiac depression, especially in open-heart patients.

After completing my residency in 1957, I decided to stay on the staff of the Department of Anesthesiology full time. My medical school classmate, John Roth, had joined the staff (he finished one year ahead of me because I took a master's degree), and he and I worked closely together. The on-call situation we had would probably be unbelievable to today's residents and staff. The fact that there was no emergency room on Marquam Hill made our life somewhat easier but there were plenty of in-house emergencies to keep us busy. The basic system was that when a staff member was needed at night, the phone operator would call around until she reached one of the three of us. I lived on 11th St. across from the

grocery store, and only a two-minute walk to the hospital. Still, my colleagues were merciful, and I didn't get all the calls.

Mechanical ventilation of anesthetized patients was beginning to be commonplace in 1959. The usual machine was the Jefferson ventilator. The earlier models had a chamber with an ordinary anesthesia bag inside. Intermittent positive pressure was applied to the inside of the chamber by an automatic device. This caused compression of the bag (a bellows was used in later models), and the gas inside the bellows or bag was delivered to the patient. The problem with the bellows was that if the breathing circuit accidentally disconnected, the bellows would go merrily up and down as if nothing had happened. We didn't have dis-connect or low-pressure alarms or volume monitors, so some exciting situations would arise in procedures where the patient was covered by surgical drapes. The Bird respirator was a device that delivered alternating positive pressure by means of an ingenious device that was pressure cycled. Unfortunately, this device could not ventilate patients with a lot of airway resistance. We also used the Mörck ventilator, developed by a Danish anesthesiologist. This machine was essentially a large piston connected to an expiratory and inspiratory valve. I believe it was an offshoot of the Harvard ventilator, which we used in the dog lab. The machine was used mostly for post-operative, tracheotomized open-heart patients. The problem with it was that there was no way to humidify the gases and if the patient was on the machine for very many days, the trachea would become completely obstructed with dried casts. And if the expiratory valve malfunctioned the patient would be over-inflated and develop a pneumothorax which could kill. The last ventilating machine I'll mention is the Drinker respirator or Iron Lung. I became very familiar with this machine when I was an extern at Holiday Park Hospital and they were used to ventilate polio victims. The polio epidemic of the early fifties will never be forgotten by anyone who worked in the medical profession at that time. The Professor of Physiology at the Medical School, Dr. Birdsey Renshaw, who had described the function of cells in the spinal cord gray matter which bear his name, died from bulbar polio. I had a near knock-down argument with a neurosurgical

resident when he insisted that the tracheostomy stoma of his patient be inside the tank of the Drinker respirator. I guess the poor fellow didn't realize that for air to flow, there has to be a pressure difference for a negative pressure ventilator.

As the surgeons became more addicted to the electrocautery, and more electronic devices started to be used in the OR, it became obvious that we needed a non-flammable inhalation agent. Halothane was introduced just after I finished residency training and eventually drove ether out of clinical usage. This transition took quite a while. When I joined Kaiser-Permanente in 1967, cyclopropane and ether were still the inhalation agents of choice and I had a difficult time convincing people to discontinue their use. I must say, however, that ether was a very safe agent, and as long as the patient was breathing spontaneously, overdose was almost impossible. The other non-flammable agents that came on the market during these years did not enjoy much success. I especially remember Penthrane which had the peculiar property of causing cutaneous vasoconstriction. This gave the patient an appalling pallor making them look ready for the morgue on arrival in the recovery room. Penthrane was also shown to cause permanent renal damage in some patients and for this reason was abandoned.

There were many spectacular events in the anesthesia department during my tenure at the Medical School. My first experience with cardiac surgery was anesthetizing a patient for the installation of a Huffnagle valve in the descending aorta. This valve was supposed to prevent some of the backflow of blood through an incompetent aortic valve; (cardiopulmonary bypass was not yet available). Dr. William Conklin was the surgeon and I will never forget how he kept cool when twice, the ligatures holding the valve in place slipped and the chest was flooded with blood. I believe the patient did well for a year or so.

I participated with the first cardiopulmonary bypass procedures at the medical school, which I think were the first in the Pacific Northwest. After bringing some dogs to the operating room and putting them on bypass (I remember one incident when the bubble oxygenator became disconnected and flooded the floor with blood), we were ready to try the procedure on humans. Most of the

early patients were children with congenital heart defects (most commonly Tetralogy of Fallot or septal defects). The first 10 cases went smoothly and were a big event publicized in *The Oregonian* (naturally the anesthesiologists involved were not mentioned by name). Dr. John Roth and I figured out a way to introduce a mixture of cyclopropane, oxygen and carbon dioxide into the disc oxygenator to provide anesthesia during bypass. I think we got this idea from reports from the East Coast. I still wonder how we avoided being blown up considering all the electrical equipment that was used. For the remainder of the bypass procedures, in which I was involved, we used thiopental-nitrous oxide-oxygen plus a non-depolarizing muscle relaxant. I wish we'd had the marvelous short-acting narcotics of today. It would have made our task much easier. There were some mishaps during these procedures, some minor, some major. I remember one young boy that died from air embolism caused by bubble formation in the oxygenator. Two other patients died from microemboli caused by inadequate anticoagulated blood used to prime the oxygenator. As soon as the perfusion was begun, the arterial pressure went sky high and the pupils became fixed and dilated. It took about two weeks before the cause of this catastrophe was determined and we felt it safe to continue doing the procedure.

Closed circuit television was very much in vogue when I started teaching anesthesia. The video camera was put in the operating room and connected to monitors in a nearby classroom. There a rapt (supposedly) audience of visiting physicians could watch the monitor and see the professors cut and sew. The first time this was tried, a lady was having a vaginal hysterectomy. When the monitors were turned on, a picture of the perineum appeared but the only problem was it was upside down!! This was corrected in due course and the preparation for the procedure continued. The anesthetic used in this procedure was a demonstration of continuous epidural anesthesia performed by a prominent physician from a nearby city who was an advocate of continuous caudal and epidural block for obstetrics and surgery. I was assigned to assist him as he smoothly placed the catheters and injected the anesthetic solution. He checked the anesthetic level then turned to me and said, "I have

to get back to the office, so you take over." The great man left. When the surgeon made the incision, the patient let us know in no uncertain terms that she was feeling a lot of pain. This was being observed by the physicians in the classroom, so I had to scramble to get the patient asleep and intubated before anybody noticed.

The treatment of end-stage kidney disease was in its infancy in the early sixties. Dialysis was a very crude affair, and transplantation was feasible only in identical twins because immunosuppressive drugs were not yet developed. The first transplant effort in which I was involved was between a baboon and a human. I guess the thought was that the baboon's kidney would work for a while and prolong the sick lady's life. I thought the whole thing was a travesty because the tiny little baboon kidney couldn't possibly work in the enormously obese human. The rejection process was swift and fatal. Frankly, I felt sorry for the baboon. The next transplant effort was much more successful, between identical twin girls. I'm not sure exactly what year this was, but Dr. Joseph Murray was brought out from Boston with great fanfare and the two girls were anesthetized by Dr. Roth and myself. To my knowledge, both are living today and for many years we would get Christmas cards from them. Dr. Murray later received the Nobel Prize in Medicine for his work.

The last great event at the Medical School that I recall was the separation of conjoined twins. They were girls, joined from the sternum to mid-abdomen. The hearts were separate but they shared a liver. To anesthetize them, Dr. Roth and I used separate infant circles inducing first one, then the other. It was interesting that when the first one went to sleep, the other became very lethargic. Intubating them was a challenge. It was necessary to put one twin on her back and support the other twin above her. When we did this, blood from the top twin drained into the bottom one and the top girl developed hypotension and bradycardia so it was necessary to work fast. Just as I was about to intubate my twin, the newspaper photographer turned on some very bright floodlights directly in my face. I'm ashamed to recall the language I used to refer to his ancestry and the general state of things as they were, but he did turn the light off and I got the tube in. The operation was very difficult for Drs.

Clare Peterson and William Kripphaene but they were finally able, to separate the infants. Unfortunately, only one twin survived and may still be living, as far as I know. The other twin lived about three days. Her abdominal wall was so tight that the respirator could not keep her ventilated (no artificial implants to expand the abdominal wall then).

Dr. Betty Thompson was a very welcome addition to the Anesthesia Department staff, when she joined us in 1963. I well remember when we were sitting in the anesthesia office when the news came over the radio about the JFK assassination. The year of 1963 was a very grim one for the U.S.

I'm sure I've left out many important events that occurred during the years I spent at the Medical School, and I apologize for the deficiencies in my usage of medical terms. I'm very grateful for the experiences and training that I had at the University of Oregon Medical School, and I know that Dr. Haugen would be pleased to see that the Anesthesia Department that he founded has developed into such a fine organization.

Some additional thoughts are as follows. When I was a medical student, there was a footbridge from Sam Jackson across the ravine to the TB Hospital. That little bridge has now been transformed into the new Doernbecher Hospital. If that sort of change doesn't blow your mind, I don't know what will. Fifty years has changed the entire face of Marquam Hill so much, I feel that I'm on another planet.

I've thought about how Dr. Haugen would react to the present day situation in medicine. I know he would be appalled by the onslaught of AIDS but pleased that advances in cancer therapy have done away with the radical "humanectomy" procedures in which we used to have to participate. He would be baffled by the term "managed care" (who isn't?), and I know he would be most upset to see how many anesthesiologists are financially compensated by means other than fee-for-service. He was most disgusted with me for joining Kaiser-Permanente, but I think he eventually forgave me. He would be especially pleased that the pain clinic he started still functions, and that pain relief has become so much more effective. Above all, I know he would be deeply honored by this

meeting and pleased with the fine quality of people who work in the department he had such an influence on.

In closing, I'd like to mention the Wood Library Museum of Anesthesiology at the ASA headquarters in Chicago. To visit this institution is an extremely rewarding experience, although I found it somewhat disconcerting to see equipment of the kind I trained with, displayed in glass cases. I gave the museum a Flagg Lifesaver cannula that Dr. Haugen had given me. This instrument was used for the intubation of the trachea in kids with diphtheria. Mr. Sim, the librarian was delighted to get it since they didn't have this rather rare object.

Figure 1 – Dr. Norman A. Bergman (1926–1999)

Chapter Fourteen

Norman A. Bergman, MD

Roger L. Klein, MD

Dr. Bergman had a long and illustrious career as an academician, teacher, scientific investigator and anesthesia historian. He achieved high levels of excellence in all of these endeavors and received national and international recognition.

Norm was born in Seattle, Washington in 1926. Much of his early years, and personal life, are detailed in an edited oral history interview with his widow, Betty, which follows this brief introduction.

Norm received a BA from Reed College in Portland, Oregon in 1949, after a combined program of three years of pre-med at Reed, and two years at the Oregon Medical School. He received his MD from Oregon in 1951. After interning at Michael Reese in Chicago, he took his residency in anesthesiology at Columbia Presbyterian in New York City. He was on the faculty at the College of Physicians and Surgeons, Columbia University from 1954 to 1958. In 1958, he joined Dr. Carter Ballinger (who had been a year ahead of him in residency) at the University of Utah, Division of Anesthesiology. Over the next 12 years, his career advanced and he eventually became a full professor of anesthesiology while serving as chief of anesthesiology at the Salt Lake City Veterans Hospital.

During those years he became widely known for his elucidation of the effects of anesthesia on pulmonary gas exchange. As a visiting research associate he spent time in 1963-1964, 1967, 1981-1982 and 1987 at several academic institutions, including Northwick Park, the Royal College of Surgeons of England, Hammer-Smith Hospital and the Post-Graduate Medical School in London. He also spent several months at the Karolinska Sjujuset in Stockholm, Sweden. During those years he worked in close collaboration with a number of noted pulmonary physiologists, especially Dr. John Nunn.

He assumed the chair of the newly created department of Anesthesiology at the University of Oregon Medical School in 1970. There he oversaw the rapid enlargement of anesthesiology education and anesthesia service requirements at the soon-to-become Oregon Health Sciences University (OHSU). The department budget, faculty numbers, research and revenues all dramatically increased during his tenure. Dr. Bergman was a gifted mentor to junior faculty and helped advance several careers including Drs. Carol Hirschman, Gerald Edelstein and Charles Waltemath. He promoted the establishment of the "Research and Education Society." This non-profit corporation has over the years, provided millions of dollars for anesthesiology education and research. Norm loved teaching anesthesiology and was loved by his residents. He was responsible for training 93 residents while chairman.

In his later years, he continued to expand his interests in anesthesia history. This culminated in the publication of his "magnus opus: *Genesis Of Surgical Anesthesia,* a masterful and definitive review of the foundations upon which anesthesia was based before the introduction of ether anesthesia in 1846."[1]

Dr. Bergman was an active participant in local, state and national anesthesiology society affairs, including Multnomah County, and the Utah and Oregon Anesthesiology Societies, as well as the American Board of Anesthesiology and the American Society of Anesthesiology. He was also a member of the Anaesthetics Research Group of the U.K. and the Anesthesia History Association and the American Society for Medical History.

He received numerous honors, the most prestigious being one of a very few American anesthesiologists to be elected to be a fellow in the Faculty of Anaesthetists of the Royal College of Surgeons of England. He was also honored as co-laureate of the History of Anesthesiology of the Wood Library Museum of Anesthesiology in 2000. He was also given the Classic Citation Award by the *British Journal of Anesthesiology* for his 1963-64 pulmonary research; this was a singular award for American anesthesiologists.

I had the privilege of having Norm as a friend and colleague from 1964 until his death in 1999. The things that I admired about him were his sense of humor, his great speaking ability while making any subject fascinating, his incredible fountain of knowledge, his many varied interests in music, wood-working, mathematics, electronics and astronomy. He was loyal and protective of his faculty and was bothered by what he perceived as anesthesia's exploitation created by numerous surgical add-ons. He accepted his final days with grace and humor, making jokes about his condition right to the end. It was a real honor and inspiration to have known him.

Oral History of Norman Bergman

LW: This is an oral history interview of Betty Bergman, the wife of the late Dr. Norman Bergman, who was former chair of Anesthesiology at Oregon Health & Science University. We are very honored to have you here. I am Linda Weimer and with me today are Dr. Roger Klein and Dr. Angela Kendrick. The date is June 7, 2003.

I'd first like to get started by asking you, Betty, where were you were born and raised?

BB: I was born in Chicago, Illinois and spent most of my school years in Milwaukee, Wisconsin. When I started training, I came back to Chicago to Michael Reese Hospital. That's where I met Norm.

LW: Where did you meet him? Was he an intern at that time?

BB: Yes he was an intern. I met him in 1952, when I was a student med tech.

LW: Did you continue in that career?

BB: Briefly, until our children came along.

LW: When did you get married?

BB: We were married after we finished our training in June of 1952. We were married one day and went to New York for his residency the next.

LW: So you didn't have much time in Chicago.

BB: No.

LW: Tell me a little about your children.

BB: We have two. The oldest is 48. He's a mechanical engineer, and works for an engineering consulting firm here in Portland. Our daughter lives in Scottsdale, Arizona, where she does medical transcription. She has two children; my son has three .

LW: Your life seems full with the grandkids.

BB: Oh, it is.

LW: So what did you think of Norman Bergman when you met him?

We want a rough outline. Where you were, was it in the hospital or at a party?

BB: I met him in a bar in late 1951, and then I didn't see him again for two months. I went to a Christmas party with another intern and he happened to be there. Anyway, a week or so later he came around and wanted to take me to a New Year's party. I said I can't, I've got other commitments. A week later he came back and said, "Would you like to go to a movie?" That kicked it off. Hadn't seen him for two months, but once we started going together I saw him everywhere.

LW: Well, let's move on to Dr. Bergman. Where was he born and raised?

BB: He was born in Seattle and spent his first nine years in Snohomish outside of Seattle. He moved to Portland when he was nine.

LW: So he was a native Pacific Northwester. Did he grow up in Portland?

BB: Yes. He spent all his school years here, through Reed College, and medical school. He graduated from what was then the University of Oregon Medical School.

LW: What was his family background? What did his parents do?

BB: His father had a clothing store, and both parents worked there. Norm wanted none of that. Evidently, very early on he decided that he was going into medicine, though no one else in the family had gone into medicine.

LW: Let's talk about World War II. I know he went to service before medical school.

BB: Yes, he went in to the army, about October of 1944. I know that he was on a boat heading toward the invasion of Japan when the war ended. He spent his remaining time in the Philippines. After discharge, he stayed in the inactive reserve and in 1959 went back into the active reserve for eleven years.

LW: How did the war affect him or did he talk about that?

BB: Well, I don't think it really affected him much because by the time he got there the war was basically over. I don't think he ever saw any fighting.

LW: Did it interrupt his education?

BB: Well, yes. I think it interrupted his mother's plans more than it did his. She wrote to President Roosevelt telling him why her son should not be drafted.

LW: Do you know why he wanted to be an anesthesiologist?

BB: I think his first interest was pediatrics. He loved children, but parents bothered him. So somewhere along the line, possibly before internship, he decided to go into anesthesia.

LW: So after his internship, you moved to New York? What was that like? He was from the Pacific Northwest and you were from the Midwest.

BB: He had been to New York, but only to visit relatives; I had never been there and it was pretty hectic in the beginning with the new surroundings for both of us.

RK: Why did he choose Columbia Presbyterian for his residency?

BB: I really don't know, I don't even remember where else he applied. I think I still have his letter of acceptance to Presbyterian and I guess he just thought it would be a good place to go. I'll tell you one reason: when he graduated from medical

school, he wanted to get out of Portland. He wanted to see the rest of the country; so, that's why he picked Chicago and possibly why he picked New York.

RK: Of course, Columbia-Presbyterian was one of the premier anesthesia residencies in the country. I just have a couple of other questions about his earlier life. Was he always a musician?

BB: I think his parents probably introduced him to music because they loved classical music. I don't know when he started his lessons on the French horn, but he played in the Portland youth symphony, from the time he was old enough.

RK: What about his Reed College years? What was his reaction to Reed and its "reputation"?

BB: Well you know, Norm was so straight-laced, I could never understand how he fit in there. His education was interrupted because he went into service. He entered Reed at 16, and still lived at home and he was drafted at age 18.

RK: So, after Chicago, you went to New York. What was that like?

BB: He hated every month of it, or rather after six years he hated the commute and all the traffic.

LW: Did you live in the hospital housing?

BB: No. There weren't any accommodations available. You had to find your own residence. We did look in New York but everything was so expensive, and neither one of us had any money. So we ended up in Englewood in Jersey, which was across the river over the George Washington Bridge. We found an apartment within two or three days. He started at the hospital and I started looking for work. I was lucky enough to find a job in a doctor's office a block away from where we lived.

AK: Do you remember how much house officers were paid at that time?

BB: Yes, the first year he got $2,500 and the second year was $2,750.

LW: So it was necessary that you worked?

BB: It was. We wouldn't have survived if I hadn't. We didn't have a lot of time together. He was gone every third night and every third weekend. I sometimes had to work on weekends, so we kind

of passed like ships in the night. We didn't have any money to spend. Most of our friends didn't have any money either. You went to someone's house or every once in awhile we'd get out for an evening. Still we got along fine after we both had an income.

LW: Were you there for four or five years?

BB: Almost six.

LW: Then there was the move to Utah. Tell me about that, or why did he decide to go to Utah?

BB: I think he tried for Madison, Wisconsin at first, and I don't remember what the situation was, but whatever it was, it didn't happen. He knew a doctor that had been at Presbyterian who was chairman at Utah, Carter Ballinger, and so he contacted him. Dr. Ballinger said, "Well, there's an opening at the VA." Norm applied for and got the position as chief of the Veterans Administration Hospital. The title didn't mean much because there were only two of them on the staff. We enjoyed our Utah years very much.

LW: That's a big change from New York, both geographically, socially, and culturally.

BB: It didn't seem so culturally or socially different. We just happened to build our home a half block from the Mormon neighborhood.

LW: Were your friends and neighbors associated with the hospital or university?

BB: No, they were in different professions.

RK: Let's go back to the residency period. You've told us how busy he was with training and call; did Norm begin to do research during residency?

BB: I think possibly he had a taste of it during residency, as there was a considerable amount of research being done at Presbyterian. After his residency, Dr. Manny Papper asked him to stay on staff. He really started research when he joined the faculty. There were a number of people that really helped him. These included Dr. Ray Fink, Dr. Herb Rackow, Dr. Jack Frumin and Dr. Duncan Holaday. These men had been involved in research for some time and I believe they helped develop Norm's interest.

RK: What was his relationship with Carter Ballinger while at Presbyterian?

BB: I think that Norm always admired Carter and had a close relationship with him.

RK: Did he ever recall any anecdotes about the residency?

BB: I can't think of specific things.

RK: I remember one. He told me that when he went there, they were issued three endo-tracheal tubes of different sizes and that it was expected that they would return those at the end of residency.

BB: Used?

RK: Yes. They would put the cuffs on by using a nasal speculum. You'd stretch the cuffs and slip them over the tube. They would frequently break, so then you'd get extras. You don't recall any other humorous stories?

BB: He never liked to talk about his work. I can't supply much information about that aspect of it.

AK: It appears that the first trip to England occurred during your time in Utah? What prompted the visit? Was it his historical interest or his interest in physiology?

BB: He was not interested in anesthesia history at that time. He was into respiratory physiology. It just so happened he came across the work of Dr. John Nunn, an English anesthesiologist at the Royal College of Surgeons, who was doing similar work. He wrote to John, who I think, was a little uncertain about it. Did he want an American to come and work with him? Dr. Nunn had not had any people working with him, and his research was relatively new at the time. John consented and so Norm joined him. We were there for about thirteen months. He really enjoyed it and had a wonderful time. Plus, John opened up the international research door. They had other doctors that came there for three months including doctors from South Africa, and the Soviet Union. They probably had others that I can't recall. Norm thoroughly enjoyed the experience and they accomplished quite a bit that year from everything I've heard and read.

AK: Was he also doing clinical care during that year?

BB: They did a little but were limited. In fact, they didn't want any foreigner to take another doctor's pay. They wanted to make sure that the person coming into the country had their own

finances because they weren't going to pay them anything. I think it probably went that way at work too; they had limited exposure.

AK: How did you finance that first year that you went?

BB: He was with the VA and so it came as a sabbatical leave. He got a grant.

LW: Did the whole family go over?

BB: Yes, it was exciting times. Our children were six and nine, so they had to go into school and the public schools over there are "private." We started by taking the children to the government school. They would have taken the nine-year-old, but not the six-year-old, because she couldn't read. We scouted around for a private school and found one within walking distance. They both entered there. Our daughter got put back with the four-and-a-half-year-olds, but within three months she was with her age group. They had a good time.

LW: Dr. Bergman became a full professor at Utah. Why did he decide to come to Oregon?

BB: The Northwest drew him back. I think he figured he'd seen enough of the world, and he wanted to come home. This was home to him, his family was still here and we came here for many summer vacations. He just wanted to come back.

LW: Did he have ties to anyone here on faculty at OHSU?

BB: Dr. Haugen, who was the chairman.

RK: And me.

BB: Yes, I keep forgetting that you were here first. You were here by several years, weren't you?

RK: No, just one year. I had come here in 1969. I had been in Utah from 1964 until I took a sabbatical fellowship in critical care at Pittsburgh in 1968. I came to Oregon in 1969, and was with Dr. Haugen for a year. When Dr. Haugen said that he was going to retire, I called Norm and asked him if he was interested in the chairmanship. He said he was.

LW: Was there a recruitment process to find someone to replace Dr. Haugen?

RK: Yes, there were two candidates, Norm and a doctor from Milwaukie. (Dr. Ernst Henschel) At any rate, at that point in time, the department was still a division of surgery. Dr. Haugen had

preferred to remain a division chairman. When he retired he made sure that anesthesiology would become a department. The plan was that the new chair would form a department. I believe Norm was specifically recruited by the head of surgery, Dr. Krippaehne. At exactly what point the department became independent, is unclear to me. I think it was transferred when Norm arrived, with Dr. Haugen organizing the transition.

LW: What was the impact on his time, becoming a chair of a department?

BB: It was time-consuming. He was generally at the hospital for ten or eleven hours. Then when he came home in the evening, he would close himself off for an hour or two and read because he wouldn't have the time to do it during the day. So there were long hours.

RK: Did he maintain his hobbies, his music, and woodworking?

BB: Well, music went when we moved back to Portland.

RK: What about building the television?

BB: Well, after a while you change your interests. He devoted some time to his other interests on the weekends. Unfortunately, the music had to go. He said, "I don't have the time." That was also why he got out of the army reserve. So it was more stressful.

LW: Did the commitments to the university also extend to social commitments that were required of a chairman?

BB: I would say yes — I don't know what transpired before we came here, but we did have social events every year. The department was relatively small and one could do a lot of entertaining with faculty group gatherings in homes. In later years it became impossible.

AK: How much time was he still able to devote to his research when he became the chair?

BB: Well, I think he had less time for research. He certainly wasn't able to do what he had done in Utah.

RK: Still, he was quite active. He certainly encouraged and helped several of his staff do research including Dr. Waltemath and Dr. Hirschman. They did a number of studies. I think Norm's

research for the most part was always clinical. He and Charlie were doing pulmonary gas exchange and volume measurements on anesthetized humans. They did a number of studies together and Norm's studies on gas exchange and the effects of anesthesia on oxygenation were seminal. He then studied the effects of anesthesia on the mechanics of respiration, including the effects of obesity, all of which are in his CV, so we can refer to that later.

(Addendum: Dr. Bergman's published papers are extensive. He published 28 papers and book chapters dealing with physiological studies during his Oregon tenure.)

LW: Was he doing a lot of teaching at this time?

RK: I would say yes. Norm was always a very good lecturer. I mean, he just enjoyed his lectures. Even the wives of the faculty who would happen to be hearing one of his talks always enjoyed them because he had such a sense of humor. He was quiet and unassuming, but very effective. He gave lectures that were like telling stories. It was very easy to follow him. This was a common remark. My wife would mention that she and the other wives really enjoyed listening to him, whereas most other medical lecturers, anesthesia lecturers, were pretty dry and boring.

LW: How about mentoring students? Is that something that he had time for?

RK: He participated in the medical school lecture program. He delegated a fair amount of that. His means of administrating was mostly hands off. He pretty much let the faculty do their own thing. He wasn't a person who was constantly looking over your shoulder. I think that the research that was being done was actually quite good, considering the amount of available support. He and Dr. Waltemath were quite productive.

BB: What about Carol Hirschman?

RK: Dr. Hirschman and Dr. Casson came during the middle of his time as chairman. He mentored Dr. Hirschman and she would be his most famous protégé. She has gone on to be very productive and has given Norm credit for getting her started. She began working with the Department of Pharmacology and Dr. Hall Downes. I would say that Norm was a good faculty mentor for those who wanted to take an interest in research. He certainly let me

have my way doing critical care. He didn't interfere with my methods and was quite encouraging and supportive.

LW: As a wife of medical school faculty, were you involved in the faculty auxiliary?

BB: Yes, for a number of years, until I had a problem with the administration over a program I was involved with. But the women in the faculty wives club were fine.

LW: What was the problem?

BB: Well, it was just that they were trying to organize a program to give tours to high school students that might be interested in the medical profession. I worked two years on lining up doctors and people to volunteer to take the students through to these various sectors; we had three sectors ready with doctors involved and ready to speak to the students. I was to the point where people were calling me volunteering their services when we got a new president, Dr. Leonard Laster. He cancelled the program. I worked on this project for two years and then he came and cancelled it. Afterwards, they set up a program where they paid people to do tours.

LW: Did you find that most wives of medical faculty were involved with the auxiliary?

BB: There were a good number of them.

LW: Was Norm involved with any community activities?

BB: I don't know that he was really involved. He spent so much time during the week reading and working. On weekends he more or less just wanted to find his own outlets. He would go and make something in the garage or go for a bicycle ride. He never got too involved with any civic activities. Basically, it was a lack of time.

RK: I think one of the things Norm did was lead the department from a financially precarious state into one in which there were significant funds coming from private practice. I think he was instrumental in helping the entire medical school. The Anesthesia Department generated a fair amount of income. We were able to keep much of it, but we also contributed a very generous "tithe" to the school. With my help we set up a departmental reserve fund to channel some money into a research and educational fund. Along with grants this funded much of our research and also provided travel funds, which had been nearly non-existent. But along with

the money came the problem of increased demands for service. Though we increased our staff, there was always an increasing amount of work. One thing that bothered Norm was the fact that the add-on list in the operating room got longer and longer. He felt that surgeons ought to be able to do better scheduling. This would reduce the number of late cases. He probably was an idealist in this regard. I think this is one of the reasons he stepped down.

BB: Well, I think he also had a chance to do what he wanted to do. Basically, he really became interested in the history of anesthesia. I'm trying to think back on when that actually started. It may have been in '63/'64 when we were in England. We did do a lot of traveling. I'm sure his interest in history began developing then. When the opportunity came to take early retirement, he just said, "Yes, fine. That's what I'm going to do." From then on he devoted himself to the history of Anesthesia.

RK: Let's see, he was chair from '70 until 1982. He retired in '89, so he actually was on the faculty for an additional seven years.

BB: He worked it out with Dr. Stevens to have an extra day off. I'm not quite sure what he did on those extra days, but I suspect he was doing history research. The library was able and very accommodating as far as getting materials. He became very interested and retired at the first opportunity.

LW: I'd like to make a note that his book, *The Genesis of Surgical Anesthesia,* was very well received.

BB: Yes, he was amazed.

AK: He didn't know it would have such a wide audience.

RK: It is considered the ultimate text of the pre-anesthesia period. It's a large book and extremely well documented.

AK: Have you given his files to the Wood Library Museum of Anesthesia?

BB: I sent most of the books that he collected on the history of anesthesia to the Wood Library. I think I shipped off five or six boxes to them. I do have copies of his manuscript and have kept everything. I have a lot of reprints and papers that he had written. Everybody's got a book in the family.

RK: I think it would be nice too, if you at some point were to leave all his papers to our library. Angela and I have plans to

establish a repository of information regarding our department and I think his papers would be a very nice addition to whatever we find.

LW: I wanted to ask if anybody has any other questions.

RK: What about his interest in astronomy?

BB: Well, he did it all after he retired. He'd get his telescope out in Arizona. The skies at night are gorgeous. I have to admit the sky was beautiful down there.

AK: Was his health always good until his final illness?

BB: Well, he had two bypass surgeries. He had two or three other surgeries during his life including prostate surgery. He had his health problems. He recovered from most of them pretty well, even the second bypass.

RK: Well, he pictured himself as a professor with his pipe.

BB: I know — I said, "Why don't you quit smoking?" By this time so many people had stopped in the seventies. He said, "When I have the first indication that I have a problem I'll quit." So he had just come back from an Arizona meeting. He was outside doing yard work and came in and said, "I don't feel too well. I'm going to sit for few minutes." He sat for a few minutes and then said, "I've got some pain in my chest." I said, "Fine. Get in the car. You're going to the hospital." He said "no" and I said "yes" and I won. On the way to the hospital I said, "You just realized you quit smoking." And he did. I think it was really hard for him after all those years.

AK: And did that come during the time that he still had his chairmanship here?

BB: It was about '77 when that happened when he was here at OHSU.

AK: Was he instrumental in helping Dr. Stevens come here?

BB: I don't know about the recruiting part of it. I don't think he knew Dr. Stevens before he came.

LW: Looking back at Dr. Bergman's career, what do you think he would be the most proud of? And I'm going to say one more thing, and what are you the most proud of?

BB: I think all his accomplishments. I mean I was impressed, when I found out from Dr. Nunn that he had been given the classic citation award from the *British Journal of Anesthesia.* Supposedly

he is the only American that has one. This is from research done in 1963-64, which has been quoted so many times; they gave it this special recognition. I'm sure he would have been proud of all of his accomplishments and his book in particular. I thought, "Where's he going with this?" and so when it was finished I was really quite astonished and quite proud. He had done all the work because it was a tremendous effort. I remember the ceremony in England when he was made a FRCA in 1977. There were not many Americans who had that distinction at that time.

RK: My final comment is that I think that Norm was probably the smartest man that I ever knew. He was even a mathematician.

BB: He was self-taught.

RK: Self-taught and he would sit there and work out equations while he was between cases. He'd sit there playing with numbers. One year we had a Christmas party, we decided to play rotational Trivial Pursuit, each person received their score. The obvious winner was Norm, with many more points than anybody else. He was a tremendous fountain of knowledge. If you'd ask him a question, he always knew the answer.

BB: He retained a lot of what he read.

AK: My first knowledge of Dr. Bergman came when I was going to make the move from internal medicine training into anesthesiology training. I was here in Portland over at Providence. I was explaining this new career plan to one of my teachers, Dr. Huldrick Kammer, an endocrinologist there, when he said, "Dr. Bergman saved my life." I said, "Oh really?" And he answered, "Yes, I was having an operation and they had some problem with my airway and Dr. Bergman came in, intubated me and saved my life." Clearly that was his ultimate endorsement for what a fine physician Dr. Bergman was, and so the first time I met Norm, I had that comment running through my mind.

BB: Well, these are the kinds of things that I never heard about.

LW: Well, if that is it, I want to say thank you so very much. It's been delightful.

BB:You're quite welcome.

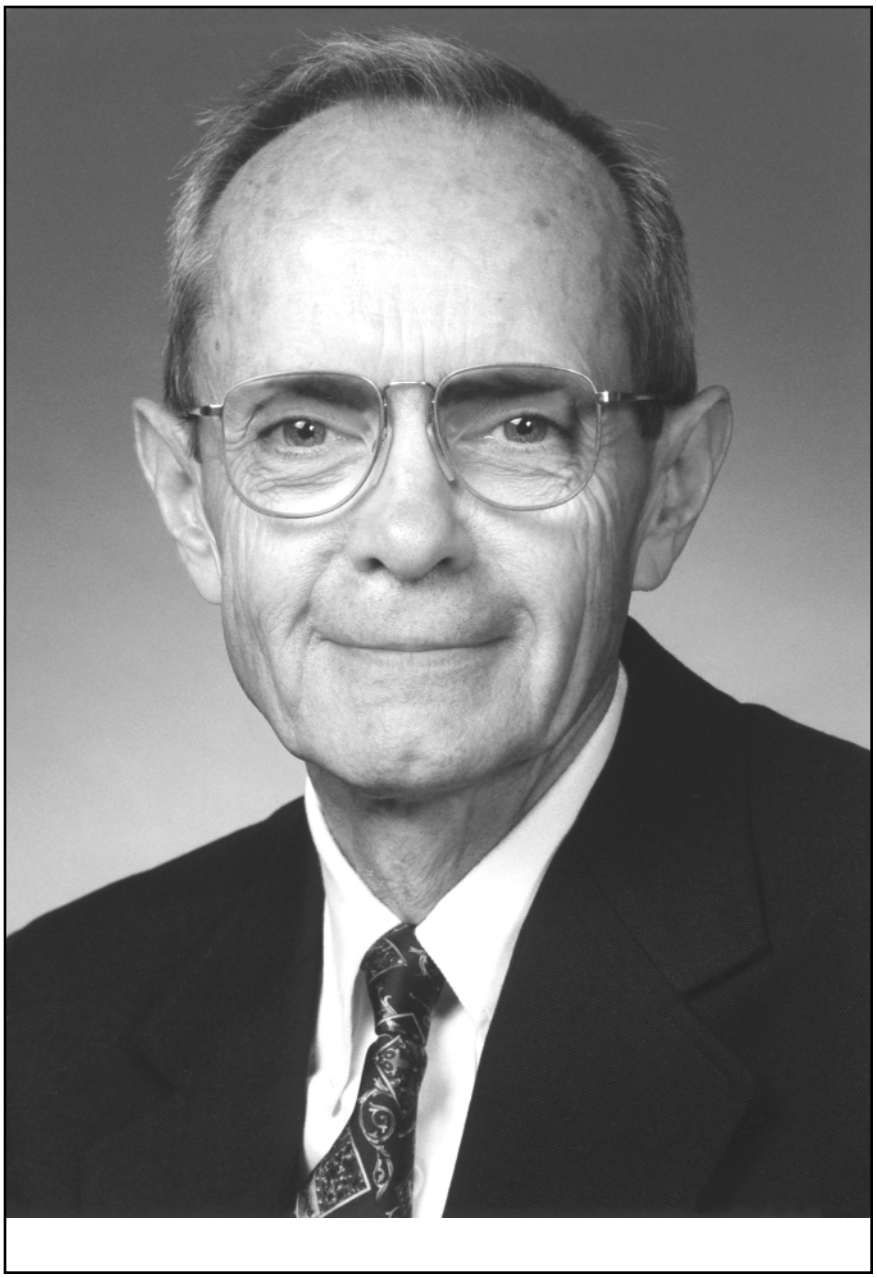


Figure 1 – Wendell Stevens, MD (1931–2003)

Chapter Fifteen

Wendell Stevens, MD

Angela Kendrick, MD

Wendell Stevens was born in Mason City, Iowa. He had his undergraduate and postgraduate medical training at the University of Iowa in Iowa City where he received his MD in 1956. After some surgical training and time spent in the U.S. Navy, he took his anesthesia residency at Iowa where W. K. Hamilton was chairman. When Dr. Hamilton left Iowa to go to San Francisco, he took Dr. Stevens with him. Wendell spent approximately 12 years at UCSF Department of Anesthesiology, where he rose in rank to full professor.

In 1978, he was recruited to return to Iowa as chairman, a position he held until he took over the anesthesiology department chair at the Oregon Health Sciences University in 1982. He chaired the department until 1992.

In addition to his work in Oregon, he was very involved with the American Board of Anesthesiology from 1975 until 1988, and served as president from 1987–88. He served on the joint council on in-training examinations and was a site visitor for the ACGME. He also held prominent positions with the ASA, AMA, the Christian Medical and Dental Association and served on several medical journal editorial boards.

Wendell spent much of his later years participating in third-world medical facilities. Countries where he served include Belize, the Dominican Republic, Ecuador, Jamaica, Mexico, Turkmenistan and he trained nurse anesthetists in Kenya, Tanzania and Nigeria.

For those who knew him, Wendell was a extraordinary human being with personal characteristics of honesty, generosity, an impish sense of humor, and willingness to help people throughout his life. His sense of Christian charity was the motivating factor throughout his life. His dedication to the department, his family, church, and patients was an inspiration to all who knew him. He was undoubtedly the finest example of a humanitarian, scholar and principled man.

We were fortunate to interview him for an oral history. It was an enjoyable experience though he was debilitated from his respiratory illness. What comes through in the interview is his idealism, humor and a first-hand account of the story of a unique person.

W: This is an oral history with Dr. Wendell Stevens. The date is August 14, 2002 and we are in the conference room in the anesthesiology department. My name is Linda Weimer and I am the oral historian at the University and with us today is Roger Klein, who is a retired associate professor of the department, and Angela Kendrick, who is currently an assistant professor. In addition, we'd like to welcome you, Dr. Stevens, and to get you started we would like to know where you were born and raised.

WS: I was born in Mason City, Iowa and lived there through the first year and a half of college. My family and I lived on a farm.

LW: Were your parents also from Iowa?

WS: Yes, they were born and raised in the same area. My mother was from some distance away, but in the general area.

LW: Was it a large family?

WS: We had four children in our family. My mother came from a family of nine and my father came from a family of five.

LW: You grew up in Iowa. You were young during the Depression, but did it influence the family?

WS: Well, to tell you the truth, it didn't affect me very much that I recognize. Most of our living came off of the farm. I never felt deprived nor did my parents complain about things to a great

extent. I suppose in the context of having all the food we needed and being self-sufficient on the farm, we were spared from it. [Editor's note: he would have been a small boy during the Depression]

RK: Do you have brothers or sisters?

WS: I had two brothers. I have one living brother and one who died forty years ago, and I have a living sister who's older than me.

RK: You talked last night about doing farm chores. How big a farm was this?

WS: About 350 acres which seemed moderately large at that time. It's not so large compared to what's large now. The farm supplied food for cattle, pigs and sheep and other livestock. We milked a lot of cows and took care of them. The milking fell to me much of the time.

RK: Did you have milking machines from an early age or did you hand milk?

WS: Well, it's interesting that you should ask that, but we milked by hand when I first started. Of course as a child I could hardly wait to start to help, but once started I couldn't stop. Now that I knew how to do it, I was one more hand to get the job done. We went through a whole range of milking processes up to the more modern, set up with milking parlors.

RK: Did you work with horses?

WS: Well, my parents did when I was young. They had an early model of a tractor, but we switched from horses to tractors right about the war years.

LW: With all the farm chores you had, how did you fit in school?

WS: Well, that was one of the privileges I had, which I think was not unique to me, but at least I took advantage of it more than my brothers. My parents were anxious that we do whatever we needed to do to receive an education. I think that my father would have been quite content if none of us farmed. It wasn't his first love though he felt that was what he had to do. There was never any question about my being able to participate in other things. The school we went to was about a mile and a half from home, so we could get back and forth on our bikes.

AK: Had your parents gone to college?

WS: Well, my father went to college for part of a semester. Interestingly, he was very homesick and his mother was very dependent on him for emotional support. She kept begging him to come back home. So, even though he had a dream of being an attorney, it never happened. I think that was behind his wanting us to leave the farm, so he encouraged extra-curricular activities.

AK: Did your father grow up on this same farm?

WS: Yes, my grandfather owned it and my father eventually purchased it.

LW: What were your main interests in high school?

WS: The choices were limited at a school with only seventy-five kids. It was a pretty standard curriculum. We took shop and the girls took home economics. Those were the choices. One advantage of being in a small town was you could participate in everything: you didn't have to be very good to play basketball; you didn't even have to be very tall, which was more important to me. I played a hand in baseball, and we didn't have football. So, not answering your question specifically, I think I was interested in doing those things that assured I could go to college.

LW: So always in the back of your mind you knew you were going to go to college?

WS: Yes, no question about that.

LW: Did you have a major in mind?

WS: I think from an early time, and what the genesis of it was I don't know, but I wanted to be a physician. I was always intrigued by hospitals and the stories of the doctors and what they did.

RK: Did you have a hometown physician?

WS: There was, but I was afraid of him. Afraid he'd use a needle or something I guess. Must have been worried about how sharp they'd be. He wouldn't have been an inspiration for me, no.

LW: Was any family member in the healthcare profession?

WS: An uncle on my mother's side was a dentist. That would be the closest.

LW: World War II came in this time period. How did that affect your life, your family's life?

WS: Well, there was some rationing. My brothers were just a little bit too young to go to the war. By the end of World War II, my older brother was eligible for the draft and was in the service for a period of time. Still later, my younger brother (older than me, but younger than my other brother) went into the Air Force. As far as those of us at home were concerned, the farmers received adequate allotments of gasoline so they could farm. We were not deprived of meat and milk and butter. We were expected to be thrifty as far as our use of those things because of the war effort. I can remember one incident: I was intrigued with the way you could ignite a layer of gasoline on a water puddle. I don't know why, but I was. My uncle would come from out from town and they of course, they were under stiff restrictions as far as gas was considered. He couldn't believe that I would waste some gas on a silly little demonstration like that. I guess we farm folks had some liberties that many city folks didn't have.

LW: I'm curious, the West and East Coasts had blackouts, but how about the Midwest?

WS: I don't remember that it was an important issue. I do know that we got electricity at the beginning of the war. Up to that point we had a Delco plant of our own and manufactured our own electricity. I don't quite remember whether that was still in place during the war.

RK: Did you have indoor plumbing?

WS: We got that about 1940–42. By indoor, I mean, water was brought into the house. I'm not quite sure when we got a toilet, probably later. I remember my father said, we're going to have a great surprise for you tomorrow. The guys came to start digging the water system. It didn't impress me. I thought we were getting a car or something important.

RK: Did you have a windmill water pump with a cistern?

WS: We did.

LW: Did you have a liberal arts or science major in junior college?

WS: Just pre-med.

LW: Why did you choose a junior college?

WS: Expense. I think it was something like $50 to $75 a

semester. I lived at home and continued to work on the farm. I could also continue with musical activities. And again, I could play basketball and baseball.

LW: So after two years you applied to a regular college?

WS: It was actually a year and a half. Afterwards I went a semester to a Bible college in Minneapolis called Northwestern College in Northwestern Schools. Then I was able to graduate from the junior college.

LW: Were you thinking of pursuing the ministry at that time?

WS: Well, I became enthusiastic about Christianity. I thought that I might, but very shortly after going to Bible College, it became clear to me that I did not want to be a minister.

LW: You wanted to continue on with your dream of being a physician?

WS: Yes.

RK: Were you playing in bands during this time?

WS: I played in the Mason City municipal and the Luther College bands. The municipal band was fun because I got paid.

LW: What instrument did you play?

WS: Played the cornet, I guess because it was kind of a noisy, blurry thing and attractive to listen to. I'm not sure what the reason for it was other than that. I couldn't imagine playing a bassoon.

RK: You could have played the bass.

WS: Yes, yes.

LW: After junior college and then Northwestern you went to Luther College for another year before medical school. Did you get a B.A.?

WS: If I would have gone to Iowa, I could have received a B.A. after the first year of medical school. Students that transferred were not necessarily eligible. So I didn't get a B.A.

LW: What was medical school like?

WS: Probably not so terribly different than now. The first two years had a heavy accent on didactic lectures about basic sciences. The second year had an introduction to clinical medicine. We wouldn't personally have seen patients until the third year. The last two years were clinical medicine. I think virtually everybody took everything at the school for those four years. Very few people took

rotations elsewhere, unlike today. We thought that the college was very strong. One of the things it did have was an immense amount of loyalty among faculty for the institution. Many of them had been there many years.

RK: Did you feel like the attitude of the professors was to encourage you and support you? Or did you think that they were taking your measure in a not completely benevolent manner?

WS: They were very supportive. I think they expected everybody to pass. It wasn't as though they were going to pass people at any cost, but nonetheless they were not discouraging.

AK: Did you have any scholarship money to support your medical education?

WS: No, my parents provided complete support for the first two years. I worked at a local hospital as an extern and was able to pay a fair amount of the cost for the last two years. Mind you that tuition at Iowa (a state-run school) at that time was $128 a semester, so even given the backward inflation, it was still a pretty cheap. I think we earned 50 or 60 dollars a month as externs.

RK: Did you work in any specific department?

WS: No, just as an extern in the hospital, seeing patients, doing patient workups.

LW: Were there quite a few students on the G.I. Bill?

WS: There were and many of the students had families. The hospital had a ring of quonset huts, tin shacks obtained from the military. Many students lived in these with their families, as did residents and interns.

LW: Were there women in your class?

WS: We had three. Afterwards I believe they all went into specialties.

LW: How large was your class?

WS: One hundred and twenty, all from Iowa for the most part. Plus, in the last two years some students would come from South Dakota.

RK: Do you think that there was chauvinism exhibited by some of your classmates against women?

WS: I don't think so. We wouldn't have.

LW: After medical school you went to Cleveland, Ohio. Why?

WS: Well, Iowa City University Hospital of Iowa City is unique in that it was largest university-owned hospital in the country at that time. Still may be right up there. It had something like 1,000 beds, usually occupied. They were full because there was a statewide ambulance system that brought patients in. The indigent patient load was about 80%, and 20% were private patients. There was very little emergency work and less acute care medicine there as compared with other hospitals. Having spent all my life basically in a small town (Iowa City was a town of maybe less than 50,000 people) I wanted to go to a bigger city and intern at a larger, active city hospital. So I chose Cleveland. I had also applied to Minneapolis General Hospital. I matched at that time (there was a matching program) to Cleveland.

LW: What were your hours like?

WS: Well, we were on call about every third night and would work most of the night depending on the service you were on. You know, it seems to me hearing stories of what goes on in the larger city hospitals now, the pace and the load were really quite different than now. The ambulances weren't coming in constantly and the trauma was nowhere near as significant an issue as it is now. So it was not quite the same.

RK: Did you have an anesthesia rotation during internship?

WS: No.

RK: Did you have any anesthesia experience during medical school?

WS: Yes, at that time Iowa had one of the best anesthesia departments in the country. We had lectures in pharmacology, and also a clinical rotation when we were juniors or seniors. I forget which now.

RK: Was Dr. Cullen there at this time? I presume he was a greatly admired mentor?

WS: Yes, number two in anesthesia I suppose. But in my internship in Cleveland, one of the more interesting rotations, was pediatrics. The head of that section was Fredrick Robbins who earned a Nobel Prize for his work with polio vaccines. A person of that quality is such a privilege to be around and work with. There were others in his department who were very, very strong too. The

workload was busy, but not impressive. We lived right there in the hospital compound.

RK: Had you met your wife at this point?

WS: We had met. We went to the same church and that's where I met her and eventually we got married.

LW: Did you get married while you were an intern?

WS: No. A couple of years later.

LW: After you were an intern, I see that you went back to University of Iowa, resident in surgery. Explain that decision.

WS: Well, I'd always been enamored with surgery, the operating room environment, and the technical aspects of surgery were great, great fun. I made a decision to switch over to anesthesia over a short period of time actually. It related, I think pretty much, to an encounter with Dr. Hamilton who was the chair of anesthesia at that time and some of his colleagues. They were outstanding physicians and just excellent models. He made the operating room environment a desirable practice setting, which I enjoyed very much right until the last day I was doing it here. There was also a good opportunity for clinical research there and it looked like fun to me. The residents at Iowa were outstanding and loved to teach. You were never in the way, they always wanted to involve you and help you. I made the switch after two-thirds of that second year of surgery.

LW: And there was no problem switching?

WS: No. They were just kind to me. There was no "Don't do it. Stay here or else," or "Finish the year." They just wanted what was best for you.

RK: You did go into the military around this time.

WS: Right after that the first year of training. I had an internship, a year of surgery, then the Navy for two years, then back for more surgical training for two-thirds of a year and then switched to anesthesia in May of that year.

LW: Did you get called into the Navy?

WS: There was the Barry Plan at that time, which was a program where people were deferred for varying amounts of training depending on the needs of the service. I was deferred until I had completed a year of surgery and then went into the

Navy. The Navy experience was a fun experience. A farmer on an icebreaker; we went to the South Pole, then nearly to the North Pole. It was such a dramatically different lifestyle than what I was accustomed to.

RK: Did you get seasick?

WS: Sometimes for the first half a day. They put surgeons on those ships — surgeons, I had a year of surgery — but doctors needed some surgical experience because of such isolated duty. We did the requisite appendectomy.

LW: How many men were on this ship?

WS: About two hundred and fifty. The ship was about 175 feet long and 60 feet wide. It was a kind of a tub. That was one of the problems with it.

RK: Must have rolled a fair amount.

WS: Luckily it never rolled over. During the worst seas, rolling never seemed to be a problem. Just hanging on too tight, I guess, but I think we had rolls of 55 degrees each way.

RK: Did you get in any big storms?

WS: Yes, but we did not encounter any hurricanes or serious icing. I don't know if you were aware that two weeks ago there was a ship being evacuated from the Antarctic ice. We were caught for two weeks in ice floes down there, but we did get out. We were only there during the summertime.

RK: Why was the ship going to Antarctica?

WS: Taking research personnel down and taking others back. We rescued a ship or two while we were down there that were caught in the ice.

LW: How long were you at sea?

WS: Almost exactly six months to Antarctica. We crossed the equator Christmas Day on that trip. When we went north we were up that direction for four months or so, to Greenland. I was starting to say that my wife and I were married right after my first year of surgical training, just as I went into the Navy and then I got on the icebreaker and then we were separated.

LW: That must have been difficult.

WS: It seemed that was the way that it needed to be at the time. There wasn't any question that we wanted to be married to

one another, being separated in terms of loyalty wasn't going to be an issue, but nonetheless it was not the best planning.

RK: Did your wife have a career?

WS: She worked at Ohio Bell in management. I don't know what she would have done in the long run if we hadn't married. She's capable of doing whatever she wanted to do, that's for sure.

LW: How often did you get letters if you were at sea for six months at a time?

WS: Well, you know, not very often. We got some mail as we passed Brazil and some more in Argentina. Then we went down and came back to Argentina and went down again and got some more mail on our return. Kind of a fascinating little story: there was a couple from Cleveland, or four people from Cleveland, who were in Buenos Aires on vacation and wouldn't you know, we went to the same restaurant where they were. They were so proud of these American boys, with their white uniform coats. We had a conversation with them and found out that they were from Cleveland. They called Lola when they got back to Cleveland. It's one of those things you couldn't have planned. It is kind of fun to reminisce about that.

LW: You spent about two years in the service.

WS: Yes, then I returned for eight or nine months of surgical training before starting my anesthesia residency.

LW: I notice your first faculty appointment was at the University of Iowa.

WS: Yes, the issue then as now was staying in academic medicine versus private practice. I inquired about a private practice or two, but Dr. Hamilton asked me if I'd considered staying in the department. I thought, "Oh gosh, if he really wants me to stay I better stay." I guess I could hardly imagine that I could have a role there, but I did stay, and stayed in an academic position for the rest of my career. I've never done private practice, except for one or two short locum-tenens.

LW: Did you feel the difference between being a student, a resident and then becoming a part of the faculty? What was that transition like?

WS: I suppose I felt a little uneasy about being responsible for and teaching people who were basically at the same level. I didn't

recognize it then, but I think ever since, my philosophy, of teaching is just to pitch in and help. Let's try and to do this case together while making things easier for the resident if possible; or, if challenging them with things that aren't so easy, then keep a watchful eye. There's another aspect of it. Then, in contrast to the intensive supervision of residents, required now, we provided less coverage. We would have one person covering four to six anesthetizing locations. So, there wasn't a lot of time spent educating people. More time was spent just getting the job done. Working in the ear nose and throat and eye suite, as you can imagine, required a lot of quick case turnovers and just running from one room to another. Still I guess the transition from resident to staff was never difficult.

RK: Did you develop your interest in research at Iowa?

WS: Yes. Primarily it was respiratory research at that time because Dr. Hamilton's interest was in breathing. At least it was one of his intense focus areas. He was interested in atelectasis. This was at the time when Dr. Bendixen was talking about sighs and what surgery and anesthesia did to lungs. What could be done to prevent postoperative atelectasis and how to measure it. That's what we were doing at that time. Dr. Hamilton was highly encouraging to me. He saw to it that I had at least one or two days for research. I think he'd have been disappointed if I hadn't used them because he recognized that if you don't have time, you can't do research. That's been proven over and over again.

LW: You obviously were very involved with teaching, supervision and the research. How did you balance that with family life?

WS: I would have to say overall, not very well. An academic career is very demanding unless you are an unusual person. Iowa City had one advantage in that you were only ten minutes away from home. Lola made me an early breakfast and then I could be in the hospital by seven or so. When we finished at five, we'd be able to get home again in another ten minutes. In addition to that, the operating room schedules were so different. Now for all practical purposes, if a case gets on the schedule it gets done. Whereas in those days, the OR list cut down at three to four o'clock and we'd delay add-ons until the next day. So, it wasn't as though we were staying there on into the night, night after night. That was the

advantage of being primarily an indigent institution, it didn't cost the patients to stay another day. Still there was the conflict of careers versus family.

RK: What was your salary during those early years?

WS: Well, I think it was always on the low side. Those first two months as an associate [Ed. note: equivalent to an instructor], I think I got a pay rate of $10,000 a year. My resident salary had been $250 a month or something like that. When I became an assistant professor it jumped to $20,000. That's pretty much where it stayed until I got to California.

LW: On your CV it says that you went to University of California-San Francisco in 1967. Why the move?

WS: Dr. Hamilton was recruited to be chair of the department there. Dr. Cullen had preceded him. When Dr. Cullen was elevated to dean, he recruited Dr. Hamilton. Dr. Hamilton asked a couple of us to go with him. To tell you the truth, it decimated the department at Iowa because we had a faculty of only four or five people. It left a big hole when we left. I went because he asked me to go and it was a great opportunity.

RK: One final question about Iowa, what was your initial experience there? Was the relationship between the surgical department and anesthesia cordial or somewhat confrontational?

WS: I wouldn't say it was confrontational and in terms of interpersonal stuff, it was very cordial. I think again with Iowa primarily being an institution caring for indigent patients, there wasn't quite the competition to get the operation done or to impose a surgeon's will because it's "my patient and I'll tell you what we're going to do." We certainly had free choice of anesthesia management. That was never an issue. I think the interaction with the surgeons was cordial. It was quite good.

LW: Can you give me your first impressions of San Francisco?

WS: At first, I wasn't sure why anyone would want to live there because we lived in Marin County on the side of a hill. It seemed like nothing would grow there. It was dry and made Iowa look pretty lush. I got over that feeling in a hurry because San Francisco was a beautiful city. I commuted over the Golden Gate

everyday. Can you imagine a more wonderful sight to visualize? For a big city it was much more attractive than Cleveland. In those years the Cuyahoga River was even burning, because of oil spills. San Francisco was a fresh and beautiful city. But initially, I wasn't quite so sure, being a farmer at heart.

LW: How was working at the new university and hospitals? You came from a hospital that was primarily working with indigent people to the one in San Francisco. What was the difference?

WS: It still had a large indigent population, but not anywhere near as big as Iowa. One of its units was San Francisco General Hospital, which was primarily an indigent care hospital. I didn't think the quality of surgery there was any better than Iowa. I sensed an initial, and I think it still is true, pride in the University of California that, I don't know, was not quite all that warranted. They thought they were the very best. In some areas they were very, very good. I think the attraction of going there, as I look back on it, was the University of California was anxious to see itself as one of the premier research institutions in the country. It has maintained its premier status amongst one of a few anesthesiology departments in the country. Still I think its science exceeded its skill as a clinical unit at that time. The strength of the anesthesia department initially was its research expertise. Dr. Hamilton changed that a lot as far as anesthesia care was concerned. He strengthened its clinical side; as the surgical departments continued to improve. It was intimidating in a way, to work with some of the big names in anesthesia and physiology. Julius Comroe, a renowned respiratory physiologist, headed the Cardiovascular Research Institution. His team welcomed people that wanted to participate in the research and take advantage of their knowledge. They just loved that kind of interchange. Our department had Dr. John Severinghaus, who developed the CO_2 electrode and did so much to foster our understanding of cerebral blood flow and the regulation and control of breathing. Bob Mitchell outlined what goes on in the brain stem as far as breathing is concerned. Sol Shnider in OB. These people were part of the quality staff. Quality begets quality, it seems. So it was kind of intimidating in a way to try and fit in there, but they made it easy. I also think my philosophy of teaching and clinical work, just

pitching in and try to be helpful, was always well received. So, they were very kind to me.

LW: Did you find your work increased in California?

WS: Yes, a lot. It increased because I tied in closely (because of his kindness to me) with Dr. Edmond (Ted) Eger. He took me under his wing. We started testing new anesthetic drugs. So, although I had two days a week free for research, it wasn't enough. There was a lot to do at night. I'd also come back in on weekends and feed the lab animals. I carried a regular clinical load as well. So yes, it was very, very busy. I think that is where the imposition on my family was the greatest. The problem was that it was just so much fun, really fun to be a part of all that, to participate.

LW: I know today OHSU is driven by grant money. How was it back then and how did you get your money for research?

WS: We were largely driven by grant money. We competed quite well for NIH funding, but we also got industry funding as they were developing the anesthetics. Most of the funding Dr. Eger and I had came from industry because it wasn't basic research. We investigated specific drugs. We tried to do research with the drugs that would improve anesthesia knowledge, per se. Our research had little NIH support. Some of it was supported out of the department, but the department primarily provided time.

LW: You became a full professor in San Francisco but decided to return to Iowa. Can you tell me about that?

WS: I suppose it was mostly loyalty that took me back. It certainly wasn't a desire of Lola's to return to Iowa. She wouldn't have chosen to do that. The department had fallen apart in Iowa City. They had several years of leadership strife. The department was at loggerheads with the dean. The chairman was asked to step down. He had had his whole career at Iowa and by the way continued there, until the time he died. The department was unable to recruit residents and its faculty was also decimated. They called for help and loyalty took me back. This occurred during a time when there were very few residents entering anesthesia. Later, beginning about 1979, 1980, the recruitment of anesthesia residents increased dramatically. So we survived because we were able to

taking advantage of that increased interest. But the first year or two we didn't have any anesthesia residents and we struggled to get by.

AK: It also represented you leaving Dr. Hamilton and Dr. Eger, the mentors that you had had, and taking an independent post of leadership. Was that a difficult transition?

WS: Yes, it was, and just because a person is successful in being part of a research team doesn't mean that you'll be a success on your own. It's a whole different ball game trying to organize a laboratory or whatever program you have. It's not hard to do a project. I mean you can have a question and try and answer that, but to develop a program with a long range goal is another issue. To develop the funding and space and everything you need is challenging. Angela, I would say it became clear there and in my years here too that; I was not an Eger. I was not a Severinghaus. I felt that I was not of that caliber to maintain a research program of my own that begets doing projects.

RK: Yet you maintained significant productivity during those years.

WS: Yes, but it would have been more in the line of experiments than programs.

RK: You're making a distinction there.

WS: Yes, I think it's an important distinction.

AK: Do you think that it was also because of your interest in patient care and in being a clinician?

WS: Yes. One of the problems I had, at San Francisco was if there was a request to help take care of patients, to fill in for somebody who was sick, I would just, virtually always say yes. Even though he was always so kind to me, this would make Dr. Eger upset. "You can't do that! When are you going to do this?" I would always find it easy to give preference to patient care. I would say that I enjoyed patient care the most, without much question.

LW: Were you able to help turn the program around at Iowa, and get residents?

WS: Yes, I think it was well on its way when I left in 1982. I recruited a lot of faculty. When I went there we had six or seven, when I left we had eighteen or twenty. Some were people, of great promise as far as academia was concerned. My successor was John

Tinker, who came from the Mayo Clinic. He's a good example of someone who is able to organize programs in research and make the whole thing go. The department research program took off again, no question about it. That was a skill beyond me.

LW: You left University of Iowa to come to Oregon Health & Sciences University. Why the change?

WS: One reason was, we were anxious to return to the West Coast. No question that was one of the motivations. I thought the department here would be one that I could manage. The University of Iowa had huge, outstanding research units. I felt I would have trouble competing in that atmosphere or come up to their expectations. It seemed to me that Oregon didn't have quite the high-powered programs that existed at the University of Iowa. On the other hand, it had pockets of strength. I think every department here had some people who were very, good. I didn't see any reason a smaller department like ours (not so small anymore, as you can see) couldn't be good. I think Dr. Bergman had shown that you could do credible research. Dr. Hirschman was here at the time. It looked like a manageable job and something that I could contribute to.

LW: Did you know someone here? Were you recruited?

WS: Recruited, yes. I didn't know anyone here. I don't even know if we'd even met, Roger. Dr. Fred Fraunfelter was the chairman of the search committee at that time.

LW: What did you think of Oregon as compared to California and Iowa?

WS: As a place to live, it was just as nice as… well, I don't know if it was just as nice as California. When we lived in Marin County, the weather was very predictable, it was green except on the hillside where we first lived. As far as institutions are concerned, I think that this institution was a good deal smaller and did not have the breadth of research or the clinical programs that either of the other institutions had. Both of those institutions had heavy NIH funding. In terms of facilities too, both of them were superior to Oregon.

LW: I know during the '80s, this institution had problems with financing. Did you have first-hand experience with that?

WS: Both at Iowa and then here, the department earned the vast percentage of its budget. We recognized that and lived within our means. There wasn't money left over, that's for sure. It wasn't so different from Iowa in that regard. Our salaries were initially low, but I raised them to about the 50th percentile of the West Coast salaries. We earned about everything we spent, well 90, 95% of what we spent. Even the money we seemed to get back from the University for our departmental support, was from money we had given to them in the first place. I think we were like any other department in doing things like paying salaries and having some left over to invest in the research and education society. You just have to accept the idea that unless you have some kind of endowment, the department has to go after its own research support. I suppose you can get some initial concessions when you are recruited, but for an ongoing program, you have to earn it. Or you'll have to go after it yourself.

LW: Did you have to compete with other departments for space within the buildings?

WS: Yes, we did. There's a little bit of a catch-22 there. If you're not doing much research, you can't have space. They won't give it to you; but if you don't have space, you can't get a program going. So the amount of space available was always pretty small. But I decided from the early years, that aside from Dr. Hirschman, we didn't really have any reason to command more space.

LW: There has been in a big growth of campus facilities and research in the last 20 years. You were in on the beginning of that. I know President Peter Kohler now has the plan of being one of the top twenty research institutions. Was that planned in the early '80s?

WS: Dr. Laster was president at that time and I think he had that kind of a vision. He was the one who got the neurosciences institute started. That has been a catalyst for a lot of development. It brought a group of scientists focused in one area. It gave the university some enthusiasm to continue to develop. There were at the same time here, some real strengths. Dr. Grover Bagby was here, and you see he's developed the Cancer Research Institute, in a dramatic way. Soon after that, Dr. Don Trunkey came and developed the trauma program along with a trauma research

program. I don't know how big the vision was under Dr. Laster, but Dr. Kohler certainly, had the vision from the beginning or he wouldn't have come.

LW: With the growth of the trauma and other departments, how did that affect your department?

WS: It certainly increased the workload. We, in anesthesia (and maybe sometimes it's to our credit and sometimes probably it's not to our credit) have had the feeling that "they won't take us into account when they're planning a program." They don't realize that they're going to have to invest some resources in anesthesia as well. When I say it's to our credit, I think we try to anticipate clinical needs and be ready for the workload increase. We think that planners don't take that into account. It has always been a complaint at each of the institutions where I've been. The anesthesia departments would find a program change as 'a fait accompli' and now how are you going to deal with it? That continues to be the case, I believe. On the other hand, I think if this happens long enough, you probably ought to recognize that this is reality. You better try to cope with it the best you can. It would seem to me that, at times plans were made without adequate perception of all the services that are going to be needed. That was true of the liver transplant program. I don't know if you remember, but the first liver transplants that were done here in Oregon were done on people who ate some bad mushrooms. We were still gearing up to do them, but suddenly we were doing transplants. So who's going to do the anesthesia? Who's going to be sure there's blood? Who's going to be doing all that was required? This mind set had an impact and it still continues.

AK: Dr. Steve Robinson spoke to me about monitoring changes that occurred during the '80s and the role that you contributed. Pulse oximetry as well as capnography and other monitoring devices became standard. He explained that you were very adamant about not pursuing new anesthesia locations unless anesthesia equipment was proper for each of these new locations. This meant that the hospital needed to invest extra thousands of dollars in an operating room before it was ready for use. Apparently you were very forceful in explaining to the hospital, that the

equipment needed to be modernized, before we were able to provide this service.

WS: I think the hospital, or perhaps the specific surgical group involved, just doesn't understand. It's not they don't want to understand; they just don't. The implications of an eye hospital being by itself, requires program planning. It's not just a few people that have to go, it's a whole scheme of people and equipment.

AK: During this time you were very active at the national level with the American Board of Anesthesiology and served your tenure as its president. What changes were occurring at the national level in terms of resident education during the '80s?

WS: One thing done in the eighties was that a third year of residency training was added. I think stricter standards for educational programs and supervision in residencies were brought about. The Residency Review Committee increased its intensity. The feedback to programs became greater. Program expectations increased. It was a time of great increase in numbers of residents in anesthesia, in contrast to the '60s and '70s when programs like California would fill, but others would get only a few trainees. Programs all over the country were filling with adequate numbers of residents. The biggest change was the addition of the third year of training. That was difficult for some programs to accomplish. There was a great risk that training that had been done in two years would now be stretched into three rather than making it a true three-year program. Another thing was that anesthesia sub-specialties began to become much more important, i.e. cardiovascular and pediatric anesthesia (which had been a subspecialty for a long time). Questions about each having special subspecialty training requirements came up for consideration. Now there are at least seven or eight different areas considered subspecialties.

LW: What was the cause of the growth in anesthesia residencies?

WS: I suppose jobs, money and a lifestyle that people enjoyed. Programs all over the country though were trying to do a better job teaching medical students. I don't know if the goal was to recruit residents, but it made anesthesia much more attractive to students.

LW: With everything happening in the '80s and taking up your new post here, how did you balance everything: your family life, the teaching, the research, the being chairman?

WS: Perfectly…[smiling] I would say that I was never much of a joiner or participated in much that wasn't hospital concerned.

LW: With the growth of practice and with the surgery and the trauma division, how were the relationships between the anesthesiologists, the surgeons here and the physicians in private practice in town?

WS: We really didn't have much to do with the physicians in town. Some interactions occurred through the OSA. Fortunately there were members of the department who had a greater interest in that than others and did participate consistently. I think, in retrospect, that would be certainly be one area where I could have done a better job. There were those in the state, Dick Johnston and others with the Oregon Society of Anesthesiologists (and Dick became President of the OMA), who were very active in national affairs in the American Society of Anesthesiologists. We had excellent anesthesiology spokespersons. I could have been much more supportive in that regard. It was never convenient for the people in the community to come here for conferences. I had set a pretty firm goal of trying not to occupy people's time on the weekend if they weren't needed for clinical care. I wanted that for myself as well. That meant that we wouldn't have Saturday or Sunday meetings, which would have been the time when the people from the community could come here. Community anesthesiologists couldn't come in the early morning. We didn't want to stay late in the evening, so we really didn't have much interaction with the community.

LW: Well, one of the themes that we've been asking many of the people we've interviewed for the oral history project is about minorities and women in medicine. Could you just address that issue? Was there harassment or discrimination, or when did women and minorities come into equal representation in the field?

WS: It would be difficult for me to give a coordinated answer in that regard, Linda. I don't remember that there were problems at UC-San Francisco, but I didn't have any department leadership roles

either. At Iowa, as here, there were complaints from women, but I also think, some were from those we would call weaker residents. I am in no way equating women and minorities with weaker residents. There are stronger and weaker residents in each training program. As for women, it didn't have to do with their quality or their caliber. We did sense some bias toward women by one or two faculty at each institution. I can remember, Angela, a conversation or two that we had in that regard. I was trying to explore this issue, did you feel it or sense it? I think I talked with one or two other of the female residents as well. I don't know whether I dealt with it in any prospective way. One or two of the complaints came to the Dean's level, because the Dean was also the chair of the hospital resident committee. Everything went to the Dean and we did have some formal sensitivity sessions following the complaint.

LW: So there was a formalized process for that to go through?

WS: Yes.

LW: Well, I know that Roger wanted to ask you some questions about your missionary work in Africa.

RK: Yes, I was going to say that I know that religion has been a very important part of your life. You've also been able to do a considerable amount of teaching and anesthesia care in Kenya. To what other countries have you gone?

WS: Tanzania, Swaziland, Nigeria, and I've been to Ecuador and Jamaica and the Dominican Republic. The Christian Medical and Dental Association has a postgraduate education program for missionary physicians every year, one year in Kenya and the other year in South East Asia. They've been doing that for about thirty years now. So I've helped teach that. I've gone to the other places and provided clinical care, and sometimes had courses for nurse anesthetists. There aren't very many physician anesthesiologists in these countries. Doctors want to be surgeons and be the head honcho. So, it is nurse anesthetists or other people giving anesthesia. It helped to have courses for them.

RK: So it wouldn't be much different than it was here seventy-five years or so ago? Did the equipment that you used vary?

WS: I would say it would be somewhat more primitive, but

would be closer to the mid-60s and early 70s, but that's changing too, at least in the hospitals I went to.

RK: Was the caliber of the trainees improving? You've said you've been doing it for thirty years, so have you seen progress?

WS: Yes. In Nigeria they have training programs for nurses. In Kenya, the program I helped with would choose nurses from the floor and give them six months of training in anesthesia. A series of people like myself would come through a month or so at a time and help them. They would do an amazing good job of anesthesia, and were certainly better than if they didn't have any training. It was a very gratifying program. The demands on those people are just as great as we put on a resident or a faculty person here. They have auto accidents where twenty-five people stuffed in a VW van, hit by a truck, come to the hospital. They might have severely toxemic patients getting C-sections. They have the same sorts of sick patients that you have here. They just have to care for them. So it's gratifying to help them. One of my thoughts in retirement was to have time to do more of that (at a time when I didn't need an oxygen supply).

RK: Would like to speak about your illness?

WS: I don't have much to say about it. I've been treated since about 1997, and it's just a progressive loss of lung volume with increasing oxygen dependence. It's certainly restricted our activities.

LW: We'd like to end our interview with asking what you are most proud of in your career?

WS: I think it would be the people that I have been able to motivate to contribute to our specialty and/or to medicine in general including those people that I have been able to recruit to the departments I have been a member of. When you recruit people to a department, you cast a broad net. Some are stronger than others and amongst those are some who are anxious to contribute rather than just fill a spot. It's such fun to work with them and see what happens. So my proudest moments would center about people. I've been really grateful for the mentors I've had and what they did for me. It just seems like it was done so selflessly. It's been wonderful.

LW: Well, on that note I'd like to say thank you from all of us.

Figure 1 — Harry G. G. Kingston, MB, BCh, FRCA (1944–)

Chapter Sixteen

Harry G. G. Kingston, MB, BCh, FRCA

Angela Kendrick, MD

Dr. Harry George Gurney Kingston served as the third chairman of the Department of Anesthesiology at OHSU from 1993 until 2002. He was originally from South Africa, and attended medical school at the University of the Witwatersrand. His internship was spent at the Johannesburg General Hospital. He served as an officer in the South African Medical Corps before continuing his postgraduate education. His anesthesiology training was done in Liverpool, England (1971–73). After his return to South Africa, he practiced cardiac anesthesiology and critical care at Wentworth Hospital (part of the University of Natal Hospitals), in Durban. His pediatric critical care fellowship was in Toronto at the Hospital for Sick Children in 1980. At that time, his research interests included the mechanics of breathing and respiratory control.

Dr. Kingston, his wife (Lynn), daughter (Justine), and son (Miles) moved to Portland in 1982 when he joined the faculty at OHSU. After joining the faculty, he was appointed Clinical Director for the department. He was instrumental in helping launch the National Association of Anesthesia Clinical Directors. He served as an officer for this organization beginning in 1988 through 1996 when he concluded his term as president. Because of his

subspecialty training and his desire to improve the care of children within the OHSU anesthesiology department, he initiated the development of the OHSU Pediatric Anesthesiology subspecialty group for the department in 1987.

After his appointment as Chairman in 1993, he became interested in quality management. He hired administrative staff to implement quality measurements and his department became a hospital leader in this arena. During the first two years of his chairmanship, he also obtained his MBA from Herriot Watt University in Edinburgh. During his nine-year tenure, the Department of Anesthesiology experienced significant growth, with separate facilities for pediatric care (Doernbecher Children's Hospital), and adult ambulatory surgical care (Multnomah Pavilion). Dr. Kingston served as both an officer of the Medical Board of OHSU (Chair-elect from 1989–91, Chair 1991–93, past Chair 1993–95) and as the first president of University Medical Group (1993–96).

Interview with Dr. Harry Kingston — December 17 , 2003
Questions by Dr. Roger Klein, Dr. Angela Kendrick

RK: When and where were you born?

HK: June 7, 1944 [in] Johannesburg, South Africa.

RK: Tell us about your family and growing up in South Africa.

HK: I grew up in a middle-class home, my dad worked in the mining industry, my mom was a homemaker. I went to state schools, the English (therefore the South Africa) system had primary schools; Kensington Ridge Primary School from grades 1–7, then high school (Queen's High) for the last 5 years.

Family: I have a sister who is disabled who still lives in South Africa and whom we will be going back to visit this New Year's.

Apartheid? At that time? Oh yes, I think your appreciation or detestation of it happens in stages. Initially as a child, you are under your parents' political and social belief system and their influence, and it's really only in high school and at University you begin to notice what is going on. As a high school kid, one would

begin to notice that there are gross inequities in treatment of the different racial groups. You began to realize that being white was very fortunate while being born nonwhite was less fortunate. South Africa is interesting. There was intolerance between the white and the black races, but also political differences in between the Dutch or Afrikaans-speaking group and the English-speaking group. These differences resulted in distrust on both sides. Among the black race, there are many different tribes with significant political and ideological differences. There were people who were stuck in the middle, the so-called "colored" groups. They were disowned by both the whites and blacks. Apartheid created many puzzles.

In professional life, I think apartheid appeared in a more vicious form. Schools were white and black, with the black schools being grossly inferior, and they were kept like that deliberately. The two forms of white schools were probably similar to each other, but the government wanted to maintain their Afrikaaner identity, so they created English and Afrikaans schools. At the university level this was true also, with Afrikaans, English and one black university that was fairly second-rate. So again, there was no opportunity to mix with different elements of the population and then in the working environment, there were black hospitals, white hospitals, East Indian hospitals, colored hospitals. Immense expense went into ensuring that everything remained separate and in the words of the South African government 'separate, but equal,' but it certainly wasn't equal.

RK: What was medical school like?

HK: In the English system, you go from high school to university. It isn't called college there, and there is no interposition of an undergraduate college before medical school. You do the same amount of school there as here, medical school being six years instead of four years. First year was basic science topics which included botany, zoology, chemistry, physics, statistics and so on and then on into more conventional medical school life.

AK: How did you decide to go to medical school?

HK: I think that it was one of those things that I always wanted, to be a physician. Even when I was a child I used to ask the

GP questions, and in fact when his father passed on he gave me his father's old textbooks (which I should have kept because they were pieces of antiquity). It never crossed my mind that I would have done anything else. One of the hindrances was, as I said, I came from a very middle-class family, and to go to university cost money. I applied for and received a scholarship from the Chamber of Mines, which is the administrative organization that controlled mining in South Africa. It was a generous scholarship in that it provided for my university education. It would have provided for accommodation had I gone to a university in a different city, but I went to university in the city where I was raised, so I stayed at home. It provided for books. The sword of Damocles was that if you failed a year, they stopped paying. It changed my university life: when other people were out partying, I was too scared to party because I would have lost my one-way ticket through medical school.

RK: What hobbies did you have in your youth? When did you take up music? When did you take up the flute? (All of our other chairmen have been musicians.)

HK: I wish you hadn't asked me that. Yes, I did play an instrument as a child, the piano accordion. Do you know what that is? I now believe that when you pass on from this life, if you go to heaven you are given a harp and if you go to hell, you are given a piano accordion. The reason I chose it was I would like to have played the organ, and there was no money to have an organ. In my child-like mind it seemed like an organ. As I now think about it, it seems absolutely ghastly, but I played the piano accordion for many, many years and in fact took examinations with it like any other musical instrument. My wife, who at one point was an accomplished pianist, sees the piano accordion as a joke instrument. I took up the flute as an adult, and then when I took the chairmanship, I stopped playing, but have picked it back up since retirement.

RK: Did your military service come before or after you were a physician?

HK: There were a few mechanisms by which you could accomplish this. In the South Africa of the late '60s, every able-bodied person was called to undertake military service. The reason was that under the apartheid system there was ongoing trouble.

Insurgents from across the border who were intent on blowing up things, so they needed a strong military program. The way they achieved it was by a national draft. Depending on your point of view: if you were black, perhaps the insurgents were freedom fighters. Everyone was called. After high school, if you were going into a bank or sales you would go straight into the army when you were 17 or 18 years old. If you had registered for university, they usually waited until you were finished, because you were valuable to them as a qualified physician or engineer. Six years went by, I heard nothing from them and I really thought they had forgotten about me. I had finished medical school, and my internship, and started a gynecology residency. I had also just married when the letter arrived informing me that I would be going into the military in two weeks' time. I chuckled and wrote back and said, "You don't understand, I've just started my residency." A one-line response came back: you will appear on such and such date. Dressed in a sports coat and tie, with a small suitcase, I went to the military airport, was bundled off in a truck, and was taken away to meet a group of people I would never have otherwise met, never knew existed, because suddenly you were thrown in with people from all walks of life, farmer kids, and of course because of apartheid they were all white. No opportunity to meet any of the other racial groups. The way the system worked was you underwent basic training, they got you marching up and down; after six or eight weeks, you had to demonstrate that you could fire a weapon, and that you knew what kind of custard to salute on a hat, then you were given a commission. I became a lieutenant, then they used you in a military hospital. I had done some GYN and OB, and I thought I operated fairly easily, deftly. I could have been used in that specialty. But when you went into the army there was an interview, they asked you "What would you like to do?" I explained my training, they acknowledged it and asked, "What would you like not to do?" I answered, "Probably psychiatry, or anesthesia." They put me in the anesthesia section.

AK: Do you think that was deliberate?

HK: All military systems are probably the same, I think it was just thoughtlessness. They had to ask you, but I think they were

going to do it their way; they might just have well drawn numbers. They had qualified surgeons doing obstetrics for example.

RK: What type of training did they give you?

HK: On day one I showed up, thinking, "Well I'll make the best of it," because I would never have done this. I looked at the list. For the next day, I was doing a C-section list on my own, I said, "You don't understand, I don't know anything about anesthesia." And they said, "Did you not give 50 anesthetics?" (This was part of one's internship). Like everybody, I had done that, but only in a "hold the mask" get-signed-off as part of your training. So they now considered me trained. I remember that first day with extreme horror, I didn't sleep that night, it was that bad. I was afraid, I had no idea, which if any muscle relaxants crossed the placenta, I had no idea of what size tube to put in an adult, it was all just a mystery. They absolutely just left me on my own, they showed me where the drugs were and let me go at it. By lunchtime I was shattered, it was just awful.

RK: Did the patients survive?

HK: I think so. Just after lunch, I was to do the maxillofacial list. I went into that with great trepidation, met the maxillofacial surgeon, who asked for a nasal tube: I remember saying to him, "I don't know what a nasal tube looks like." I remember with his help, putting it in, using the Magills, and that's how I began. For three months I worked in the military hospital doing anesthesia. Then like everyone I was to be posted to the boonies. Again, there was an interview and they asked where I wanted to go. There was only one time that was significant for me, the upcoming November. I had an interview for continuing my residency in OB/GYN in Capetown. I would need to get to that. The only time I was sent far, far away was in November. They sent me to the border, it was so far away, it would have required helicopter transport to get me anywhere, so I missed my interview and lost the job. By this time, I enjoyed anesthesia, and so I thought I would do training in it. I did it for a short period in Johannesburg (after my year in the military) and then decided to do formal training. I thought this was a good time to train elsewhere and so we went to Britain (1971).

RK: What was Lynn doing?

HK: I had known Lynn for a long time. I had met her when she was a schoolgirl and I had started university. We married right before I went into the army. She taught school and stayed with her parents while teaching. Then when my year was finishing, she found us a furnished apartment in Johannesburg, on a very busy street. I still remember the unbelievable noise, fire engines, people partying. Then we left for England. We thought we would never be able to travel again, so I moonlighted working in an emergency room one weeknight a week and one weekend, I was able to save enough money for us to go overseas and to travel around Europe. We flew to Holland, I bought a Volkswagen car at the Amsterdam airport. I think the car cost 550 pounds new. We used it to travel around Europe and sold it before we left Britain to return to South Africa for 550 pounds. Lynn had been born in England but moved to South Africa when she was two or three. She had visited England with her parents, but I had never been overseas.

It never crossed my mind to go to the U.S. for training because growing up in the Commonwealth, the old country was what it was all about. I frequently think how good it might have been if we had discovered the U.S. when we first went abroad rather than later. We traveled, ran out of money, so we showed up in Liverpool for my training job. I showed up early, I think in late June. They said, the job starts in October, but they realized our predicament and so I got an anesthesia position in a little town, Warrington, east of Liverpool. I was pretty well left on my own, as in South Africa. I had a list of my own but there was a consultant working next door. Then we moved to Liverpool, so this was now time to get an apartment. There were dreadful places; we ended up in a house, which had been carved up into four apartments. Lynn began teaching while pregnant with Justine, our oldest child. Being an honest soul, she reported this to her principal, who said, "You'll be leaving at the end of the month. We don't need pregnant people." Can you imagine the issues that would have caused today? We stayed in Liverpool for three years.

In the English system, you applied for a job in various hospitals to learn different skills, e.g. the cardiac hospital, or the

peds hospital. No one ever got to work in all the hospitals so you came out with a deficit. I obtained my cardiac experience on returning to South Africa.

RK: Was this when you met Jackson Rees?

HK: Yes, I got a job in the pediatric hospital. He was one of the consultants. In the English system, professor meant head of the department. There was only one associate professor and to get to be associate professor was a kiss of death, because that was a tap on the head for a job well done, but you weren't going anywhere. Everyone else was a consultant. The Head was Professor Cecil Gray.

AK: Could you clear up his exact name for us? Jack Rees?

HK: His name was Gordon Jackson Rees. He became known as Jackson Rees, which sounded fairly snooty, because we lived close to Wales and Rees is a common surname there, Rees the baker, Rees the plumber etc. His middle name became hooked onto his last name. Jack Rees was an extraordinary clinician. When you think of what he and Cecil Grey did, they had a lot to do with the use of muscle relaxants in anesthesia as we know it. He branched off into pediatric anesthesia before there were many other people in the world doing it, certainly no one else in Britain.

RK: When did he start his move into pediatric anesthesia?

HK: I'm not sure I know exactly when this happened. He was in his 50s when I was training. He had foibles. For example halothane was extraordinary agent but JR believed in the Liverpool technique, which was narcosis, muscle relaxant, and amnesia.

RK: And hyperventilation?

HK: Yes, hyperventilation. Everybody had an IV induction, muscle relaxant, narcotic, and everybody was hyperventilated. It appeared to work very well. But, adults would be sweating, shaking their heads, but had no recall. We had halothane, but you had to call him to use it, he always said no. The technicians drained the vaporizers; you couldn't use it unless he said so. All kids got an IV and the muscle relaxant, no matter what case. It worked very well and they were very skilled. I still occasionally use the IV induction technique. Now, Jackson Rees was a big man, with a nose even bigger than mine, which is worth noting. He smoked; he hand-ventilated every case, even long cardiac cases. There weren't many

ventilators, and he felt the educated hand was superior. He added dead space to avoid hypocapnea. One time we had a visitor, Clutton-Brock, who when observing him stuttered: "Jack, do you trigger your ventilation on the r waves?"

Along with Professor Cecil Gray, the two had extensively investigated muscle relaxants. It's how they built their careers. Dr. Gray was silver-haired then but he is still alive. He's had an aortic valve replaced and has since remarried. I still receive two Christmas cards from people who taught me.

RK: Did you develop a close relationship with your faculty in Liverpool?

HK: As Department Chair, Cecil Grey would have interviewed us but that's it. JR taught me a lot, but he could also be irritable. I asked him something once in the OR, he didn't answer, so I asked it again, and he said, "Don't you think the difference between a good anesthesiologist and a bad one is the amount of attention he pays to his patient?"

I can remember that I had a fashionable shirt at the time, which was orange. Gordon Bush looked at it and asked "Would you describe yourself as an angry young man?" The faculty relationship was nothing like what we have here. The faculty would speak to the chief resident, not directly to the resident.

All the consultants would come to work in a suit. JR stayed informed and interested till the end of his career. In the English system, all "consults" are paid the same: the only differences are the merit awards, e.g., for services to the hospital or the medical board. But it was secret, forbidden to speak of the award: JR had an A plus award, so his retirement income was a very good one. The private care system is the British United Provident Association. If you were fortunate, you would have some private practice. Someone on the staff would have private sessions they hated or if someone retired, you'd divide up their sessions. As you became known, you'd drop some of your government sessions and pick up private ones. Separate hospitals existed for the private patients. I knew someone who would call and ask me to do his Monday's session in the government hospital while he was working elsewhere doing a private session.

AK/RK: Describe your return to South Africa.

HK: I had not done cardiac anesthesia training in Britain. I allowed myself to be recruited back to South Africa (which meant they paid my way thinking that I was English). They were horrified to realize that they had recruited a South African back again. I asked to work in the cardiac hospital. I met the cardiac anesthesiologist. They were doing a transposition, I asked if I could observe the case, he said, "Sure." He left the room, didn't come back, and I finished the case. It was a see one, do one, teach one experience. From then on I only did cardiac and thoracic anesthesia.

AK/RK: When and why did you decide to go to Toronto?

HK: I was at a cocktail party held in honor of some visitors from Toronto. A gentleman called Dr. Davenport asked me about my future plans, and asked me to come to Toronto. Literally, that's how it happened. This must have been in 1979 or so. I then received an offer letter for a fellowship in Toronto. I had been working for about six or seven years, and I thought, I don't really want to do a fellowship in Pediatric Critical Care, but the alternative was not to have North American experience. So we packed and went to Toronto. I really enjoyed it. The faculty there were David Stewart as chief, Alan Conn was in charge of the unit, and other faculty I recall included Jeff Barker and John Edwards.

While we were there a visiting resident happened to be Steve Zack. I had met him in South Africa. Steve had been touring the world after his residency training in Portland, and he suggested that I go to Portland. So, I wrote to Norm Bergman, who seemed surprised that someone from South Africa would consider working so far from home. I had originally thought I would be going to Vancouver, British Columbia for a permanent position. I took the offer from Norm, thinking that when I go to Canada it will be a shorter move. I enjoyed the Portland job so much though that I never pursued the Canadian position.

AK: What year was this?

HK: 1980 for a six months' visit. I came back to South Africa to get a visa, and returned in May of 1982.

RK: What are your recollections of working with Norm?

HK: The department was fairly small, only 11 of us. Norm was very amusing, very smart. I would rate him as one of the smartest people I have ever met. Sometimes he looked as though he was half asleep. Then he would have an "aha" moment, and this stream of calculus would appear and he would be modeling the lung. I accepted the position from Norm, but when I came back I found that Dr. Stevens was to be the new chief. I arrived in May and Dr. Stevens was to arrive in July.

RK: Were you the first person who was formally trained to teach pediatric anesthesia in Oregon?

HK: I think that's probably true. I had spoken to Dr. Stevens about interesting him in establishing a peds group. Wendell was reluctant to establish a separate peds group, so I considered going to Seattle, when Dr. Stevens changed his mind and decided we would have a pediatric group after all. Dr. Kendrick stayed on, Rich Carr came, and it grew.

RK: When Dr. Stevens stepped down, what were your thoughts about becoming chair?

HK: It had not crossed my mind, even during his tenure. I can't remember the exact process of how it developed. I had been clinical director but I certainly wasn't a researcher who could build the research program. I had obtained an MBA, and I think that was of interest. They had interviewed a number of people including Dr. Gerald Ostheimer, who was not being very communicative, and then one day a letter came: you have the job. I was somewhat surprised.

RK: Now you were active in hospital administration and president of the Medical Board?

HK: I was chair-elect when Gulf War I started. I took the president position for the rest of Trunkey's term (Don Trunkey, surgical chair, who left to serve in the military), and then had my own two-year term. I also became president of the group practice, University Medical Group (UMG). I had that for about five years, I think that was useful to us as anesthesiologists.

RK: How about friends within the hospital administration?

HK: I was friends with Tim Goldfarb, Pat Southard, Jim Walker and Joe Bloom who became Dean. It gave me access to them in an informal manner, which was very useful for a new chair — there are so many angles to consider.

RK/AK: What were your important accomplishments?

HK: The things that were important to me, I guess, included starting a group called the Peds Portfolio group, which I passed over to Marvin Harrison when I accepted the Chairmanship. I'd like to think that the group was ultimately responsible for the building of the children's hospital.

We expanded the clinical practice: the Eye Hospital, and the Ambulatory Surgery Center. The Pain Clinic went from a one-person entity to a multi-discipline unit. Fiscally the department prospered. I sheltered funds for research and education. I think that provided my successor with a large sum of money available for his future use. Eight faculty were promoted during my tenure.

Behind the scenes, enormous personal problems were dealt with; when I look back on it, it was a very heartwarming part of the job and was something that I enjoyed a great deal — it was one of the best parts of the position.

K: Why did you stop the practical jokes?

HK: I felt I had to be more formal and dignified as chair. Now when I work with the residents, no one expects that from me.

RK: You have summarized your accomplishments: what are you most proud of?

HK: The Children's Hospital makes me proud; then probably, the faculty I hired including Brett Stacey and David Sibell in the Pain Clinic, Rich Carr did so much for the Children's Hospital — there are many, many examples. My disappointment would be that the research never took off. I would love to have succeeded in that arena.

AK: Tell us about other events during your tenure as chair?

HK: My health issues became an issue. I was running through an airport, tripped and fell, and knocked out a tooth. I had a bicuspid aortic valve. Six months later, I was washed out, had lost weight, and I was found to have sub-acute endocarditis. I had to

have a valve replacement. It does change your life perspective. I had been working all my training, all of my adult professional life. I had never spent time with my own children as I am now spending with my grandchildren. It has been the best thing in the world.

RK: Are you still interested in astronomy?

HK: I have a telescope. I'm playing the flute. I am also attempting to write a novel, that's going slowly, I have finished about 100 pages. I am very critical of it but should just finish it. We travel, but it is ironic that now for two reasons travel has proven to be more difficult. Would I go to the Amazon? No, I need my coagulation checked to stay in control, and I want to see my grandchildren. I have met with a North West Medical team director to see about opportunities. I now do boring exercise. I would love to play squash again.

AK: What's the greatest change in anesthesia practice from the time that you started till you finished?

HK: When I did a neonate as a trainee in Alder Hey, I had a finger on the pulse, with a chest stethoscope, and a BP cuff, and that is how we did it. I am astonished that we could do it, considering the extreme monitoring requirements we have now. With halothane, we put up with the dysrrhymias and halothane hepatitis. Now we have spectacular agents like sevoflurane. The biggest change, and perhaps the most disheartening, is the extent to which we became widgets in the system. The umpteen pieces of paper for Quality Assurance, the three signatures, none of it is bad, but the extent to which non-anesthesiologists cause these activities, HIPPA, JCAH, I think we have lost something.

AK: Any other ways that training has changed?

HK: I think the residency training is better in the U.S., but to see the extent to which residents can't try things on their own is disheartening. Now I have to sign as a faculty showing I was there in the room, etc. My training was bad in the other direction. Now when residents finish, their first totally unsupervised case in practice is their first one.

RK: I guess that's about all. Thank you very much, Harry.

AK: Yes, thank you very much.

CHAPTER SEVENTEEN

"Old Professors"

Roger L. Klein, MD

A previous chapter has described the history of anesthesia education in Oregon. This chapter will provide biographical data on some of the anesthesiologists who have had a significant role in anesthesiology education at first the Division and then the Department of Anesthesiology at the Oregon Medical School. All faculty members with a full-time faculty appointment, regardless of years employed, are listed in the appendix of this chapter.

For brevity's sake, we have arbitrarily elected to primarily provide sketches for retired individuals who either achieved the rank of at least associate professor, or had an academic career that lasted 10 years or more.

We have already mentioned that no one in the Dr. Hutton era had a geographic full-time academic appointment. Dr. Haugen's era was also void of other full-time faculty until 1957. Both Drs. Hutton and Haugen utilized community anesthesiologists with clinical appointments. Drs. Hamilton, Enos, and Defaccio (Mills) had academic appointments for one or two years following their residencies. Drs. Branford, Hagmeir, and Dobson among others had similar appointments in the early Haugen era. According to Dr. Dobson, a rotating group would provide clinical instruction to the residents on Saturday morning.

The biographical data that follows has been provided by the individuals themselves, and by the family of Dr. Roth. Since the author has had the privilege of personally knowing all of these individuals, human interest and personal vignettes are included.

John Roth, MD (1923–1989)

John was born on a farm in rural Salem, Oregon. In early life, he realized that he wasn't cut out for being a farmer. After a tonsillectomy, he decided that he wanted to be a physician. He was always reading and a family story tells of how he ruined a perfectly good milk cow by reading while milking. He squeezed so intermittently that the cow learned to reduce the rate of milk release. *(The author, who has had some experience milking cows, wonders how one could even read while milking.)*

John graduated from Salem High School in 1940. He apparently worked in the canneries and attended Willamette University part-time. He entered the army in 1944 and served in the Philippines and in occupied Japan. On discharge, he had a semester at Stanford and then graduated from Willamette in 1949 and the University of Oregon Medical School in 1954. He finished his anesthesiology residency with Dr. Haugen in 1956 and stayed on the staff until Dr. Haugen retired in 1970. Dr. Roth achieved a full professorship.

John was an excellent teacher. The author had the privilege of working with him for a year. He was always in a good mood, optimistic, and willing to take on more than his share of the workload. He was probably the most mechanically adept anesthesiologist the author has ever known. John went into private practice in Salem, in 1970. He retired in 1988 and died of cancer in 1989.

Rex Underwood, MD (1926–)

Rex was born in Eugene, Oregon. He graduated from University High School in 1946, Stanford University in 1950 and the University of Oregon Medical School in 1955, receiving an MD and an MS in Physiology. He was in the U.S. Navy from 1944–46 and again in 1955–56. On discharge, he took his anesthesiology

residency with Dr. Haugen, finishing in 1957. He then joined the staff and was active in research and teaching, eventually achieving associate professor status. Rex left the medical school in 1967 and soon became Director of Anesthesiology at the Permanente Clinic and Bess Kaiser Medical Center in Portland. In 1976, he took a similar position at Kaiser Sunnyside Medical Center in Clackamas County, Oregon. He left there in 1989, and did locem-tenens until he retired in 1993.

Rex was always active with orchestral groups and since retirement, has devoted considerable time to classical music. He has participated in the Oregon Coast Chamber Orchestra and with the Firenca West Trio. He plays both the violin and viola. He has also participated in several third world anesthesia-training experiences. He was active in several medical societies and was president of the OSA in 1973.

Betty Bloomquist Thompson, MD (1934–)

Betty B. Thompson, MD, Associate Professor, was born and educated in Portland. She did her undergraduate work at Lewis and Clark College in Portland. She entered the University of Oregon Medical School in 1955. She married fellow classmate John Thompson in 1958 and they both graduated in 1959. She interned at Good Samaritan Hospital in Portland, and when her husband went into the U.S. Navy, moved with him to a Marine base in Barstow, California. She took her anesthesiology residency at UCLA Medical Center in 1961–63. She then joined the anesthesiology division at the University of Oregon Medical School, while her husband was in an orthopedic residency. She expected to eventually go into private practice but found that she preferred teaching. She had two children in the following years.

In the early years of her career, she was probably the main pediatric anesthesiologist in the department. She assisted Dr. John Campbell as he developed the division of Pediatric Surgery. In later years, she had a similar role assisting Dr. John Porter in developing the division of Vascular Surgery.

She was "chief" of anesthesiology at what was originally the Multnomah County Hospital and which became the University

Hospital, North. On a somewhat humorous note she seemed to have developed the unenviable reputation among the residents of having the "black cloud" phenomena while on call. Residents expected to work all night when they were paired with her, and more often than not it appeared that they were right. Nevertheless she assumed a "mother" figure with them and was much beloved.

She took a part-time position in 1989 and fully retired in 1991. (Betty and I have engaged in a friendly argument as to who has had the longest OHSU working tenure. Truth be told, it is probably a tie.)

She and her husband have participated in several African medical missionary trips since retirement and she recently enjoyed becoming a grandmother.

Charles L. Waltemath, MD (1933–)

Charlie was born in St. Louis, Missouri and received his college and medical school education at the University of Missouri in Columbia, finishing in 1960. He also took his anesthesia training there from 1961 to 1963. He was in the U.S. Air Force from 1963–65, and then in private practice in Woodland, California until 1968. He joined the University of Oregon Medical School Anesthesiology faculty that year.

When Dr. Bergman arrived in 1970, Charlie joined Norm's pulmonary physiology research program, collaborating over several years. Charlie was also the primary cardiac anesthesiologist until Dr. Casson arrived.

C. L. W. went into private practice at St. Vincent from 1980 until 1986. He then returned to academic anesthesiology at the Portland V.A. Hospital as clinical professor. He retired in 1998. He had a unique talent for teaching. He affected a gruff exterior but it was a facade and the residents saw through him. His only "weakness" was his unwillingness to use a Macintosh blade for intubation.

Charlie became an avid fisherman and still goes to Alaska two or three times a year to fish. His most memorable fishing trip was on the Toutle River in Washington on the day that St. Helens erupted. His story of the "speedboat" ride with Drs. John Porter and

Tom Lindell as they successfully outran the advancing flood of water and debris was harrowing.

Peter Erbguth, MD (1937–)

Peter was born in Germany in 1937 and was raised and educated in Germany near the Baltic Sea. He graduated from the University of Wurtzberg Medical School in 1964 and took his internship at the Lawrence, Massachusetts General Hospital under the auspices of the Vientor Foundation in 1966. He then had one and one half years of a surgical residency in Baltimore, Maryland, one year of anesthesiology residency at the Mayo Clinic, and finished his anesthesiology training in Oregon during Dr. Haugen's last year. He came on the staff in 1970, and had an academic career at the University of Oregon Medical School until 1987. He then went to the Shriners Hospital as a staff anesthesiologist practicing pediatric anesthesiology until retirement in 2002. Peter enjoyed teaching and residents usually related to him very well. Peter always enjoyed the out-of-doors and continues to lead an active life.

Robert Loehning, MD (1923–)

Bob was born and raised in Green Bay, Wisconsin. He received his BA and then a PhD in Pharmacology at the University of Wisconsin, and an MD degree from Western Reserve University in 1954. He took his training in anesthesiology at the University of Iowa, finishing in 1957, and then joined Drs. Carter Ballinger and Norm Bergman on the University of Utah anesthesiology faculty. He was there for several years and the author had the privilege of knowing him (and Dr. Bergman), starting in 1964. In 1966, Bob went to Pocatello, Idaho for three years and then was on the faculty at the University of Washington. He joined the faculty at Oregon in 1972 and taught for nine years. He left to go into private practice in North Dakota for two years and then retired to Manzanita, Oregon on the coast. Bob was an enthusiastic teacher, had a productive career in research and achieved professor status. His enthusiasms carried over to his private life and he has achieved great success as a bird watcher, a mycologist, a gourmet cook, a downhill skier and after retirement, a rollerblader, bicyclist and golfer. One of the more

memorable experiences of the author's life was a two-day boat trip that he and I did down the Green River in Utah, through the Canyon Lands National Park, into the confluence with the Colorado, up the "slide" and then on to Moab. Bob has enjoyed life.

Gerald Edelstein, MD (1936–)

Gerry was the first double-boarded faculty member at OHSU. He was born in New York City. He had his undergraduate education at Cornell University and went to Albert Einstein College of Medicine in 1960. He took a pediatric residency with the U.S. Public Health Service and then had a fellowship in Pediatric Hematology. This training was at the University of Illinois Hospitals in Chicago. He then served in the U.S. Air Force from 1963 to 1965. On discharge, he went into private practice in pediatrics in Edmonds, Washington.

In 1975, he decided to become an anesthesiologist and took his training at the University of Oregon Medical School. He joined the anesthesiology faculty and was here until 1995. He moved back to Washington and did part-time teaching at the University of Washington Medical Center for several more years.

Gerry was another faculty member who loved teaching and was honored as teacher of the year by the anesthesiology residents in 1985 and 1990. He was also very active in medical school and the anesthesiology department education administration. He served on numerous school committees including admissions, surgical curriculum and grievances, and was on the faculty council. His department activities included serving on the resident education, clinical competence, medical education and resident and medical student, quality assurance committees. He had an active research career, primarily working as a colleague of Dr. Hirshman. He attained the rank of associate professor. He has helped the author in researching Northwest anesthesia history. Those who knew him enjoyed his humor. He continues to enjoy traveling, family, and playing bridge.

Henry Casson, MD (1935–)

Henry was born and raised in Liverpool, England. He

received his medical training at the University of Liverpool, following which he had 18 months of training in anesthesiology. He came to the U.S. in 1964 and received additional medical training at Washington University in St. Louis. He then took a split anesthesiology-pharmacology residency at Downstate Medical Center of New York University. He joined the anesthesiology faculty at the University of Colorado in Denver for five years. In 1975, he came to OHSU primarily as a cardiac anesthesiologist. He maintained a senior position in that division for many years and when the liver transplant program started, took on the additional responsibility. Henry has served on several hospital and university committees and in retirement continues to be a member of the ethical animal research committee. He has had an interest in steam locomotives and now primarily enjoys making and collecting antique clocks. Henry has a vast sum of knowledge in anesthesia, computer science, and mathematics, and has always served as an excellent reference for the residents and his colleagues. He retired as clinical professor (emeritus).

Carol Hirshman, MD (1944–)

Carol was born in Canada and had her education at McGill University in Montreal, graduating in 1969. Her anesthesiology training was at the University of Colorado Medical Center in Denver, Colorado. Following this she took a fellowship at the Pulmonary Research Laboratory in Denver, finishing in 1973. She then was on the medical school anesthesiology staff for the next two years before coming to OHSU in 1975.

While at OHSU, she rapidly advanced academically becoming a full professor in 1984. With Dr. Bergman's mentoring, and with collaboration with Dr. Hall Downes from Pharmacology and Dr. John Hanafin from Dermatology, Carol started on a meteoric career as a prolific scientific investigator. Using her unique Basenji Greyhound dog model, she developed a colony of dogs that had non-specific airway hyperactivity. From this model, she and her colleagues were able to unlock many of the mechanisms of allergic airway disease. While at Oregon, she enthusiastically encouraged several residents and medical students to partici-

pate with her in her research endeavors, and generously recognized them with co-authorship.

She left Oregon in 1986 to go to The Johns Hopkins University School of Medicine where she became professor of both the departments of Medicine as well as Anesthesiology. In 1998, she became the H. Bendixen Professor of Anesthesiology at the College of Physicians and Surgeons at Columbia University in New York City, where she holds her current position.

Carol has 177 peer-reviewed publications in her Curriculum Vitae as well as over 270 abstraction presentations. She has served on several editorial boards as editor, including *Anesthesiology*. She has participated in peer review activities with 29 medical journals; she has received 12 NIH grants. She has served or chaired research committees at all three of her major academic institutions as well as numerous other academic administration committees. One of her great successes has been her mentoring numerous young investigators who have gone on to have successful research careers.

She has received numerous honors, the most prestigious being the American Society of Anesthesiology "Excellence in Research" award in 2000.

As can be seen by this short summary, Carol operates at an energy level beyond that of most "mere mortals."

Lawrence Priano, MD

Larry was born in Washington State. He received a BS in Pharmacy from the University of Houston Texas in 1966, a PhD in Pharmacology from the University of Texas, Medical Branch at Galveston in 1970 and a MD from there in 1974. While going to medical school, he held an academic appointment in the department of anesthesiology. He took his anesthesiology training at the University of California-San Francisco and followed it with a post-doctoral research fellowship at the Peter Bent Brigham, Harvard Medical School in Boston, Massachusetts. He returned to the University of Texas, Galveston Branch, from 1979 to 1982 before coming to OHSU as an associate professor.

Larry had a proliferate research career, was awarded several grants, and authored or co-authored 53 research papers, book

chapters and published case reports. He was active in several medical societies, was a member of the Association of University Anesthetists, and was an associate examiner for the American Board of Anesthesiology.

Larry was proud of his ability to teach anesthesiology and received several teaching awards, including teacher of the year in 1997. He had very high standards for anesthesia administration, and insisted that residents strive to provide high quality care. He led by example and was an inspiration to those residents who respected his level of dedication.

Larry retired in 1997 and became an avid farmer and fruit grower. He continues to ride his motorcycle, play golf and go power boating. He has also been active in politics.

Sook K. Chang, MD, PhD (1936–)

Sook was born in Seoul, South Korea. After receiving her MD from Yonsei University in Seoul in 1960, she immigrated to the US in 1961. She received a PhD in pharmacology from the Medical College of Virginia and then took a two-year post-doctoral fellowship at the College of Physicians and Surgeons of Columbia University and Downstate Medical Center, New York University from 1965–67. She took five years off to raise a family and then completed an anesthesiology residency at the University of Pennsylvania in Philadelphia. After being on the faculty at the University of Pennsylvania, she went to the anesthesiology department at the University of Iowa. She came to OHSU and the Portland VA Hospital in 1984, finally retiring in 2002. While at the University of Iowa, she developed a research interest in diabetic cardiac autonomic neuropathy, for which she received a VA merit review grant. She spent several years localizing defective sites in the baroreflex pathways using a streptomycin diabetic rat model. She continued to further elucidate central baroreflex mechanisms of general anesthetics in vivo and in brain stem slice preparations, for which she received a NIH grant. She retired as associate professor.

Sook spent much of her first year in retirement assisting Mrs. Stevens in caring for Wendell during his last year. She was his true friend.

Richard Davis, MD (1947–)

Rick was a graduate of the University of California in 1974. He completed post-graduate training at Wilford Hall U.S. Air Force Medical Center in San Antonio, Texas. He then took sub-specialty training in cardiothoracic anesthesia at the Harvard Medical School and Massachusetts General Hospital. He returned to Wilford Hall as Director of Cardiothoracic Anesthesiology and Vice-Chairman of the Department of Anesthesiology.

In 1983, he left the service and joined the faculty at the University of Florida's department of anesthesiology. He spent the next five years there involved in clinical and research activities. In 1988, he was recruited to the Portland VA Hospital to lead the establishment of a more viable anesthesiology service and improve the affiliation with the OHSU Department of Anesthesiology.

Rick's solid leadership skills and clinical and research background have enhanced the VA's role in anesthesiology education in Oregon. Rick has recently retired from the VA where he held an appointment as Associate Dean of Veteran Affairs and has now joined the OHSU department of Anesthesiology. He brings a set of valuable perspectives to this new position.

Jeffery R. Kirsch, MD (1957–)

The present chairman of the department is Jeffery R. Kirsch, MD. (See Figure 1) Jeff began his tenure as chairman in December 2002. He graduated from the U of Michigan Medical School and completed his residency and a fellowship in neuro-surgical and neuroscience critical care at The Johns Hopkins University Medical Center in Baltimore, Maryland. He joined the faculty at Hopkins in 1987 where he held several leadership roles including Director of Office-Based Anesthesia Services, Director of Medical Student Education, Director of Residency Education and Vice Chairman of Training and Education. He has done extensive research in the area of brain injury caused by stroke and the role of opioids in neuroprotection. Dr. Kirsch states that he decided to accept the chair because he felt it was an excellent opportunity. The university and the department showed lots of promise. The faculty were excellent. The chairman of the department of surgery was an individual who

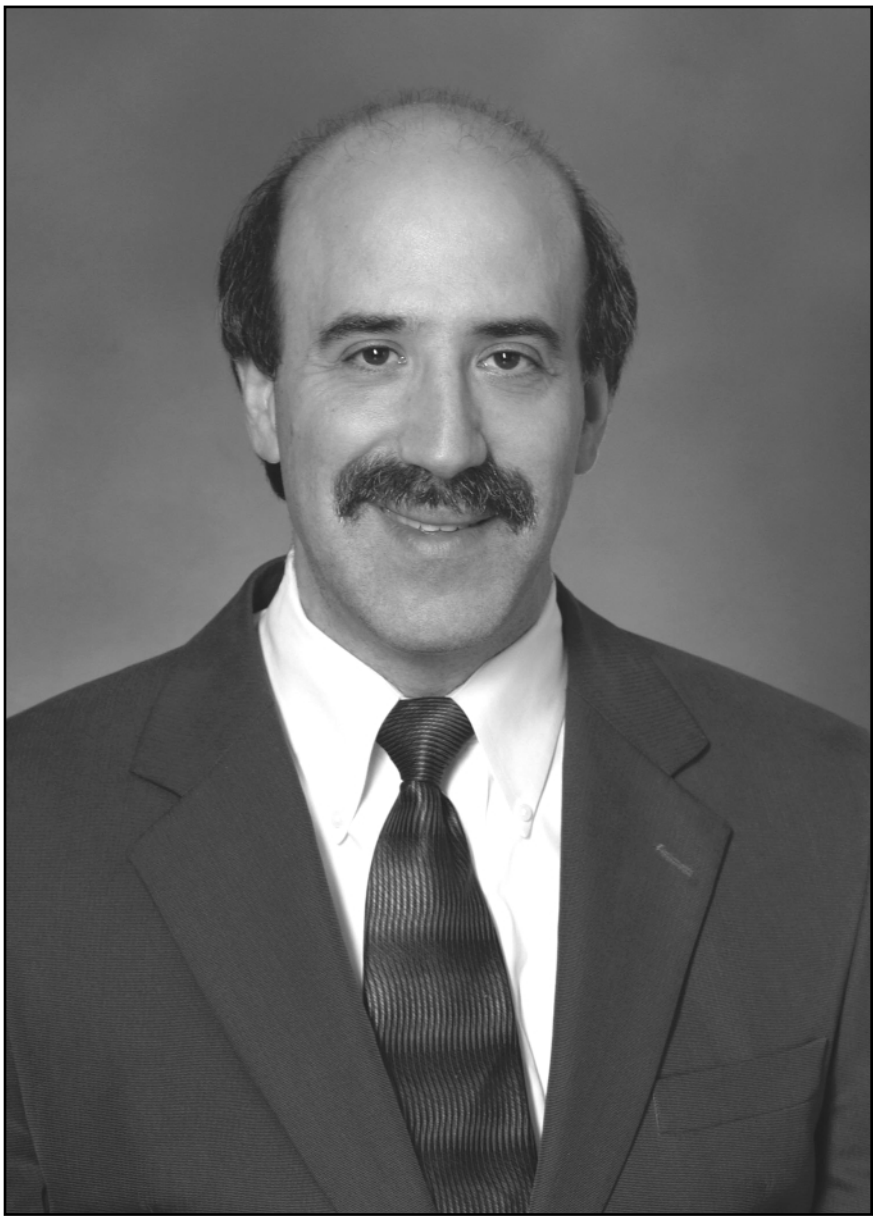


Figure 1 – Jeffrey R. Kirsch (1957–)

he felt he could work with and the Dean promised adequate support. Jeff and his family also love the outdoors and look forward to enjoying the beautiful Northwest.

Dr. Kirsch has brought several investigators, including Patricia Hurn, PhD, Richard Traystman, PhD and Nabil Alkayed, MD, PhD to the department to participate in neuro-physiology research.

Several other faculty members have had a long tenure and are still teaching. These individuals have made considerable "recent" contributions. We have not chosen to feature them but they do deserve brief mention along with some of their accomplishments.

Dr. Per Olof Jarnberg, Professor of Anesthesiology, joined the faculty in 1987 from the Karolinska. He has achieved international fame first as a critical care specialist, and since being at OHSU, for his work in the effects of anesthesia on renal physiology. He is now vice-chairman of clinical affairs and has twice served as interim department chairman.

Dr. Stephen Robinson, Associate Professor of Anesthesiology, joined in 1986. Steve has had an important role in department administration and currently serves as vice-chair of finance. He has had a similar role for the UMG board. He has also been in charge of equipment for many years. His clinical interest is in cardiac and liver transplant anesthesia. He has been responsible for Advanced Life Support Training and supervising the anesthesia technician staff.

Dr. Christopher Swide, Associate Professor of Anesthesiology, trained as a resident at OHSU from 1988 to 1991. He then went into the military from 1991–94. On discharge, he had additional training in regional and obstetrical anesthesia. He concentrates his teaching in these areas and contributes to department administration as the current resident education director.

Dr. Robert Shangraw, Professor of Anesthesiology, has been active in research in metabolism regulation since his arrival at OHSU in 1990. Bob has also been active in neuroanesthesia and on the liver transplant team.

Dr. Alexander Birch, Associate Professor of Anesthesiology, started an academic career at the University of Cincinnati after serving in the U.S. Navy in Vietnam. From there he went to

Bowman Gray where he authored the basic anesthetic text, *Anesthesia for the Uninterested.* He entered private practice in Mobile, Alabama and then went to Corvallis, Oregon. He joined the faculty at OHSU in 1990. Al has been involved in several areas of teaching and has served as the unofficial goodwill ambassador to the residents and visiting faculty. He currently is head of alumni affairs.

Dr. Richard Carr came in 1990. He served as the head of pediatric anesthesia for a number of years as well as head of resident training. He established the pediatric sedation team in 1994. It has become a very important part of pediatric medicine.

Drs. Terrence McGraw and Berklee Robins, along with co-editor and author Dr. Angela Kendrick, have also been faculty members practicing pediatric anesthesiaology.

Drs. Brett Stacy and David Sibell have been involved with the pain management center as well as the acute post-operative pain service for several years.

Dr. Mary Blanchette joined the faculty after completing her residency in 1985. She has been involved in ambulatory anesthesia, leading the CEI program at one point.

Drs. Vivian Hou, Lynn Fenton, James Hicks, Diane Miller and Richard Botney have also been on the staff for five to ten years. Vivian's clinical interest is cardiac anesthesia and Lynn's, obstetrical anesthesia. "Judge" has been involved in anesthesiology politics and obstetrical anesthesia. Diane bikes to work and does cardiac anesthesia and Richard's concern is anesthesia safety.

A number of other faculty, who have since left the department, provided sub specialty anesthesia training. Some of these include Drs. David Cheek and Harvey Carp in obstetrical anesthesia, Betsy Soifer and Daniel Kovarik in Critical Care, Jeffrey Steinkeler in neuro-anesthesia, Peter Mollenholt in Ambulatory Anesthesia and Quality Assurance, Michael Bennett in cardiovascular anesthesia, and Marshall Bedder, Randal Martin and Peter Kosek in pain management.

Several faculty members have served at the VA Hospital, some of them for many years. These include Drs. Roberta Palmer, Marvin Darcy, Sonia Saseda and Zeenat Ahmed. Dr. Grace Chien

was on the faculty at OHSU for a time before taking a position at the VA. She is a cardiac anesthesiologist and currently the department chair. She has won the teacher of the year award three times. Dr. Michael Jamond likewise was on the faculty at OHSU for several years before going to the VA. Donna Van Winkle, PhD, has been on the research staff at both OHSU and the VA.

An additional resource for the school has been the development of the OHSU Simulation and Clinical Learning Center. Dr. Michael Seropian was instrumental in it's initiation and is co-director.

There have been many visiting anesthesiologists from numerous countries who have been on the anesthesiology faculty at OHSU. Dr. Kingston was the first visitor. These individuals have made an invaluable contribution to the training program as well as becoming lifetime friends with the American faculty and residents. In some years, residents from Germany have also spent a year in training at OHSU and were very welcome.

At present, the department has 80 clinical and research members, 24 residents and fellows, and approximately eleven million dollars in research grants. The Department has come a long way since Dr. Hutton and his one resident in 1938.

About the Authors

Roger Klein, MD was born and raised in South Dakota. He attended the University of South Dakota, including two years of medical school, transferred to Stritch School of Medicine, Loyola University in Chicago, interned in Chicago and then spent two years in the U.S. Public Health Service. His anesthesiology residency was taken at Wesley Memorial Hospital, Northwestern University in Chicago, (1961–63) following which he spent 1-1/2 years in private practice in Rapid City, South Dakota. He then joined the faculty at the University of Utah from 1964 to 1968. Following a one-year critical care fellowship with Dr. Peter Safar at the University of Pittsburgh, he joined Dr. Haugen at the University of Oregon Medical School, Division of Anesthesiology, as the first Critical Care specialist in Oregon. He spent the rest of his career at the school where he was involved in a number of areas including Critical Care, Department and Medical School administration, and in later years teaching regional anesthesia. On retirement he took an interest in the history of anesthesia while doing research for a department anniversary. For 30+ years he has been an enthusiastic believer in physical exercise, running, mountain climbing and now trail hiking. He also enjoys spending time in Sunriver and traveling with his wife Carol and daughter Kathie, as well as lots of time as a grandfather.

Angela Kendrick, MD is one of the faculty members of the OHSU Department of Anesthesiology and Perioperative Medicine. She was born in North Carolina, educated there and moved to Oregon for her postgraduate training. She is board certified in Internal Medicine and Anesthesiology and is currently President of the Oregon Society of Anesthesiology.

Suzanne T. Brown, CRNA is a currently practicing Certified Registered Nurse Anesthetist (CRNA), with the Kaiser Permanente Health Care System. She graduated from anesthesia school in 1972

at The University of Tennessee Research Center and Hospital in Knoxville, Tennessee.

She was selected as Nurse of the Year in 1985 for Bess Kaiser Medical Center. She is member of the nursing honor society, Omicron Upsilon, at the University of Portland, and also a current member of Sigma Theta Tau International. She has served on the Board of Directors for the Oregon Association of Nurse Anesthetists (OANA) and was President from 1982–83. She served as Government Relations chair from 1983–87. She was the liaison to the Oregon State Board of Nursing 1983–92 and served on many task forces. She has also served as liaison to the Oregon Nurses Association. She is currently chairman of the History Committee.

Nationally she chaired the Nominating Committee, and served on the Practice Committee and the Continuing Education Committee. She served on the Council for Anesthesia in the Public Interest for eight years, chairing that group from 1999–2000. The Council for Public Interest supported the formation of the Nurse Anesthesia Overseas Committee under the auspices of Health Volunteers Overseas. She has served on seven medical mission teams with Northwest Medical Teams, served on service missions to Mexico and Guatemala and has taught with Health Volunteers Overseas programs in Guyana, Belize and Cambodia. She is currently on the steering committee of the Nurse Anesthesia Division of Health Volunteers Overseas.

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Dr. Clarke lectures throughout the United States and has appeared frequently on television regarding dental history. He

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He lives in Portland, Oregon with his wife Linda Clarke. They have three daughters, Linda, Candice and Susan.

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7. L. D. Vandam, *The Genesis of Contemporary American Anesthesiology,* 143–59.

8. Ibid.

9. Personal communication from Rex Underwood, MD.

10. Personal communication from Clarence G. Peterson, MD, Emeritus Professor of Surgery of the Department of Surgery, OHSU.

11. Oral History of Dr. Marjorie Noble taken by Linda Weimer, OHSU library historian, with Roger Klein, June 1998.

12. Personal communication from P. Carlyle Green, MD, Dr. Haugen's first recruited resident at Oregon.

13. Personal communication from William K. Hamilton, MD, to Wendell Stevens, MD.

14. "A Laboratory Investigation of Pain," *Anesthesiology,* 14, September 1953, 456–58.

15. J. M. Brookhart and W. K. Livingston et. al., "Functional Characteristics of Afferent Fibers from the Tooth Pulp of the Cat," *Journal of Neurophysiology,* 16, 1953, 634-42.

16. "Recent Advances in the Neurophysiology of Pain," Anesthesiology 16, 1955, 490-94.

17. R. Melzack et. al., "Responses Evoked at the Cortex by Tooth Stimulation,"
American Journal of Physiology 190, No. 3, September 1957.

18. Minutes of the Oregon Society of Anesthesiology, September 1950.

19. op. cit. "We Salute Frederick P. Hogan."

20. Results of research conducted by Frank Hughes, Executive Vice President of the American Board of Anesthesiology, submitted to Wendell Stevens, MD, and Roger Klein, MD, April 2002.

21. F. P. Haugen, "A History Of The American Board Of Anesthesiology," *The Genesis of Contemporary American Anesthesiology,* 212–21.

Chapter Thirteen: Anesthesia Experiences in the 1950s and 60s

There are no references for this chapter.

Chapter Fourteen: Norman Bergman, MD

1 N. M. Greene, MD, *Laureates of the History of Anesthesia,*. Published by the Wood Library Museum of Anesthesiology, October 2000, for the investiture of Norman A. Bergman, MD, as Co-International Laureate of the Wood Library's History of Anesthesia.

Chapter Fifteen: Wendell Stevens, MD

There are no references for this chapter.

Chapter Sixteen: Harry G. G. Kingston, MB, BCh, FACS

There are no references for this chapter.

Chapter Seventeen: Old Professors

There are no references for this chapter.

Appendix

Chapter Two — The Oregon Society of Anesthesiology — The First 40 Years

Table I

OSA Officers

Year	President	Vice-President	Sec.-Treasurer
1946-47	J. Hutton	R. Enos	N. Hamilton
1947-48	N. Hamilton	L. Imboden	C. Fluke
1948-49	R. Enos	L. Imboden	A. Kirchof
1950	F. Greaves	J. Branford	D. Boals
1951	J. Branford	P. Green	P. Starr
1952	D. Boals	M. Palmer	P. Green
1953	T. Moreland	C. Fluke	J. Edwards
1954	C. Fluke	P. Green	T Brinton
1955	P. Green	P. Starr	J. Kimmel
1956	C. Grey	C. Hagmeier	G. Burke
1957	C. Hagmeier	T. Brinton	D. Dobson
1958	G. Marshall	J. Hastings	D. Dobson
1959	D. Brinton	J. Edwards	D. Dobson
1960	J. Edwards	J. Branford	D. Dobson
1960	J. Branford		
1961	J. Branford	J. Siebs	D. Dobson
1962	J. Siebs	D. Dobson	P. Schaff
1963	D. Dobson	T. Martin	P. Schaff
1964	R. Schneider	R. Capps	P. Schaff
1965	R. Capps	T. Barss	S. Bennett
1966	F. Haugen	H. Evans	S. Bennett
1967	H. Evans	F. Hege	S. Bennett
1968	F. Hege	S. Bennett	D. Campbell
1969	S. Bennett	B. Peters	D. Campbell
1970	B. Peters	J. Harbor	D. Campbell
1971	J. Harbor	P. Schaff	K. Hillyer
1972	P. Schaff	R. Underwood	K. Hillyer

Year	President	Vice-President	Sec.-Treasurer
1973	R. Underwood	L. Husband	A. Kibbey
1974	L. Husband	D. Campbell	A. Kibbey
1975	D. Campbell	C. Bailey	A. Kibbey
1976	C. Bailey	J. Jene	A. Kibbey
1977	J. Jene	K. Hillyer	R. Johnston
1978	K. Hillyer	J. Roth	R. Johnston
1979	J. Roth	R. Johnston	L. Lorenson
1980	R. Johnston	G. Burke	L. Lorenson
1981	G. Burke	H. Casson	L. Lorenson
1982	H. Casson	R. Kuhl	C. Kaeder
1983	R. Kuhl	K. Gartner	C. Kaeder
1984	K. Gartner	A. Kibbey	C. Kaeder
1985	A. Kibbey	J. Hicks	J. Hargrove
1986	J. Hicks	L. Lorenson	J. Hargrove
1987	L. Lorenson	J. Hargrove	L. Weber
1988	J. Hargrove	C. Kaeder	L. Weber
1989	C. Kaeder	L. Weber	J. Maley
1990	L. Weber	K. Stangland	J. Maley
1991	L. Weber	K. Stangland	J. Gullick
1992	K. Stangland	T. Baldwin	J. Gulick
1993	K Stangland	T. Baldwin	B. Bolton
1994	T. Baldwin	B. Bolton	M. Bodily
1995	T. Baldwin	B. Bolton	M. Bodily
1996	B. Bolton	D. Donielson	M. Bodily
1997	B. Bolton	D. Donielson	R. Smith
1998	D. Donielson	C. Anderson	R. Smith
1999	D. Donielson	C. Anderson	R. Smith
2000	C. Anderson	R. Smith	A. Kendrick
2001	C. Anderson	R. Smith	A. Kendrick
2002	R.Smith	A. Kendrick	J. Evans
2003	R. Smith	A. Kendrick	J. Evans
2004	A. Kendrick	J. Evans	T. Hammond/
			C. Swide
2005	A. Kendrick	J. Evans	T. Hammond/
			C. Swide

Table II — ASA Delegates

Year	Delegate	Alt. Delegate
1948	J. Denham	
1949	O	
1950	F. Haugen	F. Greaves
1951	O	
1952	J. Branford	
1953	D. Boals	
1954	D. Brinton	J. Siebs
1955	D. Brinton	
1956	J. Branford	
1957	C. Hagmeier	J. Branford
1958	C. Hagmeier	
1959	C. Hagmeier	
1960	C. Hagmeier	R. Underwood
1961	C. Hagmeier	J. Harbor
1962	C. Hagmeier	D. Dobson
1963	C. Hagmeier	R. Capps
1964	C. Hagmeier	R. Capps
1965	C. Hagmeier	R. Capps
1966	C. Hagmeier	R. Capps
1967	C. Hagmeier	R. Capps
1968	R. Capps, D Campbell	H. Evans, J. Jene
1969	R. Capps, D Campbell	D. Brinton, J. Branford
1970	S. Bennett, D Dobson	
1971	S. Bennett, D Dobson	
1972	S. Bennett, D Dobson	C. Hinds, T. Barss
1973	S. Bennett, D Dobson	R. Underwood, R. Johnston
1974	S. Bennett, D Dobson	
1975	S. Bennett, K Hillyer	
1976	S. Bennett, K Hillyer	
1977	K. Hillyer, T Barss	
1978	K. Hillyer, T Barss	L. Lorenson, J. Jene
1979	K. Hillyer, T Barss	J. Jene, C. Poindexter
1980	K. Hillyer, J Jene	H. Casson, R. Johnston
1981	K. Hillyer, J. Jene	H. Casson, L. Lorenson
1982	K. Hillyer, J. Jene	H. Casson, L. Lorenson
1983	J. Jene, J. Matthews	J. Maley

Year	Delegate	Alt. Delegate
1984	J. Jene, J. Mathewa, T. McGranahan.	J. Branford, K. Gartner
1985	J. Jene, J. Mathews T. McGranahan	K. Gartner, D. Leon J. Salerno
1986	J. Mathews, T. McGranahan, L. Weber	K. Gartner, J. Jene, R. Klein
1987	K. Gartner, K. Stangland, L. Weber	I. Cartwright, M. Brackebusch, R. Klein
1988	K. Stangland, R. Klein, L. Weber	M. Brackebusch, I. Cartwright
1989	K. Stangland, R. Klein, I. Cartwright	
1990	K. Stangland, R. Klein, I. Cartwright-	
1991	T. Baldwin, K. Stangland, I. Cartwright-	
1992	T. Baldwin, R. Johnston, K. Stangland	
1993	T. Baldwin, R. Johnston, B. Bolton	
1994	T. Baldwin, R. Johnston, B. Bolton	
1995	R. Johnston, B. Bolton, C. Anderson	
1996	R. Johnston, B. Bolton, C. Anderson, D. Kahn	
1997	R. Johnston, B. Bolton, C. Anderson, D. Kahn	
1998	R. Johnston, C. Anderson, J. Hicks, D. Donielson	
1999	R. Johnston, C. Anderson, J. Hicks, D. Donielson	
2000	C. Anderson, J. Hicks, D. Donielson, C. Swide	
2001	J. Evans, K. Flaherty, R. Smith, C. Swide	T. Hammond
2002	T. Hammond, A. Kendrick, R. Smith, C. Swide	
2003	N. Cohen, T. Hammond, A. Kendrick, C. Swide	J. Evans
2004	N. Cohen, J. Evans, T. Hammond, C. Swide	A. Kendrick

Table III

District Directors

Year	Director	Year	Alt. director
1957	F. Haugen	1965–69	R. Capps
1960	C. Hagmeier	1971-74	D. Dobson
1961–65	D. Brinton	1979–85	J. Jene
1969–72	R. Capps	1987–89	K. Gartner
1975–85	D. Dobson	1990–94	K. Stangland
1986–94	J. Jene	1995–99	R. Johnston
1995–99	T. Baldwin	2000–01	C. Anderson
2000–05	R. Johnston	2002–03	J. Hicks
		2004–05	T. Hammond

Chapter Three — Nurse Anesthesia in Oregon

Table I — OANA
Board of Directors

Year	Office	Office Holder
1935–1937	PRESIDENT:	AIMEE DOER
	VICE PRESIDENT:	ALVINA AMORT
	2ND VICE PRESIDENT:	MRS. HARRIS
	SECRETARY:	BERNICE MAHER
	TREASURER:	KATURAH WILMOT
1938–1939	PRESIDENT:	MABEL MCGALLIGOT
1940	PRESIDENT:	ANNE FESER
	VICE PRESIDENT:	IDA PAULSON
	2ND VICE PRESIDENT:	MARIE FLOREN
	TREASURER:	MARGARET LOVE
1941	PRESIDENT:	JOSEPHINE BUNCH
	VICE PRESIDENT:	ALICE ATKINSON
	2ND VICE PRESIDENT:	CARRIE NELSON
	SECRETARY:	SYLVIA MARTIN
	TREASURER:	RUTH POBOCHENKO
1942	PRESIDENT:	JOSEPHINE BUNCH
	VICE PRESIDENT:	OLIVIA BYRE
	2ND VICE PRESIDENT:	FLORENCE SHELTON
	SECRETARY:	MARIAN SPINNING
	TREASURER:	HAZEL WILHELM
1943	PRESIDENT:	SYLVIA MCKIRDIE
	VICE PRESIDENT:	RUTH SCHIERMAN
	2ND VICE PRESIDENT:	DUFFY JOHNSON
	SECRETARY:	MARIAN SPINNING
	TREASURER:	MARY K. FAST
1944	PRESIDENT:	RUTH SCHIERMAN
	VICE PRESIDENT:	ESTHER SAUNDERS
	2ND VICE PRESIDENT:	MARGARET GIDDING
	SECRETARY:	MARY DAVIS
	TREASURER:	JOSEPHINE BUNCH
1945	PRESIDENT:	DUFFY JOHNSON
	1ST VICE PRESIDENT:	MARGARET FRENCH
	2ND VICE PRESIDENT:	JEANNE FAGAN
	SECRETARY:	MARY DAVIS
	TREASURER:	JOSEPHINE BUNCH
	TRUSTEES:	FLORENCE TOON SHELTON
		JOSEPHINE BUNCH
		SYLVIA MCKIRDIE
		MISS MCELLIGOTT
	HISTORIAN:	SISTER AGNES DE BOHEME
1946	PRESIDENT:	DUFFY JOHNSON
	1ST VICE PRESIDENT:	MARY DAVIS
	2ND VICE PRESIDENT:	JEANNE FAGAN
	SECRETARY:	ROSE GISH
	TREASURER:	ZOLA PIKESH
	TRUSTEES:	JOSEPHINE BUNCH
		MARIE ANDERSON
		FLORENCE TOON SHELTON
		SYLVIA MCKIRDIE

Year	Office	Office Holder
1946	HISTORIAN:	SISTER AGNES DE BOHEME
1947	PRESIDENT:	OLIVIA BRYE
	VICE PRESIDENT:	MARGARET GIDDINGS
	2ND VICE PRESIDENT:	AILEEN ELMHURST
	SECRETARY:	ROSE GISH
	TREASURER:	ZOLA PIKESH
1948	PRESIDENT;	OLIVIA BRYE
	VICE PRESIDENT:	MARGARET GIDDINGS
	VICE PRESIDENT:	LEAH WOLFE
	SECRETARY:	BLANCHE ADAMS
	TREASURER:	DELORES SMITH
1949	PRESIDENT:	JEAN FAGAN
	VICE PRESIDENT:	RUTH SCHIERMAN
	2ND VICE PRESIDENT:	LEAH WOLFE
	SECRETARY:	BLANCHE ADAMS
	TREASURER:	MARGARET FRENCH
1950	PRESIDENT:	RUTH SCHIERMAN
	VICE PRESIDENT:	DOLORES SMITH
	2ND VICE PRESIDENT:	MILDRED WHITE
	SECRETARY:	LOIS EILERS
	TREASURER:	MARGARET FRENCH
1951	PRESIDENT:	RUTH SCHIERMAN
	VICE PRESIDENT:	DOLORES SMITH
	2ND VICE PRESIDENT:	MILDRED WHITE
	SECRETARY:	LOIS EILERS
	TREASURER:	ELEANOR FIXENS
1952	PRESIDENT:	DOLORES SMITH
	VICE PRESIDENT:	LEAH WOLF
	2ND VICE PRESIDENT:	MARGARET FRENCH
	SECRETARY:	LOIS EILERS
	TREASURER:	ELEANOR FIXEN
1953	PRESIDENT:	DELORES SMITH
	VICE PRESIDENT:	MARGARET FRENCH
	2ND VICE PRESIDENT:	MARGARET GIDDINGS
	SECRETARY:	LOIS EILERS
	TREASURER:	ELEANOR FIXEN
1954	PRESIDENT:	MARGARET FRENCH
	1ST VICE PRESIDENT:	MARIAN SEGUIN
	2ND VICE PRESIDENT:	MARGARET GIDDINGS
	SECRETARY:	SARAH PARCEL
	TREASURER:	HENRY KNAPP
	TRUSTEES:	LOIS EILERS
		EDNA REED
1955	PRESIDENT:	MARGARET FRENCH
	VICE PRESIDENT:	MARIAN SEGUIN
	2ND VICE PRESIDENT:	MARGARET GIDDINGS
	SECRETARY:	SARA PARCEL
	TREASURER:	HENRY KNAPP
1956	PRESIDENT:	MARGARET FRENCH
	VICE PRESIDENT:	MARIAN SEGUIN
	2ND VICE PRESIDENT:	EDNA REED
	SECRETARY:	LARA PARCEL
	TREASURER:	HELEN HOLTER
1957	PRESIDENT:	MARIAN SEGUIN
	VICE PRESIDENT:	MILDRED SINGER
	2ND VICE PRESIDENT:	EDNA REED
	SECRETARY:	SARA PARCEL
	TREASURER:	HELEN HOLTER

Year	Office	Office Holder
1958	PRESIDENT:	MARIAN SEGUIN
	VICE PRESIDENT:	MILDRED SINGER
	2ND VICE PRESIDENT:	SARA PARCEL
	SECRETARY:	SUSAN FRY
	TREASURER:	HELEN HOLTER
1959	PRESIDENT:	LEAH WOLFE
	VICE PRESIDENT:	HELEN HOLTER
	2ND VICE PRESIDENT:	JEANNE FAGAN
	SECRETARY:	SARA PARCEL
	TREASURER:	EDNA REED
1960	PRESIDENT:	LEAH WOLFE
	VICE PRESIDENT:	HELEN HOLTER
	2ND VICE PRESIDENT:	JEANNE FAGAN
	SECRETARY:	SARA PARCEL
	TREASURER:	EDNA REED
1961	PRESIDENT:	HELEN HOLTER
	VICE PRESIDENT:	SARA PARCEL
	2ND VICE PRESIDENT:	JEANNE FAGAN
	SECRETARY:	PAULA NOLTING
	TREASURER:	SUSAN FRY
1962	PRESIDENT:	HELEN HOLTER
	VICE PRESIDENT:	SARA PARCEL
	SECRETARY:	JANET BURNS
	TREASURER:	SUSAN FRY
1963	PRESIDENT:	SARA PARCEL
	VICE PRESIDENT:	MARGARET FRENCH
	2ND VICE PRESIDENT:	BETTY REED
	SECRETARY:	JANET BURNS
	TREASURER:	SUSAN FRY
1964	PRESIDENT:	SARA PARCEL
	VICE PRESIDENT:	MARGARET FRENCH
	2ND VICE PRESIDENT:	MARION SEGUIN
	SECRETARY:	MAURICE HERRON
	TREASURER:	SUSAN FRY
1965	PRESIDENT:	ELEANOR FIXEN
	PRESIDENT ELECT:	BETTY REED
	VICE PRESIDENT:	JANET BURNS
	SECRETARY/TREASURER:	SUSAN FRY
1966	PRESIDENT:	MILDRED SINGER
	ACTING PRESIDENT:	MAURICE HERRON
	PRESIDENT ELECT;	JANET BURNS
	VICE PRESIDENT:	OLGA GROZNIK
	SECRETARY/TREASURER:	FRANCEL HOESLY
1967	PRESIDENT:	MAURICE HERRON
	PRESIDENT ELECT:	JANET BURNS
	VICE PRESIDENT:	ANN BRIX
	SECRETARY/TREASURER:	FRANCES HOESLY
1968	PRESIDENT:	JANET BURNS
	PRESIDENT ELECT	OLGA GROZNIK
	VICE PRESIDENT:	FRANCES PODHORA
	SECRETARY/TREASURER:	FRANCES HOESLY
1969	PRESIDENT:	OLGA GROZNIK
	PRESIDENT ELECT:	FRANCES PADHORA
	VICE PRESIDENT:	FRANCES HOESLY
	SECRETARY/TREASURER:	WILLIAM COCHRAN
1970	PRESIDENT:	FRANCES PODHORA
	PRESIDENT ELECT:	FRANCES HOESLY
	VICE PRESIDENT:	MARION SEGUIN

Year	Office	Office Holder
1970	SECRETARY/TREASURER:	WILLIAM COCHRAN
1971	PRESIDENT:	FRANCES HOESLY
	PRESIDENT ELECT:	WILLIAM COCHRAN
	VICE PRESIDENT:	FLORENCE WOODARD
	SECRETARY/TREASURER:	MARY JANE COOK
1972	PRESIDENT:	WILLIAM COCHRAN
	PRESIDENT ELECT:	FLORENCE WOODARD
	VICE PRESIDENT:	EVELYN ROSIN
	SECRETARY/TREASURER:	MARY JANE COOK
1973	PRESIDENT:	FLORENCE WOODARD
	PRESIDENT ELECT:	RICHARD EGAN
	VICE PRESIDENT:	MARY JANE COOK
	SECRETARY/TREASURER:	BRENT BOOTHE
1974	PRESIDENT:	RICHARD EGAN
	PRESIDENT ELECT:	MARY JANE COOK
	VICE PRESIDENT:	CHRIS WILSON
	SECRETARY/TREASURER	BRENT BOOTHE
1975	PRESIDENT:	MARY JANE COOK
	ACTING PRESIDENT:	CHRIS WILSON
	PRESIDENT ELECT:	CHRIS WILSON
	VICE PRESIDENT:	KATRINE FOSTER
	SECRETARY/TREASURER	JEROLD SHIELDS
1976	PRESIDENT:	CHRIS WILSON
	PRESIDENT ELECT:	KATRINE FOSTER
	VICE PRESIDENT:	BRENT BOOTHE
	SECRETARY/TREASURER:	JEROLD SHIELDS
1977	PRESIDENT:	KATRINE FOSTER
	PRESIDENT ELECT:	SANDRA WILSON
	SECRETARY/TREASURER:	JEROLD SHIELDS
1978	PRESIDENT:	SANDRA WILSON
	PRESIDENT ELECT:	BRENT BOOTHE
	VICE PRESIDENT:	ED HACK
	SECRETARY/TREASURER:	MARY DIGGLES
1979	PRESIDENT:	BRENT BOOTHE
	PRESIDENT ELECT:	JEROLD SHIELDS
	VICE PRESIDENT:	JAMES YOUNG
	SECRETARY/TREASURER:	MARY DIGGLES
1980	PRESIDENT:	JEROLD SHIELDS
	PRESIDENT-ELECT:	KEN CHAMBERLIN
	VICE PRESIDENT:	MARY DIGGLES
	SECRETARY/TREASURER:	JIM YOUNG
	BOARD MEMBERS:	NORMAN MATSON
		ANN MCHALE
		NORMA WANDEL
1981	PRESIDENT:	KEN CHAMBERLIN
	PRESIDENT-ELECT:	SUZANNE BROWN
	VICE PRESIDENT:	JUDY MYRICK
	BOARD MEMBERS:	ALAN TATE
		ED GEERS
		RICHARD BELL
		NORMAN MATSON
		ANN MCHALE
		NORMA WANDEL
1982	PRESIDENT:	SUZANNE BROWN
	PRESIDENT-ELECT:	JIM YOUNG
	VICE PRESIDENT:	CAROL TANNER
	SECRETARY/TREASURER:	NORMAN MATSON
	BOARD MEMBERS:	BOB SMITH

Year	Office	Office Holder
1982	BOARD MEMBERS:	JUANITA CHARLEY
		RANDY STEWART
		ALAN TATE
		ED GEERS
		RICHARD BELL
1983	PRESIDENT:	JIM YOUNG
	PRESIDENT-ELECT:	CAROL TANNER
	VICE PRESIDENT:	ANN MCHALE-SASS
	BOARD MEMBERS:	SHARRY FASSETT
	:	KAY WILSON
		KELLY SIEVERS
		BOB SMITH
		JUANITA CHARLEY
		RANDY STEWART
1984	PRESIDENT:	CAROL TANNER
	PRESIDENT-ELECT:	ANN MCHALE-SASS
	VICE PRESIDENT:	ALLEN TATE
	SECRETARY/TREASURER:	DWAIN WATKINS
	BOARD MEMBERS:	IRENE BENNETT
		ROGER JOHNSON
		DAVID LOPER
		SHARRY FASSETT
		KAY WILSON
		KELLY SIEVERS
1985	PRESIDENT:	ANN MCHALE-SASS
	PRESIDENT-ELECT:	ALAN TATE
	VICE PRESIDENT:	SHARRY FASSETT
	BOARD MEMBERS:	KELLY SEIVERS
		KEN HICKMAN
		MARY RAMSEY
		IRENE BENNETT
		ROGER JOHNSON
		DAVID LOPER
1986–1987	PRESIDENT:	ALAN TATE
	PRESIDENT-ELECT:	NORM MATSON
	VICE PRESIDENT:	JACK SMITH
	SECRETARY/TREASURER:	DWAIN WATKINS
	BOARD MEMBERS:	KELLY SEIVERS
		KEN HICKMAN
		MARY RAMSEY
		PAT KEENEY
		BOB HACK
		CANDY CHAPMAN
		ANN MCHALE-SASS
	CONTINUING EDUCATION:	NORM MATSON
		ANN MCHALE-SASS
		DWAIN WATKINS
		GUNNY CHERRYTREE
		BRENT BOOTHE
		RANDY STEWART
	GOVERNMENT RELATIONS:	SUZANNE BROWN
		KELLY SIEVERS
		SHARRY FASSETT
		JOHN GEHL
		ANN MCHALE-SASS
	FINANCE:	DWAIN WATKINS
	FINANCE:	JIM YOUNG
	FRAN DENIKE	

Year	Office	Office Holder
1986–1987	ADVISORY:	CAROL TANNER
		ANN MCHALE-SASS
		JIM YOUNG
	OANAGRAM:	JIM YOUNG
	NOMINATING:	ANN MCHALE-SASS
		SUZANNE BROWN
		FRAN DENIKE
	PUBLIC RELATIONS:	KEN HICKMAN
		GUNNY CHERRYTREE
		CHARLIE COUTURE
	BYLAWS:	KENNETH CHAMBERLAIN
		DANNY SMITH
1987 - 1988	PRESIDENT:	NORMAN MATSON
	PRESIDENT-ELECT:	SHARRY FASSETT
	VICE-PRESIDENT:	JACK SMITH
	SECRETARY/TREASURER:	DWAIN WATKINS
	BOARD OF DIRECTORS:	ALAN TATE
		PAT KEENEY
		BOB HACK
		CANDY CHAPMAN
		JIM SCHILLER
		GUNNY CHERRYTREE
		MARY DIGGLES
	NOMINATING COMMITTEE:	ALAN TATE
		KEN CHAMBERLIN
		BOB SMITH
	FINANCE:	DWAIN WATKINS
		JIM YOUNG
		MARY DIGGLES
	BY-LAWS:	FRAN DENIKE
		BOB HACK
	GOVERNMENT RELATIONS:	SUZANNE BROWN
		JOHN GEHL
		KELLY SIEVERS
		PAT KEENEY
		SHARRY FASSETT
		ANN MCHALE-SASS
	ADVISORY BOARD:	CAROL TANNER
		ALAN TATE
		ANN MCHALE-SASS
	PUBLIC RELATIONS:	JACK SMITH
		JIM YOUNG
		MARY DIGGLES
		CANDY CHAPMAN
		CHARLIE COUTURE
		KEN HICKMAN
		JIM SCHELLER
		CAROL TANNER
	CONTINUING EDUCATION:	SHARRY FASSETT
		DWAIN WATKINS
		ANN MCHALE-SASS
		GUNNY CHERRYTREE
		BRENT BOOTHE
1988 - 1989	PRESIDENT:	SHARRY FASSETT
	PRESIDENT-ELECT:	RANDY STEWART
	VICE-PRESIDENT:	BOB SMITH
	SECRETARY/TREASURER:	ALAN TATE
	BOARD OF DIRECTORS:	PAT KEENEY

Year	Office	Office Holder
1988 - 1989	BOARD OF DIRECTORS:	BOB HACK
		ANN MCHALE-SASS
	CONTINUING EDUCATION:	RANDY STEWART
		ANN MCHALE-SASS
		GUNNY CHERRYTREE
		ALAN TATE
		BRENT BOOTHE
		JANE REINTS
	GOVERNMENT RELATIONS:	JOHN GEHL
		SUZANNE BROWN
		KELLY SIEVERS
		PAT KEENEY
		ANN MCHALE-SASS
		ALLAN BERRY
		DUANE FINKE
	FINANCE:	ALAN TATE
		KEN HICKMAN
		BOB SMITH
	PUBLIC RELATIONS:	CANDY CHAPMAN
		JIM SCHELLER
		GUNNY CHERRYTREE
		MARY CROSS
		MARY DIGGLES
	ADVISORY BOARD:	ANN MCHALE-SASS
		ALAN TATE
		NORMAN MATSON
	BYLAWS:	FRAN DENIKE
		IRENE BENNETT
	NOMINATING COMMITTEE:	NORMAN MATSON
		JACK SMITH
		BOB HACK
	OANAGRAM:	JIM YOUNG
	CRNA PAC:	ANN MCHALE-SASS
	CHEMICAL DEPENDENCY LSN:	IRENE BENNETT
	NURSE PAC:	AGNES CLARE
1989-1990	PRESIDENT:	RANDY STEWART
	PRESIDENT-ELECT:	BOB SMITH
	VICE PRESIDENT:	CANDY CHAPMAN
	SECRETARY/TREASURER:	ALAN TATE
	BOARD OF DIRECTORS:	RICK BELL
		LIZ BRUCE
		SHARRY FASSETT
		DENNIS GUNDERSEN
		BOB HACK
		DUANE FINKE
		ANN MCHALE-SASS
	CONTINUING EDUCATION:	BOB SMITH
		GUNNY CHERRYTREE
		ANN MCHALE-SASS
		ALAN TATE
		DENNIS GUNDERSEN
		JEFF MCLAUGHLIN
	GOVERNMENT RELATIONS:	DUANE FINKE
		MARCUS BERGEN
		SUZANNE BROWN
		KATHY WEINER
		RANDY JOHNSON
	FINANCE COMMITTEE:	ALAN TATE

Year	Office	Office Holder
1989-1990	FINANCE COMMITTEE:	JIM YOUNG
		ED GEERS
	PUBLIC RELATIONS:	CANDY CHAPMAN
		GUNNY CHERRYTREE
		MARY CROSS
		MICHAEL HEBERT
		JIM SCHELLER
	ADVISORY BOARD:	SHARRY FASSETT
		ANN MCHALE-SASS
		ALAN TATE
	BYLAWS COMMITTEE:	FRAN DENIKE
		IRENE BENNETT
	NOMINATING COMMITTEE:	SHARRY FASSETT
		MARY DIGGLES
		GUNNY CHERRYTREE
	OANAGRAM:	BRENT BOOTHE
	CRNA PAC:	RODGER JOHNSON
	NURSE PAC:	LIZ BRUCE
	CHEMICAL DEPENDENCY LSN:	IRENE BENNETT
	DENTAL BOARD LIAISON:	MARY DIGGLES
	ASSEMBLY OF STATES CRDNTR:	SHARRY FASSETT
1990–1991	PRESIDENT:	BOB SMITH
	PRESIDENT-ELECT:	CANDY CHAPMAN
	VICE PRESIDENT:	GUNNY CHERRYTREE
	SECRETARY/TREASURER:	LIZ BRUCE
	BOARD OF DIRECTORS:	DENNIS GUNDERSEN
		DUANE FINKE
1		BUTCH SIMMONS
		MARY M. CROSS
		KEN HOFFMAN
		RANDY STEWART
		RICK BELL
	CONTINUING EDUCATION:	CANDY CHAPMAN
		GUNNY CHERRYTREE
		ANN MCHALE-SASS
		LIZ BRUCE
		DENNIS GUNDERSEN
		JEFF MCLAUGHLIN
		MARY M. CROSS
	GOVERNMENT RELATIONS:	DUANE FINKE
		MARCUS BERGEN
		KATHY WEINER
		SUZANNE BROWN
	FINANCE COMMITTEE:	LIZ BRUCE
		ALAN TATE
		JIM YOUNG
	PUBLIC RELATIONS:	GUNNY CHERRYTREE
		KENNETH J. HICKMAN
		MARY CROSS
		JIM SCHELLER
		DAVID MCCARTY
	ADVISORY BOARD:	RANDY STEWART
		SHARRY FASSETT
		SUZANNE BROWN
		ANN MCHALE-SASS
	BYLAWS COMMITTEE:	FRAN DENIKE
		IRENE BENNETT
	NOMINATING COMMITTEE:	RANDY STEWART

Year	Office	Office Holder
1990–1991	NOMINATING COMMITTEE:	ANN MCHALE-SASS
		KEN HICKMAN
	OANAGRAM:	BRENT BOOTHE
	CRNA PAC:	RODGER JOHNSON
	NURSE PAC:	LIZ BRUCE
	CHEMICAL DEPENDENCY LSN:	IRENE BENNETT
	DENTAL BOARD LIAISON:	MARY DIGGLES
	ASSEMBLY OF STATE CRDNTR:	SHARRY FASSETT
1991 - 1992	PRESIDENT:	CANDY CHAPMAN
	PRESIDENT-ELECT:	MARY DIGGLES
	VICE PRESIDENT:	DENNIS GUNDERSEN
	SECRETARY/TREASURER:	LIZ BRUCE
	BOARD OF DIRECTORS:	CLAUDE SIMMONS
		ELIZABETH LOWRY
		JEFF MCLAUGHLIN
		KEN HOFFMAN
		DUANE LAURELTON
	DAN ADDY	
	CONTINUING EDUCATION:	MARY DIGGLES
		GUNNY CHERRYTREE
		ANN MCHALE-SASS
		LIZ BRUCE
		DENNIS GUNDERSEN
		JEFF MCLAUGHLIN
	GOVERNMENT RELATIONS:	DUANE LAURELTON
		MARCUS BERGUN
		SUZANNE BROWN
		KATHY WEINER
		ED GEERS
		RICK BELL
	FINANCE COMMITTEE:	LIZ BRUCE
		JIM YOUNG
		ALAN TATE
	PUBLIC RELATIONS:	GUNNY CHERRYTREE
		KEN HICKMAN
		JIM SCHELLER
		DAVID MCCARTY
	ADVISORY BOARD:	BOB SMITH
		ANN MCHALE-SASS
		SUZANNE BROWN
		RANDY STEWART
	BYLAWS COMMITTEE:	FRAN DENIKE
		IRENE BENNETT
	NOMINATING COMMITTEE:	BOB SMITH
		JACK SMITH
		NORMA WANDEL
	OANAGRAM:	BRENT BOOTHE
	CRNA PAC:	RODGER JOHNSON
	NURSE PAC:	LIZ BRUCE
	CHEMICAL DEPENDENCY LSN:	IRENE BENNETT
	DENTAL BOARD LIAISON:	MARY DIGGLES
	PRESCRTN. ATHRTY TASK FRC:	KEN HOFFMAN
		SUZANNE BROWN
		BOB SMITH
		DUANE LAURELTON
		CANDY CHAPMAN
1992 - 1993	PRESIDENT:	MARY DIGGLES
	PRESIDENT ELECT:	DENNIS GUNDERSEN

Year	Office	Office Holder
1992 - 1993	VICE PRESIDENT:	DUANE LAURELTON
	SECRETARY/TREASURER:	BETSY LOWRY
	BOARD OF DIRECTORS:	DAN ADDY
		KEN HOFFMAN
		KEITH JENSEN
		WENDALL SPENCER
		CHARLES LOBDELL
		LES STURGIS
	ADVISORY BOARD:	CANDY CHAPMAN
		RANDY STEWART
		ANN MCHALE-SASS
	CONTINUING EDUCATION:	DENNIS GUNDERSEN
		GUNNY CHERRYTREE
		KELLEY KAMMERER
		BETSY LOWRY
		DAN ADDY
		JUANITA GARNOW
	FINANCE COMMITTEE:	BETSY LOWRY
		RANDY STEWART
		JIM YOUNG
	GOVERNMENT RELATIONS:	KEN HOFFMAN
		DUANE LAURELTON
		STEPHANIE VOLK
		DAN ADDY
	OANA LOBBYIST:	BRIAN DE LASHMUTT
	BYLAWS COMMITTEE:	CHARLES LOBDELL
	NOMINATING COMMITTEE:	CANDY CHAPMAN
		JIM YOUNG
		LES STURGIS
	PUBLIC RELATIONS:	WENDALL SPENCER
		NORA CHENG
		LES STURGIS
		KEN HICKMAN
	DENTAL BOARD LIAISON:	LES STURGIS
	ONA REPRESENTATIVE:	STEVIE VOLK
	OANAGRAM:	BRENT BOOTHE
	EXEC-SECRETARY:	JAN ESPINO
1993–1994	PRESIDENT:	DENNIS GUNDERSEN
	PRESIDENT-ELECT:	KEN HOFFMAN
	PAST PRESIDENT:	MARY DIGGLES
	VICE-PRESIDENT:	DUANE LAURELTON
	SECRETARY/TREASURER:	ELIZABETH LOWRY
	BOARD OF DIRECTORS:	DAN ADDY
		YURI CHAVEZ
		KEITH JENSEN
		WENDALL SPENCER
		KELLEY KAMMERER
		CHARLES LOBDELL
	GOVERNMENT RELATIONS:	KEN HOFFMAN
		DAN ADDY
		YURI CHAVEZ
		WENDALL SPENCER
	CONTINUING EDUCATION:	DUANE LAURELTON
		NORA CHENG
		JUANITA GARNOW
		ANN MCHALE-SASS
		BETSY LOWRY
	PUBLIC RELATIONS:	KELLEY KAMMERER

Year	Office	Office Holder
1993–1994	PUBLIC RELATIONS:	LYNN DAVIS
		KEN HICKMAN
		KEITH JENSEN
		CHARLES LOBDELL
		LES STURGIS
		PAM GURNARI
		STEPHANIE VOLK
	FINANCE COMMITTEE:	BETSY LOWRY
		RANDY STEWART
		JIM YOUNG
	NOMINATING COMMITTEE:	MARY DIGGLES
		JIM YOUNG
		NORM MATSON
	ADVISORY COMMITTEE:	MARY DIGGLES
		RANDY STEWART
		CANDY CHAPMAN
		ANN MCHALE-SASS
	BYLAWS COMMITTEE:	CHARLES LOBDELL
	ONA REPRESENTATIVE:	DAN ADDY
	DENTAL LIAISON:	MARY DIGGLES
	ONA TASK FORCE:	WENDALL SPENCER
		YURI CHAVEZ
	PEER ASSISTANCE:	IRENE BENNETT
	SENIOR NETWORK:	JUANITA GARNOW
	OANAGRAM:	CANDY CHAPMAN
	STATE LOBBYIST:	BRIAN DELASHMUTT
	EXECUTIVE SECRETARY:	JAN ESPINO
1994–1995	PRESIDENT:	DENNIS GUNDERSEN
	PRESIDENT ELECT:	DUANE LAURELTON
	VICE-PRESIDENT:	KEN HOFFMAN
	SECRETARY/TREASURER:	BETSY LOWRY
	BOARD OF DIRECTORS:	DAN ADDY
		YURI CHAVEZ
		KEITH JENSEN
		WENDELL SPENCER
		KELLEY KAMMERER
		CHARLES LOBDELL
	CONTINUING EDUCATION:	DUANE LAURELTON
		BETSY LOWRY
		JUANITA GARNOW
		ANN MCHALE-SASS
		NORA CHENG
		VIRGINIA MOURAS
	GOVERNMENT RELATIONS:	KEN HOFFMAN
		DAN ADDY
		YURI CHAVEZ
		WENDELL SPENCER
		STEPHANIE VOLK
	PUBLIC RELATIONS:	KELLEY KAMMERER
		KEITH JENSEN
		CHARLES LOBDELL
		KEN HICKMAN
		LES STURGIS
		LYNN DAVIS
	ADVISORY:	MARY DIGGLES
		CANDY CHAPMAN
		RANDY STEWART
	FINANCE:	BETSY LOWRY

Year	Office	Office Holder
1994–1995	FINANCE:	RANDY STEWART
		JIM YOUNG
	NOMINATING:	MARY DIGGLES
		JIM YOUNG
	OANAGRAM:	CANDY CHAPMAN
		DENNIS GUNDERSEN
	DENTAL LIAISON:	MARY DIGGLES
	ONA REPRESENTATIVE:	CHARLES LOBDELL
	OSBN TASK FORCE:	WENDELL SPENCER
		STEPHANIE VOLK
1995 - 1996	PRESIDENT:	DUANE LAURELTON
	PRESIDENT-ELECT:	KEN HOFFMAN
	VICE-PRESIDENT:	CHARLES LOBDELL
	SECRETARY/TREASURER:	BETSY LOWRY
	BOARD OF DIRECTORS:	ANN MCHALE-SASS
		YURI CHAVEZ
		RALPH LANGSTADT
		DEAN KIRKWOOD
		KELLEY KAMMERER
		STEVE MYRICK
	GOVERNMENT RELATIONS:	YURI CHAVEZ
		DAN ADDY
		JAMIE COBB
		DENNIS GUNDERSEN
		KELLEY KAMMERER
	GRC LEGISLATIVE SUB-COMM:	SUZANNE BROWN
		RANDY STEWART
	FINANCE COMMITTEE:	BETSY LOWRY
1995–1996		RALPH LANGSTADT
		JIM YOUNG
	CONTINUING EDUCATION:	KEN HOFFMAN
		NORA CHENG
		JUANITA GARNOW
		BETSY LOWRY
		ANN MCHALE-SASS
		RICK ROTTMAN
		JIM YOUNG
	NOMINATING COMMITTEE:	DENNIS GUNDERSEN
		DAN ADDY
		CHARLES LOBDELL
	PUBLIC RELATIONS:	STEVE MYRICK
		LYNN DAVIS
		PAM GURNARI
		CHARLES LOBDELL
		STEPHANIE VOLK
	ADVISORY COMMITTEE:	DENNIS GUNDERSEN
		CANDY CHAPMAN
		ANN MCHALE-SASS
	BY-LAWS:	CHARLES LOBDELL
	ONA REPRESENTATIVE:	DAN ADDY
	DENTAL LIAISON:	MARY DIGGLES
	PEER ASSISTANCE:	MARCUS BERGEN
	SENIOR NETWORK:	JUANITA GARNOW
	OSBN-ANP TASK FORCE:	DENNIS GUNDERSEN
		YURI CHAVEZ
	STATE LOBBYIST:	BRIAN DELASHMUTT
	OANAGRAM:	CANDY CHAPMAN
	ADMINISTRATIVE ASSISTANT:	JAN ESPINO

Year	Office	Office Holder
996 - 1997	PRESIDENT:	BETSY LOWRY
	PRESIDENT-ELECT:	YURI CHAVEZ
	VICE PRESIDENT:	DEAN KIRKWOOD
	SECRETARY/TREASURER:	LINDA NEWBLOOM
	BOARD OF DIRECTORS:	CANDY CHAPMAN
		RICK ROTTMAN
		NORMA WANDELL
		ERIC BEECHLY
		JIM LUSBY
		KATHLEEN CLOUTIER
	BY-LAWS:	CHARLES LOBDELL
	ONA REPRESENTATIVE:	DAN ADDY
	DENTAL LIAISON:	MARY DIGGLES
	ORHA:	DUANE LAURELTON
	OANAGRAM:	DENNIS GUNDERSEN
	LOBBYISTS:	NAN HEIM & ASSOC.
		BRIAN DELASHMUTT
	CONTINUING EDUCATION:	DUANE LAURELTON
		RICK ROTTMAN
		JEFF KOPECKY
		LINDA NEWBLOOM
		CANDY CHAPMAN
		JUANITA GARNOW
		ERIC BEECHLY
	GOVERNMENT RELATIONS:	YURI CHAVEZ
		KEN HOFFMAN
		ERIC BEECHLY
		DAN ADDY
		CANDACE DAUPHINAIS
		DENNIS GUNDERSEN
		RICK ROTTMAN
	PUBLIC RELATIONS:	NORMA WANDELL
		STEVE MYRICK
		JIM LUSBY
	FINANCE:	LINDA NEWBLOOM
		RALPH LANGSTADT
		JIM YOUNG
1997 - 1998	PRESIDENT:	YURI CHAVEZ
	PRESIDENT-ELECT:	CANDY CHAPMAN
	SECRETARY:	KATHLEEN CLOUTIER
	TREASURER:	FRAN DENIKE
1998 - 1999	PRESIDENT:	CANDY CHAPMAN
	PRESIDENT ELECT:	KEN HOFFMAN
	VICE-PRESIDENT:	ERIC BEECHLY
	SECRETARY:	KATHLEEN CLOUTIER
	TREASURER:	FRAN DENIKE
	BOARD OF DIRECTORS:	ED GEERS
		JAMIE COBB
		JOHN GEHL
		KEN GANO
		JEFF KOPECKY
		FRANK DEMERS
1999 - 2000	PRESIDENT:	KEN HOFFMAN
	PRESIDENT-ELECT:	ERIC BEECHLY
	VICE PRESIDENT:	YURI CHAVEZ
	SECRETARY:	JAMIE COBB
	TREASURER:	FRAN DENIKE
	BOARD OF DIRECTORS:	FRANK DEMERS

Year	Office	Office Holder
1999 - 2000	BOARD OF DIRECTORS:	ED GEERS
		JEFF KOPECKY
		JEWEL HAGEN
		DAVID NIBLER
		LINDY DEATHERAGE
2000 - 2001	PRESIDENT:	ERIC BEECHLY
	PRESIDENT-ELECT:	DUANE LAURELTON
	VICE PRESIDENT:	YURI CHAVEZ
2000–2001	SECRETARY:	BONNIE O'HARA
	TREASURER:	FRAN DENIKE
	BOARD OF DIRECTORS:	JERRY TURK
		JEWEL HAGEN
		DAVID NIBLER
		ROD JOHNSON
		LYNN THOMAS
2001-2002		SHARON TRUJILLO
2001 - 2002	PRESIDENT:	DUANE LAURELTON
	PRESIDENT ELECT:	YURI CHAVEZ
	VICE PRESIDENT:	KEN GANO
	SECRETARY:	BONNIE O'HARA
	TREASURER:	DAVID NIBLER
	BOARD OF DIRECTORS:	ROD JOHNSON
		LYNN THOMAS
		SHARON TRUJILLO
		CYNTHIA JACOBI
		MICHAEL WRAY
		JERRY TURK
2002 - 2003	PRESIDENT:	YURI CHAVEZ
	PRESIDENT-ELECT:	EN GANO
	VICE PRESIDENT:	MICHAEL WRAY
	SECRETARY:	BONNIE O'HARA
	TREASURER:	DAVID NIBLER
	BOARD OF DIRECTORS:	HENRY DOUGHERTY
		LISA HARRISON
		JEFF LOCKWOOD
		DWAIN WATKINS
		CYNTHIA JACOBI
		JERRY TURK
2003 — 2004	PRESIDENT:	JEFF KOPECKY
	PRESIDENT-ELECT:	MICHAEL WRAY
	VICE PRESIDENT:	LYNN THOMAS
	SECRETARY:	ROSALIND BOYER
	TREASURER:	DAVID NIBLER
	BOARD OF DIRECTORS:	HENRY DOUGHERTY
		LISA HARRISON
		RON SHENKER
		DWAIN WATKINS
		MARK COHEN
		MAURI TRAYLOR

Chapter 3 Table 2
OANA Past Speakers

1936, March	Dr. Pease	Avertin
1936, June	Mrs. Shaw of San Francisco	"Interesting Paper"
1936, Sept.	Dr. J.M. Roberts	"Very Interesting Lecture — on medication"
1936, Oct.	Dr. Matson	Slides and Discussion
1937, Feb.	Dr. Seabroo	Respiration and Blood Pressure
1937, Oct..	Miss Amiee Doerr	Highlights of Each Speech from the Nat. Convention
1937, Nov.	Dr. Davis	"Very Interesting Lecture (Board decided to give Dr. Davis $40.00 to cover a series of four lectures.)
1938, Feb.	Dr Bisaillion	Speaker of the Evening
1938, March	Mr. Paul Freemen	"Interesting talk & pictures concerning Squibb Products" Including moving picture process of manufacturing ether & other products
1938, April	Miss Byford	Cyclopropane paper
1938, Nov.	Dr. John Hutton	Various Methods used in Anesthesia
1939, April	Dr. Miller	Ethyl Chloride in Dental Surgery
1939, Nov.	Capt. Raymes, Ptld Fire Dept.	Explosion Hazards
1940, Jan.	OANA "members"	Lecture and film on Pentathal Sodium
1940, Feb	Dr. Holden	Resume of Anesthesia - a reflection of 25 years of anesthesia
1940, Feb	Miss Wilhelm	Paper on Dental Anesthesia
1940, April	Dr. Hamilton	Shock - its Signs and Treatment
1940, Oct.	Lt. Colonel Bagnell	
1940, Nov.	Dr. Kuhn	Vinethene, Ether and Local Anesthetics as Used in Ear, Eye, nose and Throat Surgery
1940, Dec.	Dr. Hutton	OxygenTherapy and Lack of Oxygen
1941, Jan.	Dr. Hamilton	Advantages of Various Types of Anesthetic Agents
1941, Feb	Lewis M. Wright, MD	Explosion Hazards in the Operating Room
1941, Apr.	Miss Wilhelm	Round Table Discussion of Anesthetic Problems

1941, May	Richard B. Adams, MD	Anesthesia
1941, May	Miss Alice Atkinson	Anesthesia in a Rural Community
1941, May	Miss Aimee Doerr	Cyclopropane paper
1941, May	Mrs. L.R. Bunch	Report of Washington Convention
1941, Nov.	Miss Oglby	Highlights of 5 Talks at National Meeting
1942, Jan.	Miss Vreeland & Miss Kidwell	Damage of High Explosive Bombs, Incendiary Bombs, Gas Warfare, Methods of Decontamination, Detailed in Blackout Procedures, Etc.
1942, April	Aura Hakala	Technique of Cyclopropane Administration
1942, Sept.	Dr. L.H. Wright, Anesthetist	New Drugs and Methods (Representing Squibb and Co.)
1943, April	Jeannie Fagan	Paper on Convulsions
1944, Jan.	Jeannie Fagan, Miss Ruth Schierman	Pentothal by Rectal Administration and Intravenous Administration
1944, Feb.	Mr. Walker & Mr. Albers	Film on Adrenal Cortical Hormone (From Squibb and Co)
1944, March	Dr. Ripley, his nephew & Lilly Co.	Film on Caudal Anesthesia
1945, Feb.	Loretta Case	Paper on Curare
1945, March	Dr. Ulett	Talk on Psychiatry
1945, April	Mrs. Loretta Case	Paper on Demerol
1945, May	Dr. J.F. Paquet	Drugs
1945, Oct.	Dr. Knights views as Presented by Mrs. Gish Combined & Balanced techniques, The advantages & disadvantages of different anesthetic agents, and The use of Curare as an adjunct in Anesthesia	
1946, Feb	Dr. J.J. Enkelis	Surgery and Anesthesia as practiced in the Navy
1946, June	Dr. Wright from Squibbs Co.	Intercostin
1946, Sept	Unknown	Curare - An adjunct to Pentathal for Intuvation in Oral Surgery as done at the Samuel Merritt Hosp.
1946, Nov.	Mrs. Johnson	Reports on lectures given at Nat. Meeting
1947, Jan	Mrs. Case	Demonstration of a New simplex Anesthesia Machine at the Dental College
1947, Feb	Dr. Packett	Anesthesia and the Cardiac
1947, May	Dr. Richard Fixot	Flight Surgeon's Photo of India and China
1948, Jan	Unknown	Article on Combined Pentothal and Curare Anesthesia with Discussion
1948, Feb.	Dr. Albert Burns	Demonstration of a Lucite Blade Attached to an Otoscope for Intubation of Infants

1948, March		Film on Pediatric Anesthesia
1948, March	Dr. Werner Zeller	Lecture on Sedation and Fluid Requirements of the Infant Under Anesthesia
1948, Nov.		Film on Curare, Barbiturate and Oxygen Therapy Shown
1949, Feb		Film on Pediatric Anesthesia
1949, March	Dr. Lewis Wright	Intratracheal Anesthesia and Curare
1949, March		Film on Sodium Pentothal and Curare
1949, April	Dr. Phettieplace	A Surgeon Looks at Anesthesia
1949, April	Dr. Tysell	An Internist Looks at Anesthesia
1949, Oct.		Report of Annual Nurse Anesthetists Meeting/w Highlights of the Lectures
1950, Feb.	Dr. Enos	Heart and Lung Surgery
1950, March	Dr. Kirchoff	Generalized Cardiac Arrest and Drugs Pertaining to the Heart
1950, Oct.	Ruth Schierman	Report of the Annual Nurse Anesthetists Meeting/w Highlights of the Lectures
1951, Feb.	Dr. W.E. Zeller	Anomalies and Obstructions in Infants
1951, March	Dr. Haugen	General Discussion Questions and Answers Session
1951, April	Dr. Bueerman	Discussion of Americanism versus Communism
1951, Oct.	Ruth Schierman	Detailed Report of the National Meeting
1951, Nov.	Dr. Green	Pediatric Intubations
1952, Feb.	Mr. Ben Huenergard, Jr.	Liability Insurance
1952, March	Dr. Paul Starr	Auricular Fibrillation
1952, April		Report of the delegates to the Nation Convention & the Western States Convention
1952, Dec.	Dr. Poppe	Anesthesia in Ralation to Chest Surgery
1953, Jan.	Miss McGee	Development of Anesthesia
1953, April	Dr. Hamilton	Pediatric Anesthesia
1953, Nov.	Dr. Poppe	Anesthesia During Chest Surgery
1954, Jan.	Dr. Edwards	Pediatric Anesthesia
1954, April	Mr. Hart	Film: The Modern Recovery Room
1954, Oct.	Mrs. French	Report of the National Lectures
1954, Nov.	Miss Hildebrand	Work of the State Board of Nurse Examiners
1954, Dec.	Miss McQuillen, President of AANA	Address

1955, Feb.	Dr. Robert Luehrs	Atomic Age and its Destruction
1955, April	Mr. Will Murphy	Film: Barbiturate Anesthesia
1955, Oct.	Margaret French	Report of Lectures at the Annual Meeting
1955, Nov.	Dr. Hamilton	Cardiac Arrest
1956, Jan		Slides of Atomic Explosions
1956, Feb	Unknown	Presentation of Medical Legal Issues
1956, April	Dr. Gray	Patient Positioning
1956, Oct.	Marion Seguin	Report of National Convention
1956, Nov.	Mrs. Ann Merrill	Partiamentary Procedures
1957, Feb.	Dr. Frank Jones	New Drugs
1957, March	Dr. Charles Martin	Autonomic Reflexes
1957, April	Miss Hills	Anesthesia Workshop at Walter Reed Army Hosp.
1957, April	Miss Fisher	Mass Casualties, Workshop at Walter Reed Army Hosp.
1958, Jan.	Dr. Watkins, PhD	Suggestive Therapy
1958, Feb.	Dr. Steffanoff	Hypnosis
1958, March	Dr. McDougall	Pediatric Anesthesia
1958, April	Dr. Brandford	Tranquilizers
1958, Nov.	Mrs. Johnson & 6 Participants	Panel Discussion/Hazards in the operating Room & Various Hospital Techniques for Protection
1959, Jan.	Mr Allred	Film/Cardiac Arrest
1959, Feb.	Miss Alice Sharp	Treatment of Cobalt
1959, March		Movie on the History of Anesthesia
1959, April	Dr. David Paul	Artificial Kidney
1959, Nov.		Travel Log - Mass Casualty film did not arrive
1960, May	Leah Wolfe	Report on Western States Meeting
1960, Nov.	Dr. Raymond N. Lowe	Understand Ourselves
1961, Jan.	Dr. Hege	Pediatric Anesthesia
1961, Jan.	Ellen Moore, CRNA	Talk of some kind
1961, Jan.	Dr. Dobson	Problems of Anesthesia

1961, Feb	Sgt. Franklin	Film by Army/"Resuscitation after Cardiac Arrest" & "Mouth to Mouth & Mouth to Nose Resuscitation"
1961, April	Miss Mildred Singer, CRNA & Mr. Paul Hansen	Bird Respirators & Heidbrink Anesthesia Equipment Demo.
1961, April	Dr. Frank B. Hege	Pediatric Anesthesia
1961, Nov.	Bren Kales	Malpractice Insurance & Professional Liability Ins.
1961, Nov.		Films: Geriatric Anesthesia & Intramuscular Anectine
1962, April		Film: Penthrane
1962, May	Not Listed	All Day Workshop
1962, Nov.	Dr. Ron Glossop	Philosophy
1963, Jan.	Dr. Author Jones	Morals and Medicine
1963, Feb.	Dr. Jack Coleman Edwards	Role of Suggestion in Anesthesia
1963, March	Mr. Wendell Basham	Steroids and Their Use in Anesthesia
1963, May	Dr. Nigel Pickering	Blood Transfusions, Before, During and After Surgery
1963, May		Demonstration of Blood Warming Device
1963, May	Dr. Robert Marcus	Fluid and Electrolytes
1963, May	Dr. Ralph Reaume	Drug Support of the Cardiovascular System During Anesthesia
1963, May	Mr. Don Eva	Courts and Judges of Oregon
1963, May	Miss Grace Theresa Gould	The Operating Room Experience as Seen Through the Eyes of the Patient & Family
1963, Nov.	Michael Henry, MD, Anesthesiologist	Anesthesia in Relation to Chest Diseases
1964, Feb.	James W. Woolery, MD	Heart Disease & Anesthesia
1964, March	Clay Meyers	Talk on Welfare Rehabilitation
1964, April	J.W. Brooke, MD	Arthritis
1964, May	Robert Fitzgerald, MD, Urologist	Fluid Absorption in the Urologic Patient
1964, May	Jack Coleman Edwards, MD, Anesthesiologist	Myasthenia Gravis and Muscular Dystropy
1964, May	Bernadine Plebuch	Abnormal Blood Values in Pathological Conditions
1964, May		Film: Haolthane: A Report of Current Medical Opinion, Ayerst Labs
1964, May	Miss Olga Groznik, CRNA	Response of Patients with Paraplegia to Anesthesia

1964, May	Dr. William Hall	Various Problems With the Hospitalized Pediatric Patient
1965, Feb.	Dorothea Ritchie	Psychiatry at Holiday Park
1965, March	Roy Payne, MD, Internist	Geriatric Patients and the Problems They Present
1965, April	Dr. H. Nels Lindell	Hypnosis and Suggestive Therapy
1965, April		Film: Penthrane
1965, Nov.	Dr. Peter Hurst	Slides of India
1966, Feb.	Dr. LeRoy Lamereau, Anesthesiologist	Anesthesia for Open Heart Surgery
1966, Feb.	Mr. Smith & Mr. Bailey from B.&W.	Discussion & Demonstration of Block Aid Monitor in Conjunction with the Use of Anectine
1966, April	Dr. Linahan	Traumatic Injuries
1966, May	Dr. Robert Kalez	Renal Shutdown, Prevention and Treatment
1966, May	Dr. Gordon Maurice	Cardiac Arrest and Resuscitation
1966, Nov.	Frances Podorha	Report on Cardiology Course
1966, Nov.	Mr. Fetter	Steroids a Lecture
1967, Feb.		Six Sessions on Cardiology and the EKG
1967, Feb.	Officers John Giane & Howard Mayhew	Narcotic Problems Relating to Addicts
1967, March	Dr. Bruce Peters	Anesthetizing the Patient With a Full Stomach
1967, April	Dr. L.B. Schilling	Pediatric Anesthesia
1967, Nov.	Mr. L. Jones & Mr. Howard Hinck	Electrolyte Imbalance
1968, Feb.		Round Table Discussion of Anesthesia Problems
1968, March	Dr. Joseph Emmerick	Pediatrics and Anesthesia
1971, Feb.	Mr. William Cochran	Report of Parliamentarian Workshop
1971, March	Dr. Robert McFarlen	Pulmonary Embolism and Sepsis
1971, April	Dr. Monty Ellison	Anesthesia for the Patient With Multiple Injuries
1971, May	Dr. John Loesch	The Concept of Venous Return
1971, May	Dr. Bruce Reinman	Review of Muscle Relaxants
1971, May	Lt. David Bishop	Drug and Narcotic Usage

1971, Nov	Not Listed	All day meeting with lectures
1972, Feb.	Dr. Thomas McGranahan	Delirium and Things
1972, Nov.	Not Listed	All day meeting with lectures
1979, Spring	Dr Albert Vervloet	Evaluating Respirations; Assessing the Heart
1979, Spring	Mr. Alan Harcus, MHA	Responsibility of the Insurance Carrier; Loss and Loss Control
1979, Spring	Dr. John W. Stephens	Pathophysiology and Course of the Disease; Current Therapy and Management of Diabetes; Complications of Diabetes in the Anesthesia Candidate
1979, Spring	Mr. Thomas G. Burns, RRT	Clinical Interpretation of Blood Gases; The Initials Game, Ventilation/Perfusion; Mechanical Ventilators
1979, Spring	Dr. James H. Powell & Dr. James W. Mahoney	Functional Impairment in Renal Disease; Anesthesia for the Patient with Renal Disease
1979, Fall	Robert A. Julian, MD	Balanced Anesthesia: Technique, Definitaion & Limitation; Street Drugs and the Anesthetist
1979, Fall	John H. Tinker, MD	Clinically Useful Cardiac Physiology; Inotropes, Vasopressors and Vasodilators: Making Some Sense Out of Them; Anesthesia for Patients with Ischemic and Valvular Heart Disease; Drug Interactions and Polypharmacology in Anesthesia
1979, Fall	Richard C. Cohen, MD	Resuscitation and Stabilization of the Depresses Neonate
1979, Fall	Robert H. Richardson, MD	Chest Radiology for the Anesthetist; Evaluating Pulmonary Function Studies, Take a Deep Breath If You Can
1979, Fall	Frank Guerra, MD	Awareness During Anesthesia; Psychological Evaluation of the Pre-Operative Patient
1979, Fall	Donald Morgan	Anatomy of the Gas Machine; Troubleshooting the Ventilator
1980, Spring	Guenter Corssen, MD	Advances in Balanced Anesthesia
1980, Spring	Patrick M. Downey, CRNA	AANA Visions for the ‘80s - The Long Range Plan
1980, Spring	Francis L. Sargent, LTC, ANC	Fentanyl Compared to Conventional Narcotics: Some Considerations; Preoperative Evaluation and Selection of Candidates for Balanced Anesthesia; Indications and Uses for Antagonist Drugs
1980, Spring	Bernard A. Kuzava, CRNA	Pharmacology Review of Intravenous Drugs; Common Interactions in Intravenous Drugs

		A Method of Assessment of Anesthetic Depth
1980, Spring	Patrick M. Downey, CRNA	Public Relations and Your Image - The CRNA on Film
1980, Spring	Henry Casson, MD	Malignant Hyperpyrexia - Treatment with Dantrolene Sodium
1980, Fall	Honorable Robert Paul Jones	Professional Responsibilities - The Judges Point of View
1980, Fall	A. Allan Francke	Anatomy of a Lawsuit; Negligence in Practice; Your Courtroom Behavior
1980, Fall	Richard Noble	Problem Areas in Anesthesia - The Patient's Viewpoint
1980, Fall	Mary Jeanette Mannino, BS, CRNA	Statuatory Law and the Nurse Anesthetist: Nurse Practice Acts, Attorney General Opinions, Health Care Laws, and the Legal Process
1980, Fall	John O. Brandford, MD	A Review of Consent and Documentation; The Role of the Expert Witness
1980, Fall	Gary K. Billingsley	Risk Management, Part 1: "Games Anesthetists Play"; "CPR - That's His Job"; "Evaluation - Why and by Whom"; "The Case of the Faceless Anesthetist"; Risk Management, Part II: "Speaking of EKGs"; "Who Runs the PAR?"; "Pediatric and Neonatal Controversy"; "Contracts - Why Ask?'
1980, Fall	Mary Jeanette Mannino, BS, CRNA	Elements of Negligence: Standards of Care, Defenses, Vicarious Liability; Practical Information on Employment Law
1980, Fall	Samuel Scheinberg, MD	How it Feels to be Sued
1981, Spring	William C. Cochran, CRNA	Current Trends in the Practice of Anesthesia; External Impacts on the Practice of Anesthesia; Anesthesia for Pediatric Burn Patients
1981, Spring	Robert M. Julien, MD, PhD	Assessment of the Pediatric Patient; Pediatric Anesthesia; Temperature Problems in Children; Is There a Place for Forane in Pediatric Anesthesia?
1981, Spring	Jeffrey Morray, MD	Anesthesia Circuits for Pediatric Patients; Mortality in Pediatric Anesthesia
1981, Spring	Byron J. Oberst, MD	Fluid Management in the Pediatric Patient; Acute Airway Problems; Psychological Aspects of Pediatric Anesthesia
1981, Fall	Alide Louise Chase, BS, MN	Consumerism and Other Impacts on the Obstetric Anesthetist

1981, Fall	Albert L. Maduska, MD	Changes in Maternal Physiology with Preganacy and Labor; Placental Transfer of Anesthetic Drugs and Gases; Placental Transfer of Anesthetic Drugs and Gases; Assessment of the Newborn
1981, Fall	Gerard M. Bassell, MB, BS	Rational for Obstetric Pain Relief; Anesthetic Management of the Complicated Obstetric Patient
1981, Fall	Mollie Koskela	Pharmacology of Local Anesthetics; Epidural Management in Obstetrics
1981, Fall	Martin Schwartz, MD	Toxemia in Pregnancy
1981, Fall	Harold Cohen, MD	Fetal Monitoring - What Does it Mean?
1981, Fall	A. Chase, G.Bassell, H.Cohen	Panel Discussion/Changing Expectations in Obstetrical Anesthesia
1982, Spring	Leah E. Katz, CRNA	Cardiovascular Physiology; Cardiovascular Pharmacology in Anesthesia; Alpha and Beta Receptors in Anesthesia; Complications of Muscle Relaxants
1982, Spring	Allen Johnson, MD	Pulmonary Function and Pre-Op Stress Tests
1982, Spring	Robert M. Julien, MD, PhD	Narcotic Update: Sequential Analgesia; Pharmocokinetics for the Anesthetist; Intravenous Uses of Local Anesthetics
1982, Spring	Sandra J. Kilde, CRNA, MA	AANA - Issues and Concerns
1982, Fall	Joan Fenelon Garner, RN, MN	The Nurse Anesthetist and the Nurse Practice Act
1982, Fall	Joan Davis, RN, CCRN, CNRN	Neurological Assessment of the Pre and Post Op Patient; Arrythmia Workshop
1982, Fall	Thomas C. Bettman, MD	Preoperative Pulmonary Assessment; Pulmonary Diseases Amenable to Perioperative Therapy
1982, Fall	Allan L. Ross, MD	Review of Post Anesthesia Problems; Preindustion Treatment with Fentanyl and Post Op Implications
1982, Fall	William Kadner, MD	X-Ray Interpretation
1982, Fall	Edward R. Johnson, MD	Stress Free Anesthesia - Front Loading: Feelings; Stress Free Anesthesia: Fluids; Stress Free Anesthesia: Fentanyl
1985, Spring	Edward G. Pavlin, MD	Care of the Trauma Patient Part 1 & 2
1985, Spring	Rex Smith, DPM	Neuroanatomy of the Lower Extremity; Pharmacology of Local Anesthetics; Techniques

		of Lower Extremity Blocks
1985, Spring	Nancy Wittstock, CRNA, MS	Pathophysiology & Anesthetic Implications of Asthma
1989, Spring	Thomas Bettman, MD	Regional and General Anesthesia; Anesthesia and the Asthmatic Patient
1989, Spring	Suzanne Brown, CRNA	Questions and Answer Forum: Professional Issues Affecting the CRNA
1989, Spring	Candy Chapman, CRNA	CRNA Volunteer Practitioner: Anesthesia in the Third World
1989, Spring	Sharry Fassett, CRNA, MS	Introduction to the 12 Lead EKG; Pre-Op EKGs: What They Can Tell You
1989, Spring	Scott Grey, CRNA	Update on Professional Issues Affecting the CRNA; Question and Answer Forum: Professional Issues Affecting the CRNA
1989, Spring	Michelle Haun, RN, CCRN	A Systems Approach to the Management of the Trauma Patient
1989, Spring	Margaret Meyers, CRNA, MAE	Assessing and Anesthetizing the Pediatric Patient for Ambulatory Surgery
1989, Spring	Dan Simonson, CRNA	HCFA, AANA, and the CRNA:Medicare Reimbursement; Questions and Answer Forum: Professional Issues Affecting the CRNA
1989, Spring	Robert Smith, CRNA	The Trauma Team: Principles and Considerations in the Management of the Trauma Patient
1990, Fall	Randall Carpenter, M.D.	New Trends in Pain Management
1990, Fall	Charles Hikes, MD	Peribulbar Blocks: Techniques and Complications
1990, Fall	Robert M. Julian, MD, PhD	Current Concepts in Management of Labor Epidural; Brachial-Plexus Blocks
1990, Fall	Charles G. Lobdell, CRNA	Obstetrical Epidural Complications and Their Management
1990, Fall	Rita S. McClarty, CRNA	Current Concepts in Management of Labor Epidurals
1990, Fall	Leon Robb, MD	Long Term Epidural Management of Cancer Pain; Advances in Chronic Pain Management
1991, Spring	Judy Ekstrom, M.D.	Nausea and Vomiting, Physiology and Therapy; Postoperative Pain Control in the Elderly
1991, Spring	Sandra Maree, CRNA, M.Ed	Diabetes Mellitus: Pathophysiology and Anesthetic Assessment
1991, Fall	Charles Barton, CRNA M.Ed	Mechanisms of Injury: Anesthetic Considerations; Pharmacology of Trauma

		Management; Volume Expanders in Trauma Management
1991, Fall	Richard Egan, CRNA Moderator	Anesthesia Jeopardy - Test Your Skills in Tight Anesthesia Situations
1991, Fall	Scott Grey, CRNA	National Issues for the CRNA; More National Issues for the CRNA
1991, Fall	Thomas Janisse, MD	General Anesthesia for the AIDS Patient; Regional Anesthesia for the AIDS Patient
1991, Fall	Charles McLeskey, MD	Clinical Pharmacology and Use of Desflurane; New Uses for Old Relaxants and Old Uses for New Relaxants; Anesthetic Considerations for Laser Surgery
1991, Fall	Wendell Spencer, CRNA, MHS	Physiology of Epidural Anesthesia; Complications of Epidural Anesthesia
1991, Fall	Jan Strecher, LTC	Tax Talk for Health Professionals
1992, Spring	Keith Burns, MD	Regional vs. Genreal Anesthesia for Major Vascular Surgery
1992, Spring	Richard F. Davis, MD.	Perioperative Cardiac Risk Assessment; Anesthetic Management of the Cardiac Patient During Non-Cardiac Surgery
1992, Spring	Steven Fiamengo, MD	Mazicon a New Reversal Agent; Intravenous Agents for Co-Induction
1992, Spring	Linda Hislop-Williams, CRNA, JD	Awareness Under Anesthesia; Do Not Resuscitate; Informed Consent
1992, Spring	Ken Larsen, MD, PhD	Anesthesia for the Child with URI
1992, Spring	Dan Simonson, CRNA	Conscious Sedation in Ambulatory Surgery; Computers and Anesthesia
1992, Fall	Taru Bhatia, RRT	End Tidal CO≤ Monitoring: Do You Really Know What's Happening?
1992, Fall	Suzanne Brown, CRNA	Placement of a Central Line
1992, Fall	Sharry Fassett, CRNA, MS	Arterial Lines: The Good, The Bad, The Ugly; Single Anesthesia Payments and Medical Direction: A Look into the Future
1992, Fall	Scot D. Foster, CRNA, PhD	How to Read, Assess and Apply Scientific Literature to Clinical Practice; Ethical Issues in Nurse Anesthesia Practice
1992, Fall	Sandra L. Lovell, CRNA, MA, MS	Blood Transfusions: Issues and Advances; Management of Massive Transfusions; Blood Substitutes & Human Recombinant Erythropoietin
1992, Fall	Norman F. Paradise, PhD	Biological Basis for Addiction; "SHOCK" Various Mechanisms and Anesthetic Consideration; Pain Mechanisms & Pain Control
1993, Spring	Hartzell Cobbs, PhD	Marketing Skills in a Changing Healthcare Market; Marketing Through a Professional

		Association
1993, Spring	Wendy Knudsen, MD	Needle Design & Spinal Headache: Does it Make a Difference; Post C-Section Pain Control
1993, Spring	Jeff Leon, MD	Pediatric Controversies
1993, Spring	Gray McCall, CRNA, MHDL	The Difficult Airway; Fiberoptic Bronchoscopy I; Fiberoptic Bronchoscopy II
1993, Spring	Jim McGuire, PhD	Heat & Moisture Exchangers & Filters: Why Bother?
1993, Fall	Judy Ekstrom, MD	Intrathecal Opiate Analgesia for Labor and Delivery
1993, Fall	Beth Glosten, MD	Epidural Analgesia for Labor; General Anesthesia for Cesarean Delivery
1993, Fall	Robert Lawrence, MD	HIV Update for Anesthesia
1993, Fall	Jeanne Learman, CRNA, BA	Designing Your Own Private Practice; Dilemmas in Private Practice
1993, Fall	Michael Martin, MD	The Upsurge of TB & Its Implications for Anesthesia Practice
1993, Fall	Robert Middaugh, MD	Desflurane: Pharmacokinetics; Desflurane: Clinical Applications
1993, Fall	Ken Plitt, CRNA, MBA	Prescriptive Authority: Is It a Barrier to Practice?; Northwest & National Issues: Questions & Answer Session
1993, Fall	Sandra Sticco, CRNA, MA	ACLS Pharmacologic Update: Out-Patient Anesthesia New Trends & Drugs; Outpatient Anesthesia, New Trends, New Drugs
1993, Fall	Terry Wicks, CRNA, MHS	Monitoring, Recovery and Antagonism of Neuromuscular Blockade; Mivacurium & Rocuronium: Comparison & Contrast
1994, Spring	Stephen Bachhuber, MD	Sedation of the Pediatric Patient for Procedures Outside the Operating Room
1994, Spring	Linda Hislop-Williams, CRNA, JD	Informed Consent; Captain of the Ship/Vicarious Liability
1994, Spring	Jeff Kopecky, CRNA, MAE	Total Intravenious Anesthesia, Part I & II
1994, Spring	Nadine Opftbaum	Computerized Anesthesia Records
1994, Spring	Dan Simonson, CRNA	Anesthesia Quality Plus; Reimbursement Issues for CRNAs
1994, Spring	Julie Spores, CRNA, MAE	Anesthesia for the Cardiac Patient Undergoing Non-Cardiac Surgery
1994, Fall	Dr. James E. Caldwell, MBChB	Muscle Relaxants for the Ninties; Clinical Utility of the New Muscle Relaxants
1994, Fall	Sharry Fassett, CRNA, MS	Avoiding Professional Isolation in Rural Practice

1994, Fall	Steven Fiamengo, M.D.	Current Concepts in Neuroanesthesia; Neurosurgical Considerations of Muscle Relaxants
1994, Fall	Charles A. Reese, PhD, CRNA	Techniques of Plexus Blocks of the Upper Extremity - The Axillary Approach; Techniques of Plexus Blocks of the Upper Extremity - The Supraclavicular Approach; Intravenous Regional Anesthesia - The Bier Block; Hands-on Techical Practicum
1994, Fall	Dr. Parvinder Singh, MB,BS,FRCA	Current Concepts on the Treatment of Post Dural Puncture Headache
1994, Fall	Dr. Ron Smith, MD	Review of Obstetrical crises in Anesthesia
1994, Fall	Brent Sommer, CRNA, MPHA	Occupational Safety
1994, Fall	Dr. Patricia Stephens, MD	Latex Allergy; Potpourri of Pediatric Anesthesia
1995, Spring	David Boggs, M.D.	New Look at NPO Status
1995, Spring	Steve Datena, M.D.	Trauma Systems in the OR; New Concepts in Trauma Management
1995, Spring	Scot D. Foster, CRNA, PhD	Issues for CRNAs in Managed Care
1995, Spring	John F. Garde, CRNA, MS, FAAN	Update on AANA Affairs
1995, Spring	Linda Hislop-Williams, CRNA, JD	Anti-Trust in the Managed Care Era; Current Risk Management and Legal Issues in Anesthesia
1995, Spring	Harry G.G. Kingston, MB, BCh, FARC	Pediatric Airway Management
1995, Spring	Jeff Kopecky, CRNA, MAE	Perioperative Nausea and Vomiting
1995, Spring	Steve Teich, MC	Application of OHSU On-line Services for CRNAs
1995, Fall	Charles Barton, CRNA MEd	Various Unique Uses of Rocuronium in Anesthesia; Anesthesia Management of the Pediatric Trauma Patient; Anesthesia Management of the Patient Sustaining Thoracic Trauma
1995, Fall	Yuri Chavez, CRNA, MS	What's up With Conscious Sedation?
1995, Fall	Kelley Gardner, CRNA, MS	Anesthetic Considerations in Patients with Diabetes Mellitus
1995, Fall	Ron Katz, MD	Pre-Emptive Anesthesia; Clinical Update on Anesthesia - What's New and Exciting; Famous and Infamous Malpractice Cases
1995, Fall	Alvin Li, MD	Anesthesia for the Hypertensive Patient

1995, Fall	Ann McHale-Sass, CRNA	Current Options for Ophthalmic Anesthesia
1995, Fall	Dr. Patricia Stephens, MD	MH Update; AIDS Update: Part I and II
1996, Spring	Martin Bogetz, MD	The Laryngeal Mask Airway
1996, Spring	Dan Hagengruber, MD	Anesthesia for the Rheumatoid Patient
1996, Spring	Joel Johnson, MD, PhD	Clinical and Pharmacologic Properties of Sevoflurane; Nimbex (cis-atracurium) a New Muscle Relaxant; Brain Protection in Anesthesia
1996, Spring	Jackie Martin, MD	Metabolism of the Inhalation Anesthetics
1996, Spring	Andrew Oken, MD	Anesthesia for the Critically Ill, Part I & 2
1996, Spring	Stewart Rosenblum, MD	Regional VS General Anesthesia, Pros and Cons; Advances in Pain Management
1997, Spring	Mary Diggles, CRNA	Office Based Anesthesia Practice
1997, Spring	Talmage D. Egan, MD	Clinical Pharmacology of Remifentanil; What's New in Intravenous Anesthesia: New Concepts, Drugs and Gadgets
1997, Spring	Edward J. Frink, MD	Sevoflurane; Sevoflurane vs. Desflurane, Which One Should I Use?
1997, Spring	Jerry Loch, CRNA, PhD	Basic Concepts of a Pain Service; Acute Pain vs. Chronic Pain; Evaluating and Treating the Pain Patient; Case Review
1997, Spring	Gale E. Thompson, MD	New Developments in OB and Surgical Anesthesia; Ropivacaine - A Worthy Successor to Bupivacaine?
1997, Fall	Edgar Canada, MD	Sevoflurane; Pediatric Anesthesia Outside of the Operating Room
1997, Fall	Sharry Fassett, CRNA, MS	The Changing Face of Quality in Anesthesia Care
1997, Fall	John Klein	The Future Role of CRNA's in the Healthcare Market
1997, Fall	Fredrick Payne, MD	Monitoring the Hypnotic Effects of Anesthesia: Clinical Applications of BIS
1997, Fall	Ken Plitt, CRNA, MBA	Anesthesia Simulator
1997, Fall	Diana Quinlan, CRNA, MA	Stress Management for the CRNA; Workplace Violence; Are We Safe at Work?; The Impaired Anesthesia Provider; Recognition
1997, Fall	Charles A. Reese, PhD, CRNA	Technical Aspects of Epidural Anesthesia; Clinical Applications of Epidural Anesthesia
1997, Fall	Ian Wright, MD	Uses for the Laryngeal Mask Airway
1997, Fall	Jared Zeff, ND	Naturopathic Approaches to Pain Management and Acupuncture

1998, Spring	Chris Bernards, MD	Advances in Fiberoptic Laryngoscopy
1998, Spring	John Bramhall, MD PhD	Fiberoptics: The Light at the End of the Tunnel
1998, Spring	Grace L. Chien, MD	Perioperative Cardiovascular Considerations for Non-Cardiac Surgery; Axillary Blocks Reviewed
1998, Spring	Steven Fiamengo, MD	Assessment of Recovery From Muscle Relaxants
1998, Spring	Kelley Gardner, CRNA, MS	New Trends in Diabetic Management
1998, Spring	Scott Kelley	Post-Operative Nausea and Vomiting; Adult Mask Induction with Sevoflurane
1998, Spring	Betty Lou Koffel, MD	Anesthesia Management of Obstetric Emergencies
1998, Spring	William Purnell, Jr., MD	Radiology for the Non-Radiologist
1998, Spring	Kathleen Rodosevich, CRNA, MSN	The Irritable Airway
1998, Fall	Roxy Barnes, RN	Year 2000 Changes in ACLS
1998, Fall	Kumar G. Belani, MD,MS	Non Invasive Blood Pressure Monitoring, A Historical Perspective and Review of Current Technology
1998, Fall	Steven Carlson, MD	The Bullard Laryngoscope
1998, Fall	Mary Diggles, CRNA	Pediatric Sedation for Office Practice
1998, Fall	Ron Edgar, MD	Ropivicaine VS Bupivicaine
1998, Fall	Jodie Fisher, JD	Marketing Nurse Anesthesia Practice
1998, Fall	Allan J. Goldman, MD	The LMA (Fastrach) and The ASA Difficult Airway Algorithm
1998, Fall	Jud Hyatt, RHp	Rational Herbal Choices or Gingko biloba and his Brother Guido
1998, Fall	Betty Lou Koffel, MD	Post Dural Puncture Headaches: You Thought You Knew All About it?
1998, Fall	Martin T. Lynch, MSN, MA, CRNA	The COPA: Another Alternative for Airway Control
1998, Fall	Ken Plitt, CRNA, MBA	AANA and Region 5 Update
1998, Fall	Sandra Sticco, CRNA, MA	Appropriate Patient Selection and Evaluation; The Question of Liability, Business and Professional
1999, Spring	Mary Lawlor, CRNA	Corlopam - A New Class of IV Anti-Hypertensive
1999, Spring	Frank Maziarski, CRNA	Challenges to CRNA Practice
1999, Spring	Gray McCall, CRNA, MHDL	Fast-Track Anesthesia: Agent Selection, Side Effects

1999, Spring	Margaret Meyers, CRNA, MAE	Ethical and Legal Considerations in Transfusion Refusal by a Jehovah's Witness Teenager - A Case Presentation ; Medical & Surgical Management of Significant Blood Loss in a Jehovah's Witness Surgical Patient
1999, Spring	Wendell Spencer, CRNA, MHS	The Good, the Bad and the Ugly of Contract Negotiations; New Modalities of Epidural and Spinal Anesthesia
1999, Spring	Dr. Patricia Stephens, MD	Preparation and Anesthesia for the Pediatric Asthma Patient; Regional Anesthesia for the Pediatric Patient
1999, Fall	Suzanne Brown, CRNA	DNR in the OR; Medical Ethics and Errors
1999, Fall	Dennis Gundersen, CRNA	Anesthesia Quality? Prove It!!!!!
1999, Fall	Helen W. Karl, MD	What's New in Pediatric Sedation
1999, Fall	Evan D. Kharasch, MD	Low-Flow Anesthesia
1999, Fall	Erick Kilgren, CRNA	Case Presentation: Anesthesia for Massive Penetrating Trauma to the Neck
1999,Fall	Lynn "Pete" Peterson	Inhalation Injuries; Anesthesia for the Pediatric Burn Patients
1999, Fall	Ken Plitt, CRNA, MBA	Clinical Application of the BIS Monitor
1999, Fall	Darryl Potyk, MD, FACP	Preoperative Cardiac Evaluation of Cardiac Patients for Non-Cardiac Surgery
1999, Fall	Gary Spanovich, AICP	Effective Communication in High Stress Environments
1999, Fall	Jan Stewart, CRNA	AANA Update
2000, Spring	Charles Barton, CRNA M.Ed	Clinical Applications of Rapacuronium in Anesthesia; Management of the Obese Patient: Supplements, Herbs, and OTC Drug Considerations
2000, Spring	Gray McCall, CRNA, MHDL	New Concepts in Fluid Resuscitation; Alternative Airway Management; Hands on Practice with Cricothyrotomy Trays, Fiberoptic Scopes and LMAs
2000, Spring	Sandra A. Tunajek, CRNA, MSN	Office Based Anesthesia Practice: Is It For You?; Joint Commission 2000
2000, Fall	Mark Antoszyk, CRNA	Current Concepts in Neuro Muscular Blockade
2000, Fall	Mary Diggles, CRNA	LMA's in Dental Practice; Office Based Anesthesia Update
2000, Fall	Jan Mannino, CRNA, JD	Death by Liposuction; Legal Aspects of Office Anesthesia
2000, Fall	Frank Maziarski, CRNA	AANA Update
2000, Fall	Michael Mitton, CRNA	Patient Ventilation Options; Dilution Effect of Low Flow Anesthesia
2000, Fall	David J. Steward, CRNA	Managing Post Operative Pain in the Pediatric Patient

2000, Fall	John G. Weisbrod	OB Anesthesia Emergencies Part I & II
2001, Spring	Jeff Lockwood, CRNA	Case Presentation: Malignant Hyperthermia
2001, Spring	Ann McHale-Sass, CRNA	Peribulbar, Retrobulbar and Van Lin Block for Ophthalmology
2001, Spring	Diana Quinlan, CRNA, MA	Peer Assistance & Substance Abuse in the Workplace; Violence in the Workplace
2001, Spring	Charles A. Reese, PhD, CRNA	Plexus Blocks of the Upper Extremity-The Axillary Approach; Intravenous Regional Anesthesia "The Bier Block"; Clinical Applications of Spinal Anesthesia; Clinical Applications of Epidural Anesthesia
2001, Spring	Wendell Spencer, CRNA, MHS	Anticoagulants in Conjunction with Spinal and Epidural Anesthesia; Complications of Epidural Anesthesia; Update on Pharmacology of Local Anesthetics
2001, Fall	Linda Callahan, CRNA	The Use of Herbal Medications; Cultural Considerations in Perioperative Care
2001, Fall	Thomas Jones, PhD	Planning is Learning; 20/20 Vision: Milestones in Technology & Biotech for the Next Twenty Years
2001, Fall	Jeff Kopecky, CRNA, MAE	Current Concepts in Resuscitation
2001, Fall	Dan Simonson, CRNA	Anesthesia Outcomes for CRNA; The Role of CRNAs in Obstetrical Anesthesia
2001, Fall	Per Thorborg, MD, PhD	Remifentanil Revisited
2001, Fall	Wanda O. Wilson PhD, CRNA	Fast Track Anesthesia
2002, Spring	Charles Barton, CRNA M.Ed	Pharmacology of Trauma Management; Mechanisms of Injury: Anesthetic Concerns
2002, Spring	Suzanne Brown, CRNA	History of Nurse Anesthesia Pt. 1
2002, Spring	Frank Maziarski, CRNA	AANA Update
2002, Spring	James Rich, CRNA	CRNA Emergency Aspects of Pediatric and Obstetric Airway Management; Airway Time Travel; Avoiding the Pitfalls of the Past, Airway Management Outside the OR; The Traumatized Airway, DO's and DON'Ts; Emergency Airway Devices that Saves Your Bacon; Evaluation of the Emergency Airway and Choosing Airway Rescue Techniques
2002, Spring	Wendell Spencer, CRNA, MHS	Update on Blood and Blood Products Use in Trauma; Volume Expansion and Fluid Management in Trauma
2002, Spring	John G. Weisbrod	Anesthetic Management of the Pediatric Trauma Patient; Urgent and Emergent Pediatric

Anesthesia Issues

2002, Fall	Eric Beechly, CRNA	Accessing Anesthesia Resources in the 21st Century
2002, Fall	Suzanne Brown, CRNA	History of Nurse Anesthesia Pt. 2
2002, Fall	Charles (Skip) Draper, CRNA	Continuous Femoral Nerve Blocks Pt. 1 & 2
2002, Fall	Ken Gano, CRNA	Accessing Anesthesia Resources in the 21st Century
2002, Fall	Debra Haight, CRNA	JCAHO Pain Standards and the Anesthesia Dept.; AANA Update
2002, Fall	Ron Katz, MD	Unusual Responses to Muscle Relaxants; Blindness After Anesthesia
2002, Fall	Mark A. Kossick, MS, CRNA	How to Recognize EKG Evidence of Myocardial Ischemia and Infarction Waveform Segment Identification and the 12 lead EKG; EKG Criteria for Myocardial Ischemia and Intraoperative ST Segment; True Chest Leads and Modified Chest Leads
2002, Fall	Frank Maziarski, CRNA	CRNA Practice and Law: How to Stay Out of the Courts
2002, Fall	Dan Slepian, PA, CNIM	Evoked Potentials and Anesthesia
2003, Spring	Rosalind Boyer, CRNA	Update of OB Anesthesia
2003, Spring	Teresa Keane, RN	Assessment of Addiction; Pain in Older Adults
2003, Spring	Kevin Kemp	Case Report: Amniotic Fluid Embolism; PIH Update
2003, Spring	Mary Lawlor, CRNA	Pediatric Road Blocks
2003, Spring	Julie Lowery, CRNA	Anesthesia Implications for the Premature Infant and Beyond; Anesthesia Implications for the Kid With a “Fixed” Heart
2003, Spring	Bonnie O’Hara, CRNA	Update: Resuscitation of Infants

Chapter Eight — History of the Oregon Anesthesiology Group

Table I

OAG Founding Board Members

Baldwin, Timothy MD
Bruss, Reginald MD
Erickson, Douglas MD
Kelly, Steve MD
Marsh, Brian MD

Table II

OAG Original Members

Anderson, Euen MD
Axel, N. Jeffrey MD
Baldwin, Timothy MD
Bernards, Walter MD
Birch, Alexander MD
Bruss, Reginald MD
Bunnage, Steven MD
Burrell, J. Michael MD
Cheek, R. David MD
Farris, R. David MD
Gallison, Claudia MD
Gartner, Katherine MD
Gulick, James MD
Hawley, Virginia MD
Homnick, Kent MD
Howell, W. Lyall MD
Hung, Mayo MD
Jene, Joanne MD
Johnson, John B. MD
Kelly, Steven MD
Lee, Carol MD
Leon, Delores MD
McDonald, Steven MD
Manson, Thomas MD
Marsh, Brian MD
Melman, Mark MD
Patzel, Jerome MD
Pulito, Geraldine MD
Robinson, Valerie MD
Rose, Paul MD
Rosenblum, Stuart MD
Ross, John MD
Scott, Peter MD
Stapleton, Joseph MD
Tolan, Tod MD
Wade, Melvin MD
Weber, Larry MD
Yakimovsky, Yoram MD

Table I — Chapter Seventeen

Faculty at the Oregon Medical School — OHSU

Department of Anesthesiology

Faculty at the Oregon Medical School and at the Oregon Health & Sciences University (the list consists of all faculty during the tenure of each department chairman. Employment years are not included).

Dr. John Hutton

Clinical Instructors:	Russell Enos	Norval Hamilton
	Dolores Defaccio (Mills)	

Frederick Haugen: Faculty from 1948 to 1970

Professor:	John Roth	
Associate Professors:	David Gowing	Rex Underwood
Assistant Professors:	VA Marvin Darsie,	
Medical School:	Roger Klein	Betty Thompson
	Charles Waltemath	
Senior Instructor:	Alice Shannon Fuchs	
Instructor:	Donald Preus	
VA:	Homer Jones	Marion Palmer
	David Boals	Marvin Darcie
Clinical Instructors:	John Branford	Donald Dobson
	Clarence Hagmeier	James Harbor
	Bruce Peters	Paul Schaff

Dr. Norman Bergman: Faculty from 1970 to 1981

Professor:	N. Bergman	
Professor Emeritus:	Fred Haugen	
Associate Professors:	John Branford	Henry Casson
	Roger Klein	Robert Loehning
	Betty Thompson	
Assistant Professors:	Gerald Edelstein	Peter Erbguth
	Carol Hirshman	James Mahoney
	Dennis Porch	Allen Steigerwald
	Walter Sunderlund	Matt Tien
VA Assistant Professors:	Marvin Darcie	
VA Instructors:	Roberta Palmer	Sonia Saceda
	Anne VanKolken	
Visiting	Harry Kingston	

Wendell Stevens: Faculty from 1982 to 1992

Professors:	Dr. Stevens	N. Bergman
	Richard Davis	Carol Hirshman
	Charles Waltemath	

Wendell Stevens: Faculty from 1982 to 1992

Associate Professors:	Alexander Birch	Henry Casson
	Harvey Carp	Hall Downes
	Gerald Edelstein	Steven Fiamengo
	Per Jarnberg	Harry Kingston
	Roger Klein	Larry Priano
	Stephen Robinson	Robert Shangraw
	Betty Thompson,	Donna Van Winkle
Assistant Professors:	David Boggs	Marshal Bedder
	Michael Bennett	Mary Blanchette
	Sook Chang	David Cheek
	Peter Erbguth	Barbara Flemming
	Michael Jamond	Angela Kendrick
	Randall Martin	Jeffery Steinkeler
VA:	Zeena Ahmed	Roberta Palmer
Instructors:	Mark Brackebusch	Peter Brinkley
	Sonia Saceda	
Visiting Faculty:	Kjell Axelsson	Sean Bennett
	Gerald Brown	David Childs
	Peter Courtney	Paul Cramp
	Gunnar Dahlgren	Pierre deVilliars
	VJ Dhanaroz	Fiona Dodd
	Shinuke Dozaki	Martin Dresner
	Ming quo Feng	Kadayeth George
	Nick Gemmell Smith	Joshi Girish
	Rheinhard Haessler	William Horton
	Makato Imae	Per-Olof Jarnberg
	Shigeo Koseno	Paul Leyden
	Per Arne Lonnquist	Liam Lynch
	Peter Mollenholt	Andrew Morrison
	James Mulhall	John Owens
	Eddie Persson	Jonathan Rizharson
	Richard Sarginson	Phillip Thomas
	Peter Toomey	Ian Tweedie
	John Watson	Agnes Wattvill
	Lars Westman	Christopher Wilkins
	Sho Yokom.	
Pain Fellows:	Dwayne Jones	Tim Cotie

Harry Kingston: Faculty from 1993 to 2002

Professors:	Jarnberg, Per-Olof	Kingston, Harry
	Shangraw, Robert	Stevens, Wendell
Associate Professors:	Birch, Alexander	Carp, Harvey
	Casson, Henry	Fiamengo, Steven
	Freeman, Judith	Haessler, Reinhard

Harry Kingston: Faculty from 1993 to 2002

	Hicks, James (Judge)	Horn, Jean-Louis
	Klein, Roger	Koh, Jeffrey
	McGraw, Terrence	Mollenholt, Peter
	Priano, Lawrence	Robinson, Stephen
	Stacey, Brett	Thorborg, Per
Assistant Professors:	Blanchette, Mary	Boggs, David
	Botney, Richard	Carr, Richard
	Chiu, Andrew	Cooney, John
	Cross, Robert	Curtis, Dan
	Das, Asish	Dinsmore, Philip
	Fenton, Lynn	Fiks, Vladamir
	Harrskog, Ola	Hou, Vivian
	Isaacson, Wayne	Jayaram, Ashok
	Kaur, Navni	Kendrick, Angelat
	Kirz, Louise	Kosek, Peter
	Kovarik, Dan	Kubota, Susan
	Laidler, James	Lalwani, Kirk
	Loeb, Sandra	Nelson, William
	Robins, Berklee	Rusa, Renata
	Seropian, Michael	Sibell, David
	Soifer, Betsy	Swide, Christopher
	Thompson, John	Vescovo, Valerie
	Vookles, Jennifer	Zimmerman, Angela
Fellows:	Abu-Ghanam, Mahmoud	Boyd, Donna
	Colantonio, Anthony	Deshpande, Sanjay
	Diaz-Ramirez, Myrdalis	Dogra, Meenakshi
	Fiks, Vladamir	Holguin, Gerald
	Hord, David	Kaur, Navnit
	Klein, Harlan	Kowalkowski, Thomas
	Kumar, Ashish	Neupane, Narayan
	Roberts, Christopher	Siddiqui, Saud
	Singh, Parvinder	Vookles, Jennifer
Ph.D.:	Nelson, David	Olson, Kern
	Van Winkle, Donna	
Instructors:	Abbott, Bruce	Hwang, Jay
	Kaur, Navit	Kubota, Susan
	McCullough, James	Neil, Edwin J.
	Pillai, Sunanda	von Borstel, Eric
	Wilcox, Lee	
Visitors:	Adams, John	Avidan, Alexander
	Bamber, Martin	Bengtsson, Anders
	Bjelland, Ingmar	Bowen, Mary
	Bunemann, Lars	Carlsson, Palle

Harry Kingston: Faculty from 1993 to 2002

Visitors:	Coetzee, Neel	Costigan, Stephen
	Dalsgaard, Jorgen	Dote, Kentaro
	Farquhar-Thompson, Duncan	
	Frederiksen, Hans-Jorgen	
	Frederiksen, Ruben	Gardeback, Michael
	Gozal, Yaacov	Hansdottir, Vigdis
	Haraldsted, Viggo	Hargestam, Runo
	Harrskog, Ola	Hayes, Agnes
	Ishikawa, Takehiko	Jain, Ajai
	Jensen, Tommy	Johnson, Trevor
	Jones, Huw	Kalinowski, Peter
	Kelly, Claire Marie	Kelly, Mary
	Kerr, Catherine	Kipfer-Buchli, Irene
	Kruhoffer, Per-Kristian	Lohan-Mannion, Deidre
	Mayer, Michael	Meller, Mark
	Moriarty, Rose Mary	Mulholland, David
	Nash, Julie	Neuvonen, Pekka
	Odani, Koji	Ostlund, Anders
	Palomino, Hector Medina	Raf, Martin
	Rawal, Narinder	Rubens, Daniel
	Smith, Ray	Sundeman, Henrik
	Svendsen, Flemming	Swanepoel, Anthony
	Tarpey, Joe	Ullman, Johan
	VanRensberg, Adriaan	Yamouchi, Yasuhiro
VAMC Faculty:	Chien, Grace	Chang, Sook
	Christopherson, Rose	Davis, Richard
	Hiroshige, Stephen	Jamond, Michael
	Miller, Diane	Murphy, Jan
	Palmer, Roberta	Soifer, Betsy
	Van Winkle, Donna	Waltemath, Charles
	Wylie, Linda	
Visiting German Residents	Bauer, Stephan	Bernasconi, Patricia
	Brauns, Lars	d'Andrea, Katja
	Didriksson, Ingrid	Diehm, Stephanie
	Doerr, Bernhard	Ebert, Annette
	Eichhorn, Volker	Fisahn, Juergen
	Fottner, Anne Marie	Gerheuser, Florian
	Gries, Heike	Hadrawa, Michael
	Heimerl, Zita	Helwig, Simone
	Jacob, Joerg	Juengling, Alexandra
	Kesel, Karin	Kuehler, Bianca
	Lang, Philip	Lerch, Frank
	Schauer, Axel	Schlott, Martin
	Schneck, Dagmar	Schoenfelder, Renata

Harry Kingston: Faculty from 1993 to 2002

	Steinberg, Martin	Vanden Berghe, Isabelle
CRNAs	Castellan, Deborah	Manchester, Bruce
	Harrison, Lisa	Peters, John
	Reibling, Ken	Ulmer, Lisa
Pain Fellows:	Babiak, Michael	Jayaram, Navnit Kaur
	Boyd, Donna	Fiks, Vladimir
	Christopher Roberts	Hord, David
	Vookles, Jennifer	Holguin, Gerald
	Diaz-Ramirez, Myrdalis	Siddiqui, Said
	Dogra, Meenakshi	Abu-Ghanam, Mahmoud
	Colantonio, Anthony	Kowalkowski, Thomas

Jeffrey Kirsch: Faculty from 2002 to present

Professors:	Davis, Richard	Hurn, Patricia
	Jarnberg, Per-Olof	Kirsch, Jeffrey
	Shangraw, Robert	Traystman, Richard
	Zornow, Mark	
Associate Professors	Birch, Alexander	Freeman, Judith
	Hicks, James (Judge)	Horn, Jean-Louis
	Koh, Jeffrey	McGraw, Terrence
	Robinson, Stephen	Seropian, Michael
	Stacey, Brett	Swide, Chris
	Thorborg, Per	
Assistant Professors	Blanchette, Mary	Botney, Richard
	Brady, Glenn	Burnes, Kevin
	Carr, Richard	Cross, Robert
	Das, Asish	Diaz-Ramirez, Myrdalis
	Dillman, Dawn	Fenton, Lynn
	Hargestam, Runo	Harrskog, Ola
	Hegnell, Lars	Hou, Vivian
	Kalinowski, Peter	Kendrick, Angela
	Lalwani, Kirk	Newell, Christopher
	Robins, Berklee	Robinson, Danny
	Rusa, Renata	Sera, Valerie
	Sibell, David	Swanson, Veronica
	Tanner, Gerald	Vookles, Jennifer
	Woodward, Daniel	Zimmerman, Angela
Science/Education Team:		Alkayed, Nabil
	Henninger, Michelle	Hurn, Patricia
	Mao, Peizhong	Murphy, Stephanie
	Nelson, David	Palermo, Tonya
	Traystman, Richard	Van Winkle, Donna
	Wessel, Kristen	
Visiting Professors	Amata, Andrew	Brambrink, Ansgar

Jeffrey Kirsch: Faculty from 2002 to present

	Fleisch, Juergen	Frietsch, Thomas
	Ivashkova, Yulia	Gonzalez Sotomayor, Julio
	Gruzman, Igor	Merkel, Matthias
	Nielsen, Bjorn	Ninan, Sarah
	Vagnerova, Kamila	
Fellows:	Bader, Rami	Boge, Justin
	Gries, Heike	Lebron, Francisco
	Miles, Kevin	Klein, Harlan
	Ryskin, Alexey	Snell, Timothy
VAMC Faculty	Ahmed, Zeenat	Chien, Grace
	Christopherson, Rose	Dogra, Meenakshi
	Jamond, Michael	Maymi, Carmen
	Miller, Diane	Murphy, Michael
	Wylie, Linda	
CRNAs:	Arce, Cori	Arditti, Douglas
	Bardon, Susan	Castellan, Deborah
	Harrison, Lisa	Novig, Nancy
	Peters, John	Ruff, Shelley
	St. Mark, Jamie	

Table II — Residents at the University of Oregon Medical School — OHSU Department of Anesthesiology

(Year they finished, records as complete as possible.)

1940	Norval Hamilton		
1941	Russell Enos	Virgil Larson	
1942	Dolores Defaccio		
1943	Marjorie Noble		
1944	Fern Greaves		
1945-46	No residents trained		
1947	Marion Moreland?		
1948	Charles Fluke	Anton Kirchof	
1949	John Branford	Marion Palmer	
1950	Peter Green	Herman Vehrs	
1951	Doyle Clouser	Paul Starr	
1952	Jack Edwards		
1953	Clarence Hagmeier	George Marshall	
1954	Donald Brinton	Genevieve Burk	Donald Dobson
1955	Walter Bowman	Vernon Hansen	Raymond Martin
	James Garner		
1956	William Morgan	Paul Schaff	John Roth
1957	Harry Evans	Tsuomu Oyama	Rex Underwood
1958	Marsh Perkins	Everett Wilson	
1959	James Harber	Frank Mather	
1960	Robert Allison	Robert L. Anderson	Robert Gilbert
1961	Robert Alzner	Kenneth Hilllyer	Raymond Maas
	Charles Bennett		
1962	Annelene Amirana	Stephen Bennett	Roy Clarke
	David Gowing	Everett Jones	Joe Naemura
1963	Richard Cauthorn	James Fraser	Clayton DeBruin
	Joanne Jene	Lawerence Swetland	
1964	Samuel Bennett	Bruce Peters	George Zupan
1965	Carl Chapman	Hope Davidson?	Christine Mackert
	Marilyn Mickey	Charlotte Thompson	
1966	Jerry Bass	Harry Keffer	John Zevely
1967	Joyce Braun	John Egan	David Holmes
	Alice Shannon	Mynra Newland?	
1968	Galen Coffin	Robert Gustafson	Bhawar Singh
	Loren Stanley		
1969	Hollis Augee	Homer Jones	
1970	Peter Erbguth	May-Ho Hung	Robert Kuhl
	Susan Norcross	Micheal Nichols	Earl Sherod

	Gary Okino		
1971	Richard Otteman	Donald Preuss	Charles Poindexter
	William Roady		
1972	Katherine Gartner	John Hasbrook	Franchot Love
	C. Bruce Reiman	Edward Sasaki	Robert Sotta
1973	Raymond Hoppins	James Powell	Thomas Osterlind
	Myong-Hwan Kim	Dan Yoshioka	
1974	Garth Eberle	Milton Hummer	Kay Kenney
	Edward Kice	Robert Ruble	Paul Shields
	Anthony Sikes	Walter Sunderland	
1975	Gregorio deGuzman	Virginia Hawley	Robert Kandt
	Alexander Kehayes	James Mahoney	Werner Meier
	James Peterson	Alexander Worobey	
1976	David Hernandez	Everett Knott	Lance Parks
	Geraldine Pulito	Barry Olson	Virginia Rankin
	Juree Vanichobchinda		
1977	William Barnett	Gerald Edelstein	J. Lance Elliot
	Erica Meyer-Arendt	Anne VanKolken	
1978	Lee Goulter	Colin Kaeder	J. Mike Mathews
	Nickolas Mechlem	Jaroslav Nemec	Raymond Norgaard
	Dale Nunez	Russell Paravecchio	Joseph Rosenberg
	Gerald Siemans	Gregory Wright	Steven Zack
1979	Arthur Barnett	Mark Brackenbusch	Reginald Bruss
	Delores Leon	Jon T. McCoy	Clyde Nakayama
	Larry Weber	Michael Wilken	
1980	J.R. Griffith	James Harvey	Jeffery Hill
	Robert Julian	Jon McCoy	Ronald Notestine
1981	Ian Cartwright-Lee	Janice Casey	Wendy Knudsen
	Rodney Lee	Christine Schlickting	Roger Stuart
	Ronald Wayne		
1982	Joseph Bond	Kenneth Herrick	Kent Homnick
	Walter Krieger	Daniel Larson	Jerome Patzel
	Janice Vaughn		
1983	Lee Anderson	Teresa Garland	Gordon Gornbein
	John Hahn Jr.	Jeanne Hermans	Eugene Herbert
	Herbert Kloss	Richard Kloor	Thomas Manson
1984	Laurence Ayres	Thomas Boubel	Gerin Chun
	Steven Garcia	Gordon Genskow	
1985	Richard Barton	Peter Brinkley	John Budd
	Jack Gildar	Jeffery Lee	Barbara Miller
	Susan Minson	Terence Orme	Joseph Stapleton
	Jeffery Wolfe		
1986	Euen Anderson	Steven Bunnage	Tanith Graham
	Ward Hanna	Leland Hanowell	Mark Melman
	Chester North	Robert Tenold	

1987	Elizabeth Billerbeck	Claudia Gallison	James Gulick
	Angela Kendrick	Alvin Li	Brian Marsh
	Mark Mastrandea	Susan Meyers	Steven MacDonald
1988	Jeffery Jones (beginning of the third year residency)		
1989	John Johnson	David Ladich-Rogers	William Vandermolen
	Vince Erickson	Mary Blanchette	John Evans
	Thomas Cox	Dana Smith	
1990	Stephen Boe	David Boggs	Michael Finn
	Robert Goldman	Michael Orchard	Frank Palmrose
	Amy Ream	Linda Schatz	Harvey Zar
1991	Susan Dahlberg	Michael Jamond	Dan Johnson
	Pierre Provost	Mark Rush	Curtis Schweitzer
	ChristopherSwide	Sandra Thompson	
1992	Helen Bedder	Bruce Bolton	Bradley Christiansen
	Randall Ford	Deborah Garvey	Jay Richards
	Richard Tschoeke	Carol Unitan	Andrew Vandermolen
	Ross Vogelgesong		
1993	Michael Banyas	Michael Ferries	Betsy Garlitz
	Stephen Hiroshige	Jay Hwang	Steven Parker
	Derek Sonneburg	Myles Standish	James Staples
	Gordon Tadwaldt	Cliff Tsai	
1994	Brent Anderson	Ying Au	Kevin Fujinaga
	Mark Gilbert	Gregory Haines	Vincent Herr
	Bruce Hinshaw	Jon Miyagi	Donna Pope
	Edward Yuan		
1995	Wei Chao	David Cho	T. Dan Dibble
	Kim Geelen	Susan Kubota	Janet Murphy
	Timothy Noreuil	Elizabeth Oakes	Nicholas Schiller
	Lee Wilcox		
1996	Vladimir Fiks	Fariba Foroushani	William Hastings
	Wai Lee	James McCullough	Diane Miller
	Kourosh Motadi	Hamish Rickett	
1997	Linh Bui	Ravi Chikalingaiah	William Crowley
	Donna Hausken	Eric Kim	Timothy Phillips
	Lane Robinson	Laura Slaughter	
1998	Bruce Abbott	John Kidd	R. Guy McDermott
	Kris Ostrowski		
1999	Sunanda Pillai	Stephanie Riddle	Jaroslav Strba
	Anthony Wood		
2000	Michaela Coman	Asish Das	Thomas Davenport
	Michael Kane	Narayan Neupane	Myrdalis Diaz-Ramirez
2001	Michael Bespaly	James Harrington	Wendy Heberle
	Fayzel Lee	Blake Vanmeter	
2002	Kevin Burnes	Tatiana Derlugn	Maja Destot-Jananovic
	James Murphy	Bruce Ross	Stephan Westerhout

2003	Branden Allen	Darin Brandt	Nathan Hildebrandt
	Marlon Michel	Stacy Rietze	Sara Youngman
2004	Ethan Gaumond	Michael Hutchins	Sara Metcalf
	Marco Robin	Andrew Ruskin	
2005	Patrick Bakke	Pamela Campbell	Noor Mansouri
	James Obester	Steven Onstad	

Index

Notes: Italicized numbers indicate photographs.
Contents of the appendix have not been included in the index.