September 1986

The OHSU includes the schools of Dentistry, Medicine and Nursing; Institute for Advanced Biomedical Research; University Hospital; Doernbecher Memorial Hospital for Children; Outpatient Clinics; and Crippled Children's Division.

The Oregon Health Sciences University

ONEWS

Welcoming hands open doors for university guests

Extra helping hands have recently been added to the special services already being offered at the Oregon Health Sciences University. Carefully moving a disabled patient from a car to a wheelchair or confidently giving directions to a visitor, these hands belong to the university's new doormen, Steve Swanson and Navin Chand, who serve the hundreds of patients visiting the OHSU's University Hospital and Clinics every day.

The Oregon Health Sciences University understands the importance of people, and whether a patient's stay lasts a week or an hour, the university's employees hold a strong commitment to providing the quality care and warmhearted attention that all visitors deserve. Swanson and Chand introduce that commitment, which guests experience throughout all stages of the care they receive on the Hill.

Special treatment begins with feeling special. "Swanson and Chand set the tone for the kind of treatment patients and their families receive at the university," says Barbara Glidewell, University Hospital's patient advocate. "The message the doormen convey is that we are all here to take the extra measures necessary for distinctive and compassionate care," she says.

Swanson's and Chand's welcome provides an array of support. Outside the Outpatient Clinic from 7:30 a.m. to 4 p.m., Monday through Friday, Swanson is acutely aware that each arriving car brings a guest with a different need. During an average day, he may find wheelchairs and guide disabled patients into the clinic's wheelchair entrance, watch over children as their parents park, help patients and visitors off buses and out of taxis, or give general and parking information to any passerby needing it.

Keeping watch from inside the clinic, Chand acts as a bridge between Swanson's initial welcome and the patients' health care professionals. Wearing a beeper that informs him of patients needing help from any one of the 60 university clinics, he assists patients as they arrive and leave. Chand can sometimes be found outside the entrance providing extra support for Swanson.

The outreach of the doormen helps patients approach their health care visits with less confusion and greater confidence. "Because we are such a huge institution and patients often don't feel well, it's easy for them to become disoriented," says Swanson, a university employee for 9½ years. "We want to help by giving the information the patients need to avoid confusion. We want patients to feel comfortable from the moment they arrive on campus," he says.

One such patient is Anne Morris, who has been coming to University Hospital and Clinics for radiation therapy regularly for 2½ years. She comments, "I see so many people here who would have to struggle to get around if they weren't here to help. The doormen notice everyone; they're so pleasant and alert."

Feeling cared for and secure has an effect on the way we respond to treatment. "All of us do much better in a situation where we feel comfortable and welcome," says Bill Collins, director of ambulatory care and emergency services. "The doormen illustrate the importance of caring in the effectiveness of health care."

Some patients are reluctant to ask for help and need someone to recognize their needs. "One elderly woman had a cane and was staggering," Chand says. "She needed to travel quite a distance, but she didn't want a wheelchair." Chand's answer: He walked alongside her, supporting and talking with her until she arrived at the clinic for the next stage of her care on the Hill.

LARRY LEWTON

For many patients, Steve Swanson provides the first sample of special attention and treatment they will receive throughout their care at the Oregon Health Sciences University.

While other hospitals may be cutting back on programs, the doormen are additional evidence that those working on the Hill are continuing to build on the university's existing services, allowing them to

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The late Edmund Hayes, left, established the medical school's top student award, the Gold-Headed Cane, to honor his father, Dr. Edward S. Hayes. Dean John Kendall greeted Hayes and his daughter, Cornelia Stevens, at 1986 commencement ceremonies.

OHSU benefactor Vollum remembered

Howard Vollum, a founding member of the OHSU Board of Overseers and major contributor to the university, died Feb. 3 at age 72. Dr. Leonard Laster, university president, has praised Vollum's powerful influence on the Oregon Health Sciences University, saying, "When the history of this proud institution is written, the name of Howard Vollum will be woven inextricably into the pattern of its achievements and its contributions for the betterment of humanity."

The Vollum family's active participation on behalf of the OHSU continues through Vollum's widow, Jean, who has succeeded him on the Board of Overseers.

Howard Vollum was a co-founder of Tektronix Inc. and one of Oregon's major philanthropists. His significant contributions to the OHSU include the initial major gift that inspired creation of the Institute for Advanced Biomedical Research. He and his wife anonymously donated $5 million in 1981 — a gift that gave impetus to a $20 million federal appropriation for constructing the facility (which will be finished and occupied this fall) and to a later $1.8 million grant from the Murdock Charitable Trust supporting research in the institute.

Last summer the Vollums' identity as the anonymous donors was revealed at a special OHSU celebration. Laster announced then that Dr. Edward Herbert, director of the IABR, and successors to his position would hold the additional title of Jean and Howard Vollum Professor of Molecular Biology at the OHSU. Acknowledging this honor with characteristic modesty, Vollum said that he and his wife were "pleased to play a small part" in the institute's development.

In February of this year, after Vollum's death, Laster said, "Howard Vollum's ties to the Oregon Health Sciences University date back through the years. In the early days of his development of the oscilloscope, he collaborated with several neuroscientists in the medical school to help them with their research. He and Jean

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Also in this issue:

Bloom named to chair Department of Psychiatry

Law and psychiatry inevitably interact, says Dr. Joseph Bloom. The recently named chairman of the Department of Psychiatry spends much of his time studying forensic psychiatry, or how changes in the legal system affect the mentally ill and the practice of psychiatry. In fact, he's an authority in this field. He serves as a consultant and speaker on related topics across the country and in Canada.

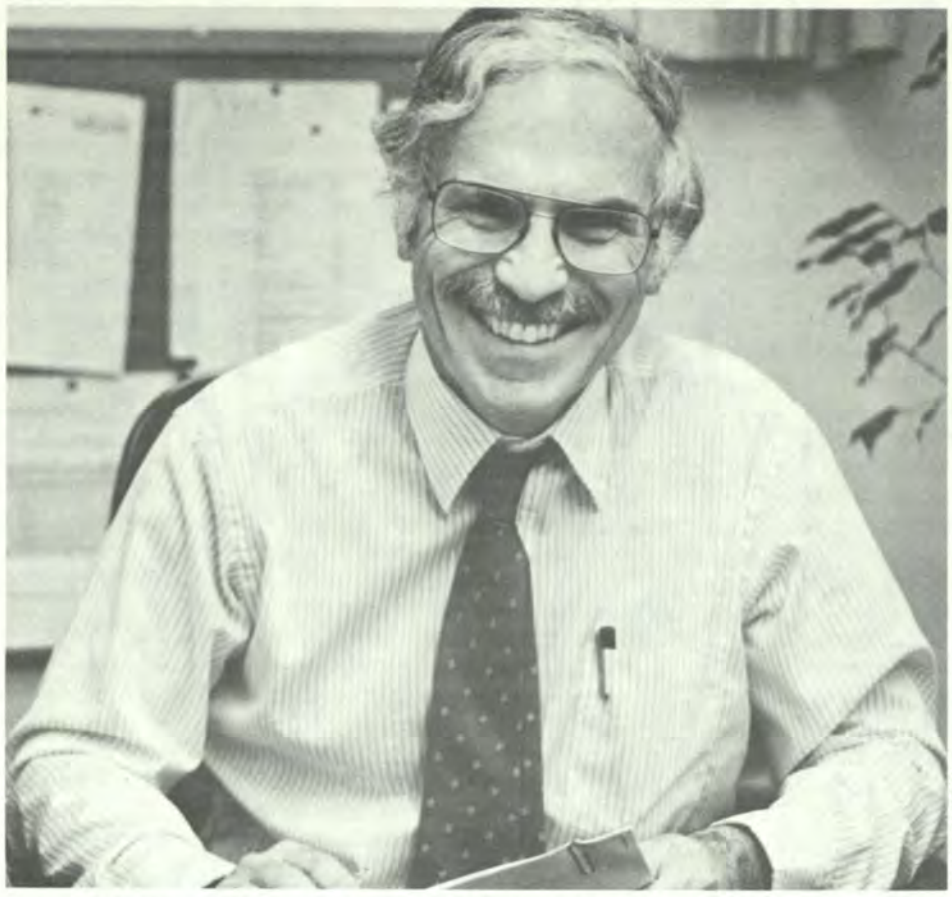
Bloom's other main area of study is community psychiatry. He has widely researched and published papers on mental health issues of Alaska natives and was director of the psychiatry department's Community Psychiatry Training Program until assuming his new post earlier this year. Dr. David Cutler succeeded Bloom as head of the community psychiatry program.

In announcing Bloom's appointment, Dr. John Kendall, dean of the School of Medicine, commented, "He is perhaps the best-organized leader in the field of psychiatry I have ever met. He has remarkable analytical skills and knows how to draw people together and get the most from them. Dr. Bloom is nationally recognized in community and forensic psychiatry and has been highly effective in organizing mental health programs in Oregon."

OHSU President Leonard Laster said, "I am delighted with Dr. Bloom's appointment as chairman. The leadership and creativity that he brings to his discipline will foster the continued growth and evolution of what is, already, a very strong department.

"As the entire university establishes itself as a premier center in the neurosciences, the strength of the Department of Psychiatry will be an important synergistic factor in promoting excellence."

Bloom is pleased to be at the helm of such an active psychiatry department, he says. "We have specialists in many aspects of psychiatry and a tremendous number of things going on in research and clinical work," he points out. Faculty members work with all ages, from children to the elderly, and with a variety of cultures. Psychiatric staff members at the Veterans Administration Medical Center work so closely with the university that the two psychiatry departments are really one, Bloom says.



LARRY LEWTON

Dr. Joseph Bloom, recently named chairman of OHSU psychiatry department, discusses accomplishments and plans of the department.

He cites examples of the variety of work going on in the department:

- research on chronobiology, or how light affects the body's biological clock
- research on schizophrenia and movement disorders associated with the major drugs used for treatment
- a growing focus on geriatrics, including research on the geriatric population and chronobiology, a study of the effects of brief psychiatric interventions on medical care for older patients, and treatment programs for severely mentally ill geriatric patients who also have physical problems
- a mental health program for seriously ill Indochinese refugees
- experts in posttraumatic stress syndrome who work with veterans, Cambodian refugees, children and adolescents
- the Psychiatric Crisis Unit, providing inpatient care for Portland's most highly disturbed patients
- treatment for alcohol and other drug problems: outpatient treatment at the Alcohol Treatment and Training Center (which recently graduated its 20th class of alcohol counselors) and inpatient treatment at the Vancouver VA Hospital
- consultation to the state Board of Medical Examiners to help rehabilitate imparied physicians by monitoring treatment programs for substance abuse
- the Community Psychiatry Training Program, nationally known as a model for this kind of program. Faculty of this program are doing research on involuntary commitment of psychiatric patients and have recently written a book chapter on state-university collaborative programs.

As for the future, Bloom says, "We want to continue to have a department that's balanced between biological studies on one end and social and community psychiatry on the other. And we want to continue to have a faculty that can make scholarly contributions in their areas of interest as well as treat patients.

"Currently we are looking for a senior-level clinician and researcher to help put together a special focus on schizophrenia. This person would be a bridge between clinical work and laboratory research and would work with our department, the neurology department and the Institute for Advanced Biomedical Research," Bloom says.

The addition of the IABR to campus brings the potential for exciting advances in psychiatry, Bloom says. The institute's study of molecular biology may help scientists understand problems in the brain that lead to the symptoms of mental illness. Schizophrenia is a particular challenge because it's the most serious of the mental illnesses, he says. In fact, "Schizophrenia is an old term for what will turn out to be several different conditions. Perhaps with the help of molecular biology we'll be able to tease apart these differences."

Bloom received his medical training at Albert Einstein College of Medicine in Bronx, New York. He interned at Mt. Zion Hospital and Medical Center in San Francisco. During his psychiatric residency at Massachusetts Mental Health Center in Boston, he was a teaching fellow in psychiatry at Harvard Medical School and chief psychiatry resident at Southard Clinic. He completed a fellowship at Harvard Medical School Laboratory of Community Psychiatry.

Bloom spent two years as chief of the mental health unit in the Indian Health Service of the Alaska Native Health Service and eight years in private and community psychiatry in Anchorage. He joined the OHSU in 1977 as director of the Community Psychiatry Training Program and an associate professor of psychiatry.

Bloom was vice chairman of psychiatry from 1980-85 and acting chairman since June 1985, when former chairman Dr. James Shore left for the University of Colorado.

Recently Bloom was elected president of the American Board of Forensic Psychiatry for a year's term beginning July 1. He is also the nominee for vice president of the American Academy of Psychiatry and the Law.

Warm greetings make patients' visits easier, save time

(continued from page 1)

give even better treatment. "Providing doormen shows we are serious about the way we treat our patients," says David Witter, interim director of University Hospital.

OHSU President Leonard Laster expands on this point. "The doormen continue the university's effort to enhance the culture of the university — every person from the Hill that a guest meets is a patient advocate," he says.

Having doormen helps the university respond to changing trends in its patient populations, especially the increase of seriously ill outpatients. Patients and visitors are also spending less time getting in and out of the clinics and hospital, according to John Blackmon, manager of the OHSU's Transportation Department and the doormen's supervisor. "As a result of the increased convenience Swanson and Chand bring to our guests, a substantial amount of time has been taken off each visit," he says.

A two-week study, conducted last spring by the university, inspired the hiring of the doormen. The study examined the typical events encountered during a visit to the campus in order to find ways university services could be even stronger and patient visits to the Hill enriched.

The doormen are people helping people. Using warm voices and welcoming hands, they provide signs of the caring that prospers at the university.

Acting as close friends who offer their home as a refuge after an exhausting trip, Swanson and Chand open the door and invite guests of the Hill into another place of hope and comfort — the Oregon Health Sciences University.

LARRY LEWTON

The university's doormen, Steve Swanson, left, and Navin Chand, facilitate and enrich patients' visits to the Hill.

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The Oregon Health Sciences University, Office of University Communications
3181 S.W. Sam Jackson Park Rd.
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Leonard Laster, M.D., President

Marlys Levin, Communications Director

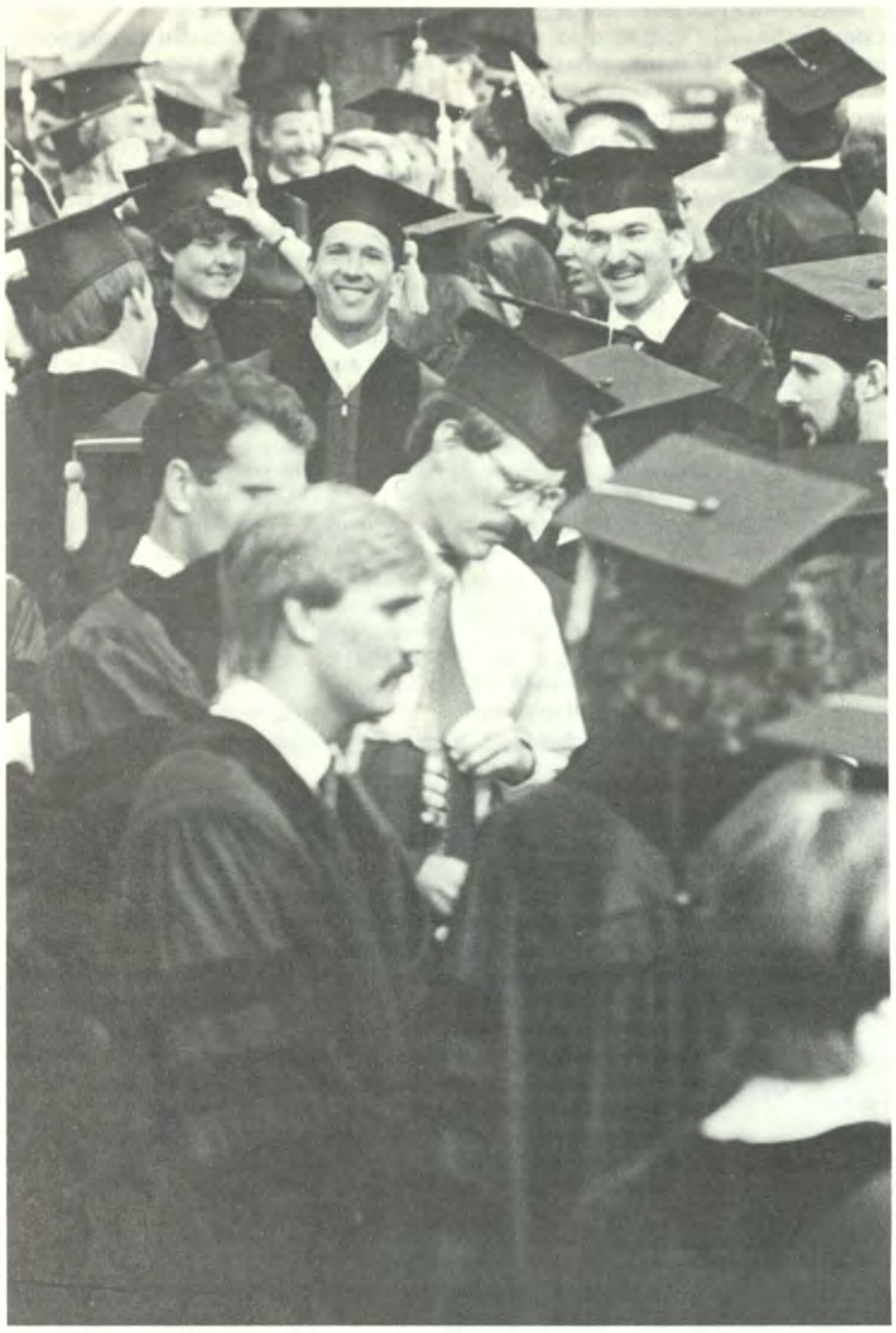
Judy Ceniceros, Editor/Writer

Nancy Bolton, Teresa Fausti, Tom Kruse, Contributing Writers

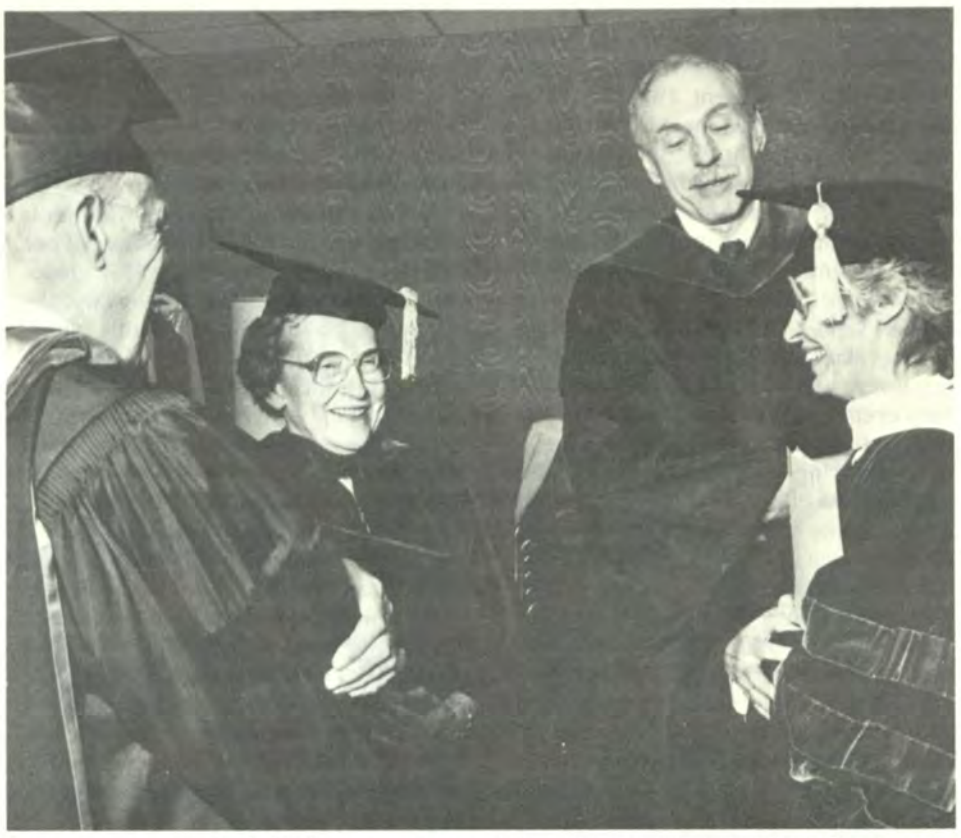
Jim Craven, Larry Lewton, Commencement Photographers

Joan Gisselberg, Designer

New journey begins for 346 OHSU graduates



Graduates of all three schools of the OHSU heard good advice, received awards, reflected on their school careers, anticipated the future and said good-bye to the campus on June 13. New health professionals then scattered to further their training or begin their careers.



Commencement speaker Edith Green (second from left), former congresswoman from Oregon and a teacher before that, shares a light moment with the OHSU's three deans: Drs. John Kendall, School of Medicine; Henry Van Hassel, School of Dentistry; and Carol Lindeman, School of Nursing.

The OHSU's classes of 1986, if they heed their commencement speaker, will do more than "fulfill minimum requirements and meet specified obligations." The remarks of Edith Green, former congresswoman, emphasized compassion and devotion to patients — the same theme that highlighted the top student awards. (See story on page 4.) Green pointed out that "when you really care, you can throw yourself into the activity with full spirit and full enthusiasm and try to make the difference between helping society merely to survive, and helping society to prosper and flourish."

All of the faculty members thus honored serve as models to their students; their method of teaching embodies the same values they hope the future health professionals will apply in their careers.

Green has never been satisfied with "fulfilling minimum requirements" in her chosen fields of education and public service. She was a teacher before serving 20 years in the U.S. House of Representatives. In Congress, working on the House Committee on Education and Labor and as chairwoman of the Special Subcommittee on Education, she was instrumental in writing and passing the Higher Education Facilities Act of 1963.

She told the graduates on June 13, "Of all the activities I know, it is especially the ones you are about to enter that require you to give an extra measure of yourselves . . . You must reach deep inside yourselves and grow as human beings and share that growth with the people who are entrusted to you."

Also greeting the graduates was Gene Chao, chairman and chief executive officer of Metheus Corporation, representing the Oregon State Board of Higher Education. Betty Gray, chairwoman of the OHSU Board of Overseers, was unable to attend the ceremony but sent her greeting: "This is an exciting time to be involved in the health sciences. But with all the new knowledge and new techniques there remains the need for the constant — the caring, loving professional. It is my hope that each of you will continue to grow in wisdom and in love."

A total of 346 students received degrees or certificates that evening. They included 87 from the School of Dentistry (61 with doctor of dental medicine degrees, 11 with postdoctoral specialty certificates and 15 with bachelor of science in dental hygiene degrees); 118 from the School of Medicine (88 with doctor of medicine degrees, 11 with doctor of philosophy degrees in one of the basic sciences, four with master of science degrees in a basic science and 15 with bachelor of science in medical technology); and 141 from the School of Nursing (95 with bachelor of science degrees from the Portland campus, six with bachelor of science degrees from the La Grande campus at Eastern Oregon State College, 13 with master of nursing degrees and 27 with master of science degrees).

For the third year, President Leonard Laster emphasized the importance of the university's educational mission by recognizing individual faculty members with the University Excellence in Teaching Award. All of the faculty members thus honored serve as models to their students; their method of teaching embodies the same values they hope the future health professionals will apply in their careers:

- Dentistry, Dr. Fred Cowan, chairman and professor of physiology and pharmacology — "a kind and respected listener who will go out of his way to assist any student experiencing academic or personal problems."
- Dentistry, Dr. Roger Lunt, associate professor of pediatric dentistry — "relates to students in a way that promotes mutual respect."
- Medicine, Dr. Reid "Sam" Connell, professor of cell biology and anatomy — "well-known as a counselor to students."
- Medicine, Dr. Robert Meechan, professor of pediatrics — "His enthusiasm makes the mundane interesting and the common problem exciting."
- Nursing, Meredith McCord, instructor in adult health and illness — "supportive, enthusiastic and stimulating instructor who maintains high standards for both herself and her students."
- Nursing, Dr. Virginia Tilden, associate professor of mental health nursing — "sensitive teacher . . . professional, articulate and respectful of student opinions."

The university's highest honor, the Distinguished Service Award, is given to a friend of the institution or to an admired practitioner of the skills it imparts, to reinforce the university's dedication to its basic values. This year the award honored one of the university's greatest friends, Howard Vollum, who died earlier this year. (See story on page 1.)

Laster cited Vollum as "a native son of Oregon, a creative genius, a caring entrepreneur and, above all, an individual with deep and abiding concern for people. His unyielding commitments to excellence, to understanding life and to improving the human condition have left an indelible imprint on the future of this university, this state and this country. It is with deep pride that we present this posthumous award to the memory of his contributions."

Dr. Fred Cowan

Dr. Roger Lunt

Dr. Reid "Sam" Connell

Dr. Robert Meechan

Meredith McCord

Dr. Virginia Tilden

Students honored for compassion as well as skill

Behind the parchment or plaque of each award given during commencement lies a personal story of extra effort, dedication and achievement. The OHSU's top five student award winners for 1986 were among many students recognized for the special qualities needed in a health care professional. The awards are given for integrity, compassion, sensitivity and service to patients as much as for skill and scholarship.

Holly Saporito, who received her nursing baccalaureate degree with highest honors last month, is one of the students who exemplify the values of the university. It wasn't her first bachelor's degree; before moving to Oregon she graduated from Eastern Illinois University with a degree in home economics, specializing in family service.

Saporito worked in social-service positions after college but found herself doing more and more administrative work. She prefers to work directly with people, especially families. Appropriately, after graduation last month, she started her nursing career right on Marquam Hill, in University Hospital's Mother-Baby Unit.

During nursing school Saporito found time to volunteer at Outside-In's medical clinic in Portland, work part-time, chair the school's student senate and take part in other activities. Faculty and students of the School of Nursing honored her with three awards:

- the Undergraduate Dean's Award for scholarship based on a paper
- the Jean E. Boyle Memorial Award for distinguished service to student government, the community and mankind
- the undergraduate Sigma Theta Tau Award for scholastic achievement, professional integrity and leadership ability.

The Gold-Headed Cane honors "compassionate devotion and effective service to the sick, with the conviction that the award's holder will forever epitomize and uphold the traditions of the true physician."

Terri Harvath earned the Graduate Dean's Award in the School of Nursing for scholarly work. Her area of study is older people and the family members who care for them. "I've been interested in geriatric nursing throughout my career," she says. She believes this interest coincides with an awareness across the nation that "soon we'll have a large elderly population, and we need to be prepared for it."

Families bear an increasing burden of dealing with older people's medical problems, Harvath says. "As health care professionals we need to do a better job of addressing the needs of both older people and their families."

Harvath was attracted to the OHSU to do just that. After earning her baccalaureate nursing degree in Wisconsin, she came west specifically to work with Dr. Patricia Archbold, professor of family nursing, in studying relief services for families who take care of aging parents.

During the past academic year, Harvath was working half time on the research study, finishing her master of science degree and starting work toward her Ph.D. She plans to finish her schooling in 1990, then combine teaching and research.

Thus she'll be equipped to pass along to others her expertise, carefully acquired over a long period, in geriatric nursing and long-term care.

Linda Hanley received the top award for a dental hygiene graduate, the School of Dentistry Alumni Association Award. It recognizes a student with outstanding scholastic achievement, human relations and professional attitude.

According to dental hygiene faculty, Hanley is a fine clinician with unusual ability to accept responsibility and work independently, using excellent judgment.

Hanley was the student always willing to take a patient with hepatitis or other medical complications. "I feel it's my responsibility as a professional to take care of them like anybody else," she says. She developed this attitude, along with her interest in dental work, at the elbow of her father, Dr. Norman Hanley, a 1957 graduate of the OHSU School of Dentistry. She assisted in his dental office during high school.

Every job she's held, Hanley says, had to do with taking care of people. Next she'll be taking care of people in Iowa, where she and her husband moved this summer. She plans to work as a hygienist and go to graduate school, and hopes eventually to combine clinical instruction with private practice.

For **Amy Ogawa,** the road to her career choice was long and twisted. As she describes it, "I went to quite a few years of undergraduate school because I wasn't sure what I wanted to do. Then I decided to be a dental hygienist, which took two more years of study. After that I decided on dental school, and it took another two years of undergraduate work to meet the requirements. Then four years of dental school. I've been a professional student, but I'm not going to be one any more." Instead, she'll practice dentistry in her home state of Hawaii. There she'll finally have more time to spend with her daughter, 11-year-old Deanne.

Deanne reports that her mother always tried to spend as much time as possible with her, despite sometimes having to study until 4 a.m. Ogawa also worked part-time during the school year at the Student Activities Building; in the summertime she was a dental hygienist in Hawaii.

Ogawa attributes her success in the School of Dentistry, including winning the school's top award, to her family and the patience of her daughter. "Actually the award goes to her," she says.

Others would disagree. For the Stephen P. Peglow Memorial Fund Award, Ogawa was selected by fellow class members and the faculty as possessing the qualities most desirable in a dentist, including integrity, humility, compassion, skill, sensitivity to patient needs and dedication to service. She also received the American Association of Women Dentists Award.

James Hedtke took even longer to decide what he really wanted to do: go to medical school. He earned a Ph.D. in pharmacology, was a researcher at Oregon State University, then joined the faculty of the OHSU School of Dentistry's pharmacology department. There he taught and did research in environmental toxicology.

But five years ago, at age 37, he told his wife, "If I had it to do all over again, I'd become a physician." She replied, "Then do it, or don't talk about it again."

The commitment to Hedtke's late career choice included sacrifices by the whole family. He worked part-time while going to school and his wife worked six days a week. The couple and their teenage daughter moved into the basement and rented the rest of their home to other medical students. It was a constant struggle, Hedtke says, but, "It was okay. Adversity brings people together."

Entering medical school at 38 years of age, Hedtke worried about being accepted by the other students. That turned out not to be a problem at all. He fit in so well that as a sophomore he was one of two students honored for epitomizing the finest qualities of a physician.

When Hedtke graduated, the School of Medicine gave him its highest tribute, the Gold-Headed Cane Award. He was selected by fellow students and faculty members, "in recognition of compassionate devotion and effective service to the sick, with the conviction that the award's holder will forever epitomize and uphold the traditions of the true physician."

Those qualities will be brought to bear in the OHSU's emergency medicine department. Hedtke was one of three graduating medical students accepted to the university's emergency medicine residency program, out of more than 200 applicants nationwide.

Although the program right at home was Hedtke's first choice of residency, his participation in it was by no means automatic. After traveling across the country last fall to apply for emergency medicine residencies, he learned his fate on Match Day, March 19, through the computerized National Residency Matching Program in Chicago.

"All the struggles have been worth it," Hedtke concludes. "I made the right decision."

Amy Ogawa, D.M.D., and daughter, Deanne

Terri Harvath, M.S.

Linda Hanley, B.S., and dad, Dr. Norman Hanley

Holly Saporito, B.S.N.

James Hedtke, M.D., Ph.D.

Among the threats to human health, trauma ranks high as a medical condition offering significant opportunity for more effective prevention or for improved treatment. Because we have a long way to go before we understand clearly the causes of death and prolonged disability due to trauma, biomedical research must be an essential element of our approach to this affliction. Happily, as new insights emerge from research, a properly designed system for caring for patients suffering from trauma enables us to apply these insights rapidly and effectively in the management of the patient. All these elements — high quality of care, vigorous research, education of health practitioners at all levels in the process and rapid incorporation of new knowledge into the treatment of patients — converge superbly in an academic health center such as the Oregon Health Sciences University. This state is fortunate to have such a facility and to have recruited Dr. Donald Trunkey, one of the country's acknowledged leaders in the management of trauma patients and in research projects to enhance their care. In this special supplement to the OHSU News *we present information on the many and varied activities related to the care of trauma patients on this campus.*

Leonard Laster, M.D.
President

Focus on
TRAUMA

The Oregon Health Sciences University
OHSU NEWS
September 1986

OHSU responds to *Trauma*

JIM CRAVEN

Injured girl's life saved with prompt treatment

4:07 p.m. An 11-year-old girl is struck by a car while riding her bicycle.

4:14 Paramedics arrive on the scene. The girl's bicycle is twisted under the front of a nearby Buick. The police are directing the late afternoon traffic around the scene. Seven minutes have passed since she was hit by the car.

The paramedics, graduates of the OHSU's Advanced Paramedic Training Program, immediately initiate a primary survey of the girl's injuries. They are acutely aware of the "golden hour," the critical 60 minutes following an accident that in many cases determine the degree of permanent disability or even whether the victim will live or die.

Using criteria endorsed by the American Trauma Society, the paramedics begin to assign a trauma score indicating the severity of the girl's injuries. On the 16-point scale, the lower the score, the more severe and life-threatening the injuries (see diagram at right).

4:22 The squad contacts the Trauma Communications Center at the OHSU. A multicounty resource, the center directs trauma victims to the area hospitals best equipped to treat severe trauma patients. The operator at the communications center notes the time of the call and starts an audio tape that will record all conversation with the paramedics. Fifteen minutes have passed since the accident.

The paramedics continue their examination of the little girl. Because she is unconscious, they record only three points on the first section of the trauma scale. Her breathing is shallow and fast. Again, three points. Her systolic blood pressure is low and her skin is pallid, both signs of possible internal bleeding. Only two points.

One medic radios the trauma score of eight to the center while the other places a cervical collar on the girl to immobilize her neck and then threads an intravenous (IV) needle into a vein in her right arm. The IV delivers fluids that will help stabilize the girl for transport. Next, fearing internal injuries, the paramedics place the girl in inflatable trousers to reduce shock. The trousers help keep blood circulating to her brain, heart and other major organs by applying pressure to her legs and forcing the blood back into her major vessels.

The operator at the communications center who received the call from the paramedics is worried. The accident has snarled traffic. He checks the status of trauma resources at area hospitals. Green indicates that each critical service is available. Red denotes the absence of a vital member or portion of the trauma team.

4:31 Three hospitals are "green." Because the Oregon Health Sciences University is closest, the emergency squad indicates that they will transport the victim to University Hospital. The paramedics secure the girl in the ambulance for the quick trip to University Hospital.

The emergency physician on duty alerts University Hospital's trauma team. A trauma surgeon, surgery resident, emergency medicine resident, anesthesiologist, radiologist, respiratory therapist and operating room nurse are called. The dispatcher notes in the trauma protocol log when team members arrive in the Emergency Room. Twenty-four minutes have passed.

As the team assembles, a radiology technician readies the X-ray machine in the ER trauma room. A call is placed to the blood bank and the ER lab. A nurse notifies the Pediatric Intensive Care Unit and an operating room is put on standby. A psychiatric nurse practitioner is ready to talk to the girl's family. Security is on alert to expect the ambulance. One orderly holds the correct size gown for the patient while an admitting clerk checks the computer to see if the girl has been treated at the OHSU. It turns out she has. She was born at University Hospital in 1975.

4:42 The squad arrives. The emergency physician moves to the ambulance and receives a final update from the paramedics as they wheel the girl into the ER.

Inside the ER, the trauma surgeons begin their examination. Following the ABC procedure, they start with an inspection of the girl's airway, then move to check her breathing and circulation. At the same time, a trauma nurse repositions the cervical collar as the radiology technician prepares to X-ray the girl's neck.

Recognizing the insistence of the clock, the trauma surgeons work with what they call a high degree of suspicion. They ask the paramedics how far the girl was thrown and where she landed. They want to know the speed of the car. They want to understand the physical dimensions of the accident; the mechanisms involved in the girl's injury.

4:53 The police notify the dispatcher that the girl's mother is on her way to University Hospital. Forty-six minutes have passed.

The surgeons are most concerned about the girl's falling blood pressure. Their examination reveals no head trauma and the X-rays indicate that no bones are broken. The anesthesiologist intubates the girl (inserts a tube into her lungs to help her breathing), and a nurse initiates a second large IV line to administer fluids and blood to treat shock. The pediatric surgeon performs peritoneal lavage (the insertion of a catheter into the abdomen). The lavage reveals the presence of blood — the girl's abdomen is slowly filling. The team anticipates a ruptured spleen or other internal injuries. Surgery will be immediately necessary for a complete diagosis and to repair the damage.

5:14 A nurse notifies the operating room that the girl will soon be on the way. A security officer moves ahead to hold the elevators. The surgeons go to the OR to scrub. The girl's mother gives consent for the surgery. Just 67 minutes after the accident, the little girl enters surgery. The surgical liaison nurse updates the mother on the girl's condition. The surgeons perform a splenectomy, the removal of the girl's spleen, and repair a small bleeding artery in the girl's bowel.

In four days, the girl goes home.

Trauma care indications

Trauma care is probably indicated in cases where the trauma victim has:

- been struck by a moving vehicle
- fallen more than 15 feet
- had an auto accident at a speed greater than 25 m.p.h.
- been thrown from a vehicle
- had a motorcycle accident
- sustained second- or third-degree burns.

Care is also warranted when a physical exam shows:

- a head injury with depressed level of consciousness (Glasgow coma scale of 10 or lower)
- a penetrating injury of the chest, abdomen, head, neck or groin
- a spinal cord injury
- fractures of three or more long bones
- an amputation
- any injury involving two or more body systems.

Trauma care is also indicated when the trauma score is 12 or lower. Studies have shown that the projected estimate of survival drops as the trauma score drops. With a trauma score of 12, for instance, the survival rate is estimated at 83 percent without treatment. A trauma score of eight, however, indicates a survival rate of only 22 percent unless the trauma victim receives treatment.

Eye Opening Response	Spontaneous	4
	To voice	3
	To pain	2
	None	1
Best Verbal Response	Oriented	5
	Confused	4
	Inappropriate words	3
	Incomprehensible sounds	2
	None	1
Best Motor Response	Obeys command	6
	Localizes pain	5
	Withdraws (pain)	4
	Flexion (pain)	3
	Extension (pain)	2
	None	1
Total	Apply this score to GCS portion of Trauma Score below:	3-15

TRAUMA SCORE*

The Trauma Score is a numerical grading system for estimating the severity of injury.[1] The score is composed of the Glasgow Coma Scale (reduced to approximately one-third value) and measurements of cardiopulmonary function. Each parameter is given a number (high for normal and low for impaired function). Severity of injury is estimated by summing the numbers. The lowest score is 1, and the highest score is 16.

GLASGOW COMA SCALE (GCS) (Total points from above)	**14-15**	5
	11-13	4
	8-10	3
	5-7	2
	3-4	1
Respiratory Rate	10-24/min	4
	25-35/min	3
	36/min or greater	2
	1-9/min	1
	None	0
Respiratory Expansion	Normal	1
	Retractive/None	0
Systolic Blood Pressure	90 mm Hg or greater	4
	70-89 mm Hg	3
	50-69 mm Hg	2
	0-49 mm Hg	1
	No Pulse	0
Capillary Refill	Normal	2
	Delayed	1
	None	0
Total Trauma Score		1-16

*Endorsed by the American Trauma Society.

1. Champion HR, Sacco WJ, Carnazzo AJ, et al Trauma Score. *Crit Care Med 9(9) 672-676, 1981*

Editor's note: The incident described on this page did not actually occur; rather, it is based on a composite of trauma cases handled at University Hospital. This account serves to illustrate OHSU's trauma response capability.

LARRY LEWTON

OHSU has resources for best quality trauma care

JIM CRAVEN

JIM CRAVEN

University trauma specialists include surgeons, residents, anesthesiologists, nurses, technicians and many others.

According to Dr. Donald Trunkey, the OHSU is one of the few institutions in the Pacific Northwest able to meet all the demands required by the American College of Surgeons (ACS) for a level I trauma center. Trunkey, the university's chairman of surgery, says, "A level I designation means that the institution has made a considerable commitment to trauma — a commitment that includes clinical expertise, research and education. The OHSU clearly has made that commitment."

The corps of trauma specialists at the OHSU is extensive. The OHSU's trauma team, for example, includes a staff trauma surgeon, a neurosurgeon, a surgery resident, an emergency medicine resident, an anesthesiologist, a radiology resident, a respiratory therapist, an X-ray technician, operating room nurses and a myriad of other trauma and emergency services personnel. Pediatric physicians and surgeons are also available if the trauma victim is under the age of 16. Other specialists, depending on the nature and severity of the injury, are immediately available.

Having the necessary trauma specialists and facilities is but part of the equation. Equally important is facilitating access. According to Trunkey, the OHSU has just completed a capital construction plan that will concentrate all medical-surgical services into the south building of University Hospital. The plan (which uses no state appropriations) calls for relocating the Emergency Room and helipad to UH(s). "This plan," says Trunkey, "will greatly improve access to our emergency services. This is a good example of our goal to provide the highest possible level of trauma care."

The OHSU will concentrate all medical-surgical services into University Hospital (south). The plan calls for relocating the Emergency Room and helipad there. This will greatly improve access to our emergency services.

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Central to the OHSU's trauma effort is a twin emphasis on trauma research and education. Dr. John Moorhead, interim head of emergency services at the OHSU, is adamant about the crucial need to include research and teaching efforts in the battle against trauma. "Other institutions have similar facilities," he notes. "What we have is a depth of expertise supported by substantial teaching and research efforts. Our teaching faculty members practice emergency medicine. They serve on national committees and work as editors of emergency medical journals. Our faculty is able to take recent discoveries, teach them in the classroom, and help medical students and emergency medicine residents apply the information in a clinical setting. We can provide the highest quality of care because we have full-time faculty, medical students, residents, interns and attending physicians."

According to Moorhead, one of the strengths of the OHSU's teaching effort is its continuity. "We have classes and programs, almost on a daily basis. We have an Advanced Trauma Life Support Program for physicians, anesthesiologists

(continued on page 7)

Researchers explore cellular effects of head injury

Head trauma is one of the leading causes of death and permanent disability. At the OHSU, a team of researchers led by Dr. Leena Mela-Riker is exploring the effects of head injury and other trauma at the subcellular level. Backed by research grants totaling more than $1 million a year from the National Institutes of Health and the Office of Naval Research, the work by Mela-Riker and her team is expected to offer significant understanding of how cells change following traumatic injury.

"One hypothesis," says Mela-Riker, professor of surgery and biochemistry, "is that trauma disrupts the transfer of calcium in the cell. When this disruption occurs, the cell becomes overloaded with calcium and dies. As more and more cells die, the organ dies." Mela-Riker believes that calcium imbalance may be part of the cause of multiorgan failure, the failure of many organs in the body, which sometimes happens following trauma.

According to Mela-Riker, every traumatic insult results in some degree of lowered blood flow to the tissue. "It is blood flow", notes Mela-Riker, "that supplies the tissues with oxygen and other substances it needs for metabolism. It is well-known that the brain is completely dependent on a continuous supply of oxygen. It does not have any reserve. So when something happens to the blood supply to the brain, when it is interrupted or halted by trauma or stroke or a heart attack, the brain suffers damage."

Though there is little question that the research by Mela-Riker and her colleagues will improve the methods used to treat the cell damage often associated with head injury, she is cautious about the problems that must yet be resolved. "Until you know what is killing the cell, you really don't have much of an idea what kind of treatment you should be using. One of our hypotheses is that a reason some cells do not recover is that during an insult they accumulate a lot of calcium. They become calcium-overloaded, the cell membrane deteriorates, and the cell cannot recover. If we can somehow block that overload during the insult or when treatment starts, we can stop some of the damage."

Mela-Riker and her team have conducted calcium-blocker studies that appear beneficial in ischemic (loss of blood flow) conditions. Says Mela-Riker, "We have done some studies on the kidney and are in the process of doing studies on the brain, Calcium blockers appear to be the most effective drugs right now. In a new study we are examining calcium blockers as protection against ischemic cell death in the brain following a stroke. This information, of course, is readily applicable to other situations that cause blood loss such as trauma."

Mela-Riker notes that her team is looking for a drug or series of drugs that will have two benefits. "First," she says, "to reverse cell damage as a result of the injury. And second, to halt further cell damage as a result of treatment. You have to treat these patients immediately but we must not make the injury worse."

Trauma authority Trunkey discusses system needs

Dr. Donald Trunkey, OHSU chairman of surgery, is one of America's foremost authorities on trauma. An oft-quoted national spokesman on trauma issues, Trunkey came to the OHSU this spring from San Francisco, where he served as vice chairman of the Department of Surgery at the University of California at San Francisco, and chief of surgical services at San Francisco General Hospital. An ardent and often vocal proponent of centralized trauma care, Trunkey is instrumental in focusing local and national attention on America's trauma epidemic. As vice chairman of the American Board of Surgery and president-elect of the American Association for the Surgery of Trauma, Trunkey is the author of 70 journal articles, 60 book chapters and five books on trauma. In addition, he holds editorial board positions with several publications including Archives of Surgery, Surgery *and* Journal of Trauma.

The OHSU News *recently asked Trunkey about the development of a statewide trauma system in Oregon and its role in caring for trauma victims.*

JIM CRAVEN

OHSU News: Studies consistently show that trauma centers save lives. What is a trauma center?

Trunkey: A trauma center is really a concept. It's an institutional commitment that extends beyond highly specialized personnel and facilities. It's the team of individuals who work in the emergency room. It's the OR staff and intensive care. It's the blood bank and the radiology team. A trauma team is designed to salvage accident victims — people who would die or be permanently disabled without its special expertise. The purpose of a trauma team is to immediately treat the critically injured and return them to a productive life.

Two components vital to a true trauma center are research and education. We must do more than save lives; we must learn from the experience we gain in treating trauma patients. We are cheating future patients if we just keep providing the same care over and over without finding ways to improve care, and then passing along our discoveries to the next generation of physicians and nurses.

OHSU News: What are some of the obstacles to improving the system of trauma care in this country?

Trunkey: The National Academy of Sciences recently identified a number of problems. The first is measuring the situation. We need good epidemiology; we don't have enough hard facts on which to base health policy.

The second problem is prevention. Our prevention record is terrible. According to conservative estimates, about 40 percent of all trauma cases could be prevented. We need to get the drunk off the road, have handgun control, require motorcycle helmets and passive or mandatory restraints for automobiles. These are all tough social issues that have a big impact on the incidence of trauma. This is particularly true in the United States, where the trauma death rate for teenagers and young adults is about 50 percent higher than in any other Western country.

Third, delivery of health care to trauma patients is a major problem. There are quite a few components to the issue of health care delivery, starting with access, which has been solved in many parts of Oregon by the 911 system. Then there's the issue of the actual delivery of the patient from the scene of the accident to the nearest designated appropriate hospital. This should be a hospital that has in-house, 24 hours a day, the surgeons, anesthesiologists, nurses and other health professionals to care for critically injured trauma patients. I liken it to the concept of the firehouse. Taxpayers pay to have firemen available in-house, 24 hours a day, to save property; the same should be true for trauma. We should support the personnel needed to save lives and restore people who are injured.

Fourth is rehabilitation, easily one of the worst problems in trauma. Only one out of every 10 critically injured Americans later gets into a rehabilitation program, with huge consequences in terms of life expectancy, costs and productivity. If a young man with a spinal cord injury goes to a rehabilitation center, his expected longevity is 30 years, whereas if he doesn't go to a rehab center his longevity is seven years. Of all the people who are currently receiving long-term institutional care for injuries, with proper rehabilitation, three-fourths could be de-institutionalized at one-tenth the cost. People who don't go to rehab centers rarely become taxpayers; they become tax receivers. It just makes sense to have a good rehabilitation system, yet the one in this country is second-rate compared to West Germany or Israel, where they have model rehab programs.

> "We can't allow trauma centers to get caught up in the high-technology strategic arms race between hospitals."

A fifth problem is education. We need to do a much better job of educating everyone involved about the issues in trauma care and treatment of emergency and critical-care situations — the general public, all physicians and emergency room specialists.

The sixth and final problem in this list is research. I think the lack of support for research into trauma highlights the severity of the situation. Less than two percent of the research dollar from the National Institutes of Health supports research on

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trauma care. That shows what a low priority our society sets on trauma. People almost accept trauma as part of our life style that we can't change. When almost 50,000 American soldiers lost their lives in Vietnam over an 11-year period, the American public was rightly upset and concerned about that tragedy. Yet, during that same period we lost 550,000 people (approximately 50,000 a year) from automobile accidents. There was no comparable outrage or concern, just simple acceptance.

OHSU News: What are the consequences of not having a good system?

Trunkey: It has been clearly documented that the lack of a system in the United States leads to preventable deaths. There are 29 studies in the surgical literature showing that in areas without a trauma system, about 30-35 percent of deaths among patients who reach the hospital are preventable.

OHSU News: Where are the good systems or good centers?

Trunkey: Some of the best systems are in Germany and Israel. There are a few top-notch centers in the United States. I agree with the list of 19 centers named in a July 1985 *Reader's Digest* article. With 6,000 hospitals in the United States, we need at a minimum 300-350 trauma centers. Right now we have only about 50 or 60 that have been designated and are peer-reviewed.

Quality assurance is vital, and to me that means really tough peer review. Trauma care requires one hell of a commitment — by the surgeons, the anesthesiologists, the nurses, everyone involved. If you don't have that commitment, a hospital is better off not doing trauma care.

OHSU News: What has been Oregon's progress on developing a statewide trauma system?

Trunkey: The state is preparing to categorize and verify trauma centers. The program will start in the Portland metropolitan area and later be established in other areas. This is a critical part of the process, but we're just starting to see some of the politics as people and institutions begin to jockey for position to become designated.

The American College of Surgeons has very strict guidelines on the establishment of trauma centers. A level I trauma center, for example, must have — in addition to the on-site trauma specialists and facilities — progressive, even aggressive trauma research and education commitments. These research and education commitments are essential if we are to make significant inroads in treating and preventing trauma and in passing our knowledge and understanding on to interns, residents and practicing trauma specialists. Few institutions in the Pacific Northwest have significant research and education components. Forces in Portland, however, are attempting to lower the criteria established by the ACS. If these criteria are changed, more lives will be lost and more treatable injuries will result in lifelong disabilities.

OHSU News: Who designates trauma centers?

Trunkey: In each state an agency in charge of emergency medical services, a political entity, is responsible for the designation. But equally important as the designation process is the peer-review process. Once a hospital has been designated, an accrediting body or some type of peer-review board comes in and decides whether the hospital is doing what it says it's doing. Reviewers examine whether response times are reasonable, the surgeons are on call, the nurses are available, the blood banks are ready, the X-ray technicians are present and responsive.

STEVE FRICK

OHSU News: How should the medical community help in the establishment of a trauma system?

Trunkey: Members of the medical community should provide the leadership to bring a trauma system into place. And their objective should be to provide optimal trauma care for their patients. That might mean that some hospitals will not be designated, that not every hospital in the region will be able to take care of the critically injured. But that would be in the best interest of the patient.

We can't allow trauma centers to get caught up in the high-technology strategic arms race between hospitals. Not every hospital has to have an ICU, or CT scan, or lithotripter. The public has to pay for the equipment and the personnel to run it, and having more of it than necessary doesn't improve patient care. Let's face it, hospitals that take care of many critically ill trauma patients get very good at it.

Killer of the young: America's trauma epidemic

JIM CRAVEN

Chances are, you or someone you love will be involved in a traumatic injury within the next three years. You may be one of the 500,000 Americans seriously injured or killed in a motor vehicle accident or a fall. Or you may be the victim of a gunshot wound. Regardless of the cause, trauma will probably strike you or your family.

In particular, America's trauma epidemic is a killer of the young. Last year, trauma killed more people under the age of 40 than heart disease and cancer combined. Half of all children aged one to four who die, do so as a result of trauma. More than 50 percent of children aged five to 14 who die are victims of trauma. Nearly 80 percent of persons aged 15 to 24 who die are killed by trauma.

While injury is trauma, not all injuries require treatment at a trauma center. Trauma occurs in a sprained ankle as well as a major head wound. Trauma facilities, however, are specially staffed centers designed to treat severe injury whenever there is a serious threat to life or limb. Admission to a trauma facility occurs when a severe injury is apparent or when it is suspected because of the mechanism of injury: the physical elements at the accident scene such as the speed of the cars or the distance of the fall involved in the injury. Trauma specialists use the mechanism of injury as a guide to anticipating and diagnosing other, perhaps unseen trauma.

The incredible loss of life is but one dimension of the trauma epidemic. For every person who died last year because of trauma, two to three others were permanently disabled because of an improperly treated brain or spinal cord injury. Such injuries constitute one of our most expensive health problems, costing $75-$100 billion a year, or some $250 million each day. Each year, more than 4 million years of future work life are lost due to trauma, compared with 2.1 million years of work life lost to heart disease and 1.7 million years lost to cancer. Clearly, trauma is as much a killer as it is a national crisis.

Dr. Donald Trunkey, the OHSU's chairman of surgery, believes that trauma center designation in the Portland metropolitan area will greatly reduce the number of preventable trauma-related deaths and permanent disabilities. According to Trunkey, a trauma center is designed to immediately deal with traumatic injuries. Recognizing that half of all trauma deaths occur within the first hour of injury and that 90 percent of hospital trauma deaths occur in the first four hours, trauma centers are in part characterized by speed of care in an attempt to reduce the interval of time between injury and definitive surgical care.

Speed of care is critical. A 1981 study in the *New England Journal of Medicine* examined 82 patients with subdural hematomas, a type of blood clot often associated with serious head injury. The study determined that, everything being equal, if patients were operated on within two hours, 73 percent survived with good functional recovery, and the rest died. If the interval was more than four hours, only 10 percent survived with good functional recovery, and the rest either had little remaining brain function or died.

Because many traumatic injuries must be diagnosed and treated surgically, trauma centers are also characterized by the on-site availability of trauma surgeons, nurses, anesthesiologists, radiologists and other members of the trauma team.

Trauma centers differ from emergency rooms by degree of specialization and resources available to treat serious injury. Medical professionals are adamant in their conviction that the successful treating of trauma requires a level and degree of specialization not found in most emergency rooms.

Trunkey says that while many hospital emergency rooms might be able to resuscitate an injured patient, few are able to muster the personnel required to open a chest or head to repair an injury. "That's what you have at a trauma center. The team is always on-site to do the surgery and the resources are always available. That includes operating rooms, anesthesiologists, trauma surgeons, trauma nurses, the whole team. You don't have to wait 30 or 45 minutes for an on-call surgeon to rush in from across town. It does little good to have a victim of a serious accident or gunshot arrive at the hospital 30 minutes before the surgeon does.

"Many hospitals still believe they can handle everything," says Trunkey. "Unfortunately, that's not the case. Trauma victims must have well-rehearsed and immediate care. That's something we learned in Korea and again in Vietnam. Trauma patients have a higher survival rate when they are treated by specialists who deal with trauma every day."

> Trauma center designation in the Portland metropolitan area will greatly reduce the number of preventable trauma-related deaths and permanent disabilities. . . . Speed of care is critical.

Consider an accident that occurs in a region that supports a trauma team such as that found at the OHSU. A young man on a motorcycle loses control and hits a tree. Paramedics conduct a quick preliminary examination to assign a trauma score to the victim. The score is radioed to the Trauma Communications Center.

The paramedics stabilize the victim for transport. Meanwhile, the operator at the communications center routes the squad not to the nearest hospital but to the closest hospital equipped to handle trauma. Within the first hour after the accident, the young man enters surgery.

"A trauma system is the ideal," says Trunkey. "Trauma specialists already have many tools to save the lives of trauma victims. The problem is that we don't always do a good job identifying who is suffering from major trauma, and we don't always get the accident victims to the hospitals best equipped to handle their care. I am positive that the creation of a trauma system will greatly help this problem."

Studies show that centralized trauma centers save lives

Studies conducted at the OHSU and elsewhere have consistently shown that trauma centers save lives and that patients with traumatic injuries treated in a hospital without trauma facilities have a significantly greater chance of dying than those cared for in a trauma center.

A 1979 study by Dr. Donald Trunkey and two colleagues compared the trauma care in San Francisco and Orange counties in California. All victims in San Francisco were brought to a single trauma center, whereas in Orange County they were transported to the closest receiving hospital. The study revealed that even though the trauma victims in Orange County were younger and suffered less severe injuries than those in San Francisco, they had an increased chance of dying or suffering permanent disabilities because they were not treated at a trauma center. The study reported that half of the patients who died of chest and abdominal injuries in Orange County hospitals died unnecessarily. At San Francisco General's trauma center, where the patients were generally older and the injuries more severe, no unnecessary deaths occurred.

Another Orange County study, this time conducted in 1982, showed that the preventable-death category in the county dropped from 73 percent to 4 percent when patients were taken to a trauma center. None of the patients in the study died as a result of bypassing a conventional hospital so that they could be treated at a trauma center.

A 1980 study in Portland substantiated many of the Orange County findings. The study, by OHSU surgeon Daniel K. Lowe, noted that approximately 25 percent of the 135 trauma-related fatalities that occurred were preventable.

The conclusion of these and other studies is obvious — trauma centers save lives. But for communities without trauma centers, the news is grave. In a commentary written for the *Journal of the American Medical Association,* six leading authorities on trauma, including Trunkey, declared that "20 to 30 percent of patients with potentially salvageable injuries who are delivered alive to hospitals die unnecessarily" and "basic errors of assessment and treatment are reported with disturbing regularity."

The "gold standard": the ACS criteria for trauma

In June 1986, the Board of Regents of the American College of Surgeons (ACS) updated the standards for trauma centers. These standards make it possible for emergency medical service personnel to designate hospitals to care for trauma patients based on the hospitals' ability to care for trauma victims. The same standards allow peer-review agencies such as the ACS to continually review and monitor the designated hospitals.

Trauma specialists agree that the ACS criteria are the "gold standard" for trauma care. According to the OHSU's Dr. Donald Trunkey, chairman of surgery, no trauma centers in the country have lessened the standards and been verified. "The ACS standards," says Trunkey, "reflect the need to provide optimal care to trauma patients. Any lowering of these standards would only translate into less than optimal care for trauma victims. No state in the country has gone counter to ACS standards. There is no reason to believe that Oregon will settle for a second-class trauma system, either."

The most significant ingredient necessary for this care is a commitment, both institutional and professional.

Institutional commitment means providing capable personnel who are immediately available. It also implies using sophisticated equipment and services that frequently are expensive to purchase and maintain. A goal of optimal care means there must be a priority of access to sophisticated laboratory and radiologic facilities as well as to the operating rooms and intensive care units.

For the medical staff, optimal care means a commitment to the concept of prompt availability, education, research and quality assurance — all geared to demonstrate excellence in trauma care.

According to OHSU surgeon Daniel K. Lowe, a trauma care system includes:

- a central emergency number;
- centralized dispatch of ambulances;
- rapid field stabilization and resuscitation;
- paramedic triage; and
- rapid transport with ongoing resuscitation to a designated hospital.

The designation of specific receiving hospitals as level I, II or III forms the backbone of the trauma system.

The designation of a hospital as level I, II or III is largely an indicator of the degree of trauma expertise and facilities available at that institution with one key exception. While level I and level II hospitals have nearly identical facilities, level I hospitals must have substantial trauma research and educational commitments. It is also expected that level I trauma centers will deal with approximately 600 patients a year to maintain medical proficiency while level II centers must deal with at least half that number.

> While level I and level II hospitals have nearly identical facilities, level I hospitals must have substantial trauma research and educational commitments and treat 600 patients a year.

Trunkey says the ACS is convinced that trauma research and education offer significant opportunity to save lives and reduce disability.

"The research components in the ACS standards for a level I trauma hospital reflect the ACS goal of increasing our understanding of trauma. The ACS believes that medical practitioners have a responsibility to pass on knowledge and understanding gleaned from trauma research and clinical application to the next generation of trauma specialists. The OHSU has recognized that responsibility.

A level III trauma hospital would provide 24-hour coverage by in-house emergency physicians. A trauma surgeon and anesthesiologist would be on call. In addition, level III hospitals must have elaborate patient transfer agreements and protocols.

Oregon has expanded the trauma system criteria established by the American College of Surgeons to include level IV community hospitals. A level IV community hospital should provide resuscitation services to major trauma patients and, at the direction of the surgeon providing treatment, transfer those patients to trauma centers capable of providing the higher levels of care. In addition, a level IV community hospital should conduct training sessions to upgrade itself to level III standards.

Many deaths preventable if injuries treated at key times

The levels of trauma care established by the American College of Surgeons respond, in part, to the trimodal or three-peaked distribution of trauma deaths following injury. The first peak of deaths is within seconds or minutes of injury. Invariably, these deaths result from lacerations of the brain, heart, spinal cord, aorta or other large vessels. Few of these trauma victims can be saved.

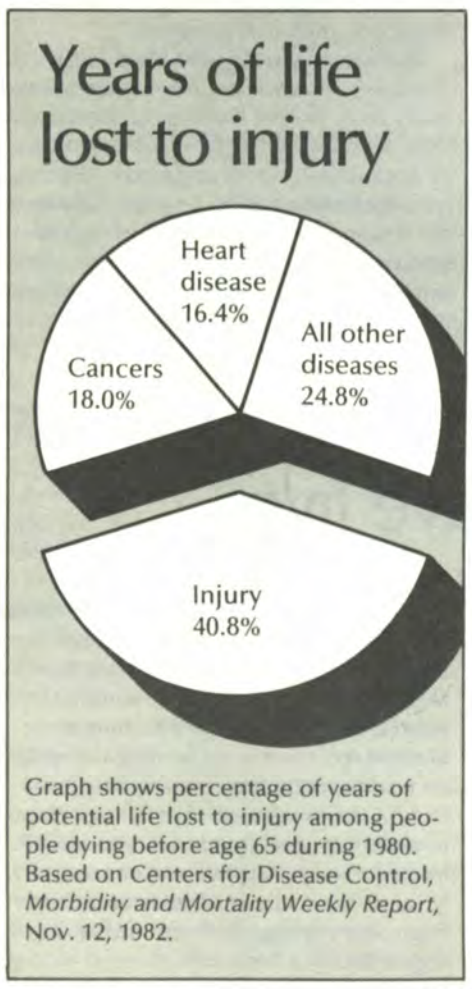
The second death peak occurs within the first two hours after injury. Trauma specialists refer to this period as the "golden hour" for the critically injured. Death is usually due to brain injury, internal bleeding, ruptured or lacerated organs or multiple injuries associated with significant blood loss. These victims benefit most from regionalized trauma care. If the trauma team is immediately available, these victims can usually be saved.

The third death peak occurs days or weeks after injury and is most often due to infection or multiorgan failure. These patients would also benefit from a trauma center.

Typically, injuries can be divided into three categories; severe, urgent and nonurgent. Severe injuries are immediately life-threatening, and although they constitute only 5 percent of all injuries, they account for 50 percent of all trauma deaths.

Urgent injuries are not immediately life-threatening but may become so or may result in significant disability. Approximately 10 to 15 percent of all injuries are urgent.

Nonurgent injuries are not immediately life-threatening nor do they present a risk of permanent disability. They account for approximately 80 percent of all trauma. Data from various regions in the United States show that 1,000 severe injuries occur annually per 1 million population.



Graph shows percentage of years of potential life lost to injury among people dying before age 65 during 1980. Based on Centers for Disease Control, *Morbidity and Mortality Weekly Report*, Nov. 12, 1982.

PHOTO COURTESY OF THE VANCOUVER COLUMBIAN

University commitment to trauma demonstrated

(continued from page 3)

and surgeons. We sponsor a Pre-Hospital Trauma Life Support program for paramedics, emergency personnel such as firefighters, and emergency room and critical care nurses. We have participated in a program for nurses on trauma life support. Our physicians and teaching faculty regularly conduct seminars and classes in trauma as part of the Continuing Medical Education Program for practicing physicians."

The commitment to trauma education at the OHSU is enormous. For example, the OHSU's Emergency Medical Residency Program is one of the most competitive specialty residencies in the United States. Last year, some 350 medical school graduates applied for just four openings. The three-year program is designed to train physicians in emergency medicine, prehospital emergency care, emergency medical communications, disaster planning and emergency department administration.

In addition to the emergency medical residency, the OHSU sponsors the Advanced Paramedic Training Program. The program, one of the most extensive paramedic training programs in the Pacific Northwest, requires that students spend more than 1,600 hours in class and clinical rotations during the first two terms. The third term is spent at out-of-state locations for field training. Graduates of the program often go on to teach in training programs throughout the area.

Paralleling the OHSU's clinical application and education is its substantial trauma research emphasis. Trunkey, for example, is researching head injury. "Head injuries," he says, "are the leading cause of trauma fatalities, but we don't always know why. Part of the problem is brain swelling. Currently, we can reduce the intracranial pressure by drilling burr holes in the skull, monitoring the pressure and treating increased pressure by making the patient hyperventilate. A second method is to treat the patient with mannitol, a drug that helps reduce fluids. These methods, however, are extremely limited. What we need is a way to reduce or even to prevent swelling. Currently, we are exploring the problem at the cellular level. We are trying to locate and unlock the mechanism in the cell that causes it to expand or swell."

Dr. Daniel Lowe, associate professor of surgery at the OHSU, is studying the epidemiology of trauma. His statistical analysis of trauma injuries and mechanisms offers insight into how the use of seatbelts and motorcycle helmets can reduce or even prevent trauma. At the same time, this research has consistently shown that trauma systems reduce the incidence of trauma fatalities and permanent injuries.

Dr. Reid Connell, professor of cell biology and anatomy, and Dr. Marvin Harrison, associate professor of pediatric surgery, are developing a model for predicting respiratory failure, a major problem in trauma. Connell and Harrison are attempting to document specific enzyme activity that can be used as an indicator of early lung injury.

Dr. John Barry, chairman of urology and director of the Renal Transplant Program, and his team are exploring the use of

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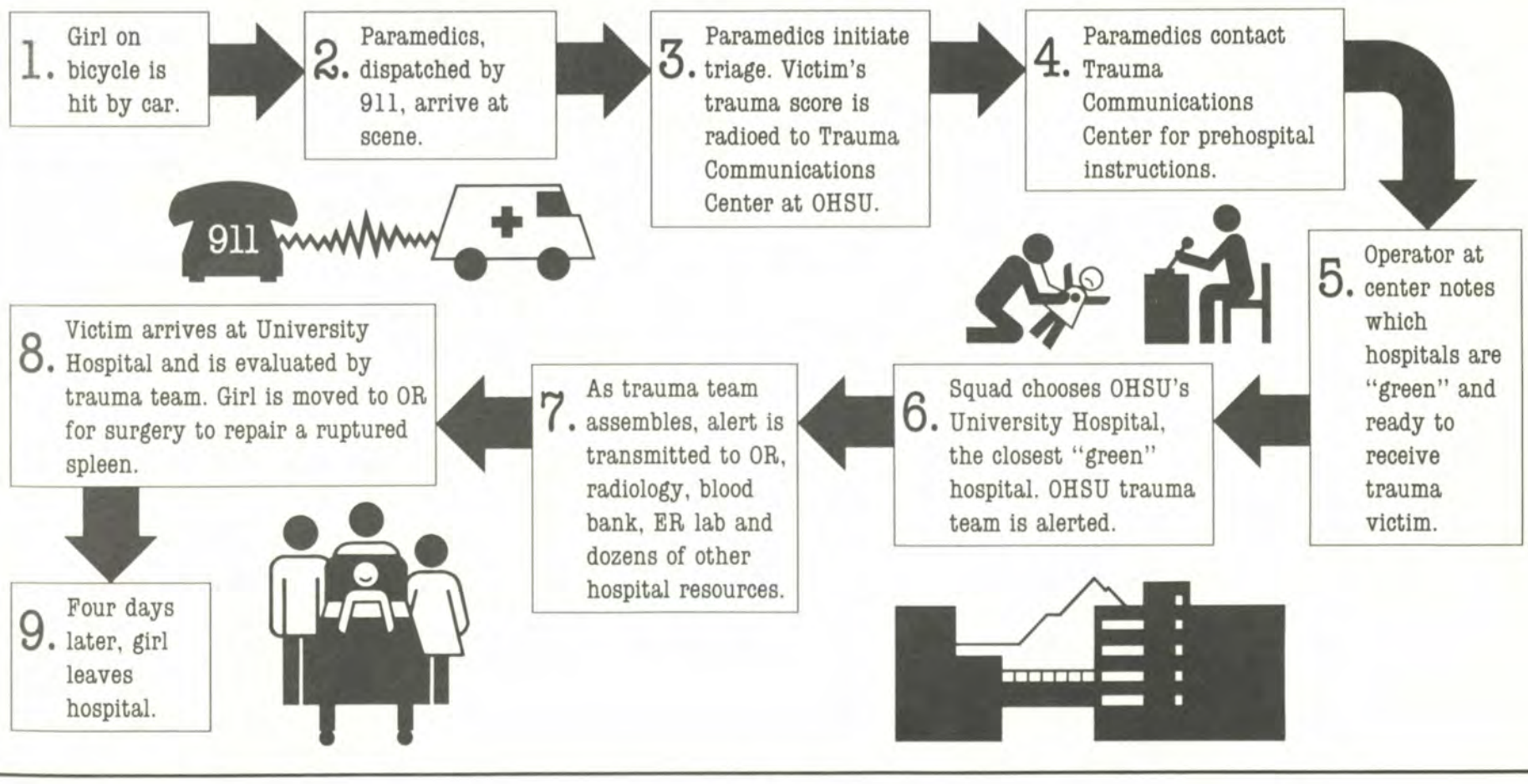
medications to decrease the risk of kidney shock following trauma. They are working on procedures that will allow extensive reconstruction of the damaged kidney outside the body with subsequent transplantation back into that individual when the patient is stable following trauma surgery.

In addition, work at the OHSU's Institute for Advanced Biomedical Research (IABR) is directly applicable to a greater understanding of the neurologic and metabolic consequences of trauma. According to Dr. Eckard Weber, senior scientist at the IABR, neurotransmitters in the brain called enkephalins become altered after a severe injury. The brain uses these transmitters to control and "talk to" different parts of the body and may help explain, in part, the phenomenon of multiorgan failure, the failure of organs that haven't physically been damaged during trauma.

Linking trauma research, education and clinical application offers enormous potential for combatting the trauma epidemic. According to Trunkey, a level I trauma center is as much a concept as a place. "It's a team of individuals who work in the emergency room, the research lab and the classroom. The team includes doctors, researchers, nurses and teachers . . . a whole range of people. The goal of these people is to save the lives of the critically injured — to arrest the grip of trauma on our young people."

OHSU Responds to Trauma



Communications Center links paramedics and hospitals

Some 2,000 times a year, operators at the Trauma Communications Center help emergency medical personnel save lives.

Established in early 1985 as a part of Medical Resource Hospital, the center is an emergency communications hub serving Multnomah, Washington and Clackamas counties. Using a sophisticated radio and telephone network, the center continually monitors the ability of area hospitals to accept trauma victims and transmits this information to emergency personnel working in the field. Operating 24 hours a day, the center instantly knows which hospitals are prepared to accept trauma patients.

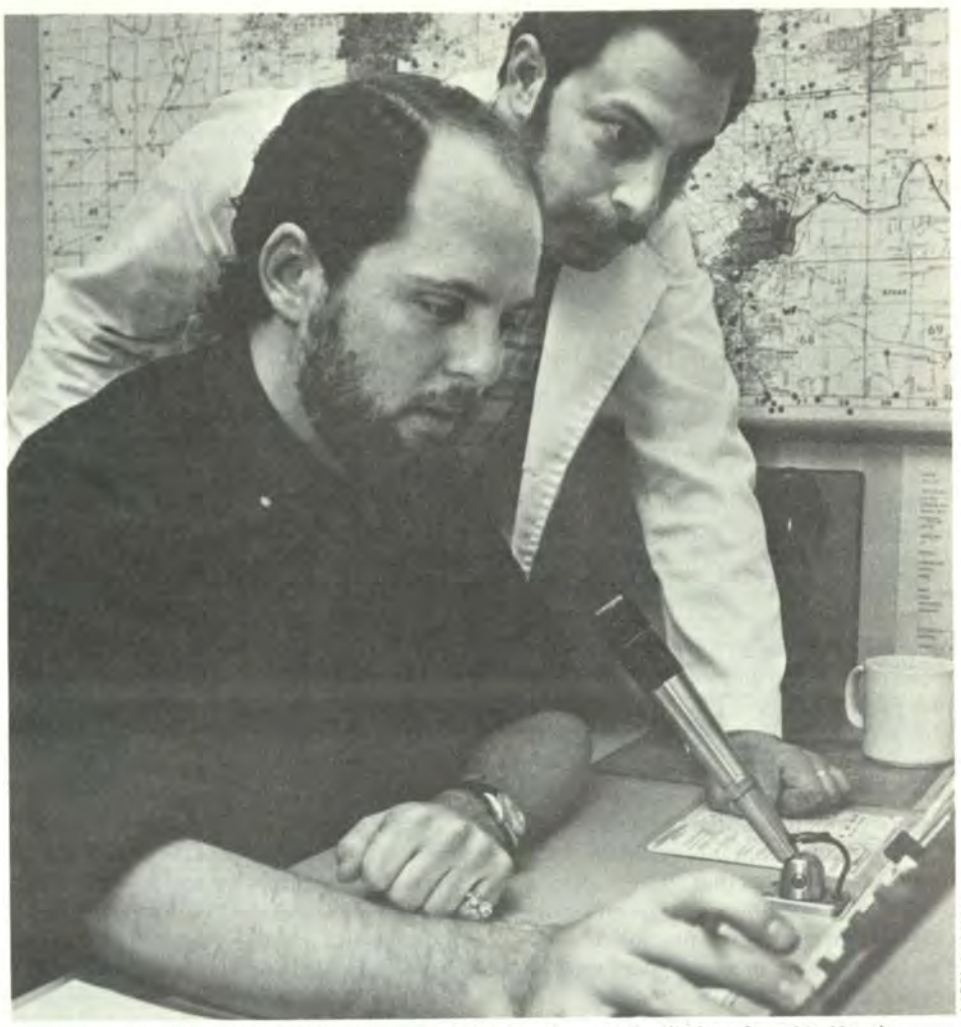
The center features a computer screen that monitors the 11 hospitals that participate in the network. Hospitals listed in green have all the trauma specialists and equipment needed to treat a trauma patient. A "red" hospital, on the other hand, is missing a key element of its trauma resources.

To be listed as green, a hospital must have an emergency department, angiography suite, operating room, anesthesiologist, intensive care unit, in-house trauma surgeon, on-call surgeon, neurosurgeon and CAT scanner immediately available. If any of the first five elements is missing, the hospital is automatically red. If some of the last four are missing, the hospital may be yellow or red, depending on the combination or the circumstances of a particular incident. Each of the participating hospitals is responsible for keeping its status current at the communications center.

The Trauma Communications Center is a crucial part of Medical Resource Hospital, a cooperative program between University Hospital Emergency Services and Multnomah County that serves the entire Portland metropolitan area. Medical Resource Hospital, staffed 24 hours a day, provides immediate physician consultation to emergency medical technicians and paramedics as they care for acutely ill and injured patients. The Trauma Communications Center, located in University Hospital's Emergency Room, helps direct seriously injured patients to facilities best able to handle their care.

The capabilities of Medical Resource Hospital and the Trauma Communications Center were unexpectedly tested last May during the Mt. Hood tragedy. When rescuers found the group of lost mountain climbers from Oregon Episcopal School, the center established a vital radio link between the mountain and area hospitals. Normally, this role would have been filled by Providence Medical Center, which has been designated to handle communication during disasters involving five or more critically injured persons. But the rescuers were not able to contact Providence by radio because of the obstructing terrain.

They could, however, talk with John Schrag and Bob Jones in the Trauma Communications Center. Schrag and Jones worked to relay information between the mountain and Providence. According to Lane Wintermute of the Hoodland Fire District, Schrag and Jones were a key link in the effort to get the climbers, all victims of hypothermia, to medical care as quickly as possible.



LARRY LEWTON

Operators John Schrag, left, and Bob Jones routed injured mountain climbers from Mt. Hood to Portland hospitals in May.

One of the reasons the link between the Trauma Communications Center and Providence worked so well, says Keith Neely, communications director of Medical Resource Hospital, is the experience of the operators in handling similar situations. "Paramedics are used to talking to us. We handle communications of this sort all the time," he says. "It's fortunate that John Schrag had worked in Providence's disaster communication center. He was there during the 1978 plane crash in Northeast Portland. Beyond having disaster experience, he is known and trusted by the people at Providence."

While coordinating communications from Mt. Hood, the center dealt with three other trauma incidents and a request for medical advice from Multnomah County paramedics. Even during the extraordinary trials brought on by the Mt. Hood crisis, the Trauma Communications Center continued to provide assistance to emergency personnel in the field and worked to save the precious minutes that can mean the difference between life and death for a critically injured person.

Graph indicates the types and numbers of trauma incidents referred to hospitals by the Trauma Communications Center in 1985. These 1,828 incidents injured 2,090 people.

Motor Vehicle Accidents	849
Motorcycle Accidents	223
Assaults	37
Falls	149
Gunshot Wounds	83
Stab Wounds	153
Auto/Pedestrian Accidents	292
Other	42
Total	1,828

FOCUS ON TRAUMA
Supplement to the *OHSU News*
September 1986

THE OREGON HEALTH SCIENCES UNIVERSITY

Leonard Laster, M.D., President
David Witter, Interim Director, University Hospital
Marlys Levin, Director, University Communications
Bob Sevier, Judy Ceniceros, Editors/Writers
Joan Gisselberg, Designer

The OHSU includes the schools of Dentistry, Medicine and Nursing; Institute for Advanced Biomedical Research; University Hospital; Doernbecher Memorial Hospital for Children; Outpatient Clinics; and Crippled Children's Division.

Focus on
TRAUMA
OHSU NEWS

THE OREGON HEALTH SCIENCES UNIVERSITY
3181 S.W. Sam Jackson Park Road
Portland, Oregon 97201

Students say "thanks" through awards to teachers

Part of saying good-bye to the OHSU is thanking the teachers who instruct, badger, cajole or otherwise mold each batch of students into graduating health professionals. In 1986, as in past years, one of the ways the university's dental, medical and nursing students said thank-you was by formally honoring outstanding teachers in their schools.

Graduates from the School of Dentistry gave the Outstanding Didactic Instructor Awards to full-time faculty member Dr. J. Henry Clarke, director of the Division of Behavioral Sciences, for the second time, and to part-time faculty members Dr. Susan Tolle, assistant professor of medicine, for the second consecutive year, and Dr. Jay Malmquist, assistant professor of oral pathology. The Outstanding Clinical Instructor Award went to full-time faculty member Dr. Robert Todd, assistant professor of removable prosthodontics, and to part-time faculty members Dr. Alden Peterson, assistant professor of operative dentistry, for the third time, and Dr. Carl Perkins, assistant professor of operative dentistry.

Two new awards were given this year by dentistry students to honor outstanding contributions by faculty members. The Outstanding Lifetime Contribution Award was presented to Dr. Kenneth Cantwell, professor of dentistry and chairman of operative dentistry (see story, page 5), and the Outstanding Contributions Above and Beyond Students' Expectations Award went to Dr. John Peterson Jr., professor of dentistry and associate dean for clinical affairs.

In the School of Medicine, graduates honored Dr. James Reuler, associate professor of medicine at the OHSU and chief of the General Medicine Section at the Veterans Administration Medical Center, with the David W.E. Baird Award, recognizing excellence in a junior faculty member. The award was named after Dr. Baird, dean of the School of Medicine from 1943 to 1968.

The J. David Bristow Award went for the second consecutive year to Dr. Walter McDonald, professor of medicine (OHSU) and chief of the Medical Service (VAMC). McDonald also received the Allan J. Hill Jr. Teaching Award in 1979, 1980 and 1981. The Bristow Award was established by the class of 1977 to recognize a faculty member who exemplifies the ideals of the true physician as he or she conducts clinical practice with patients and colleagues. Dr. Bristow, professor of medicine, chaired the medical school's Department of Medicine from 1971 to 1977.

The Allan J. Hill Jr. Teaching Awards recognize excellence in teaching by honoring two full-time faculty members, one in basic science and one in clinical science. This year's recipient in the basic science category is Dr. Thomas Richards, associate professor of cell biology and anatomy. The recipient in the clinical science category, for the fourth time, is Dr. Anthony Gallo, professor and head of pediatric neurosurgery. The Allan J. Hill Jr. award is named for a former chairman of the Department of Pediatrics who died in 1964.

The Howard P. Lewis Award, presented to a senior resident for outstanding teaching, was given for the second consecutive year to Dr. Kim Wayson, resident in neurosurgery. Dr. Lewis, professor emeritus of medicine, died in 1985.

The John S. Miller Awards, presented to an intern and a junior resident with qualities of an outstanding teacher, were given this year to Drs. Gary Takahashi, intern in internal medicine, and Joan Sage, resident in pediatrics. The award was established by the medical school's class of 1974 in memory of classmate Dr. John Miller, who died in 1978.

The Oliver M. Nisbet Teaching Award, given to an outstanding volunteer faculty member, went to Dr. Stephen Jones, chief of medicine at Good Samaritan Hospital and Medical Center. Dr. Nisbet, late professor emeritus of surgery, was on the OHSU volunteer faculty from 1926 until his death in 1967.

Recipients of the Baird, Hill and Nisbet awards receive $500 each out of a grant from the Kaiser Foundation Hospital. In 1974 the hospital's directors made a grant of $40,000 to the School of Medicine for awards to faculty members for excellence in teaching.

The Basic Science Excellence in Teaching Award, new last year, was established by the Medical School Student Senate to recognize exceptional achievements in teaching. This year's winners, chosen by first- and second-year medical students, are Drs. Thomas Richards, associate professor of cell biology and anatomy, and Edward Keenan, associate professor of surgery and of pharmacology.

The School of Nursing's Outstanding Undergraduate Faculty Award went, for the third time, to Marsha Heims, assistant professor of family nursing. The Outstanding Graduate Faculty Award went to Dr. Barbara Stewart, professor of family nursing.

Three faculty members retire after long careers

Dr. Kenneth Cantwell chats with '86 graduate Dr. Steve Scheffel, now on dental school faculty.

Dr. Kenneth Cantwell

The epitome of an educator . . . one of the finest practitioners in the Northwest . . . teacher of 90 percent of the dentists on the West Coast, either as dental students or as practitioners through continuing dental education courses. . . . These are just a few of the accolades given Dr. Kenneth Cantwell by his colleagues.

The story of Kenneth Cantwell is the story of a teacher. Students have always been number one with him, everyone agrees. He also has an abiding interest in improving dental materials and methods, to the ultimate benefit of all dental patients. His dedication to these two groups during his 40 years on the OHSU School of Dentistry's faculty has had far-reaching effects.

> Cantwell helped in the '50s to introduce a new high-speed hand drill, which revolutionized dentistry.

As the dental school's dean puts it, "Ken Cantwell's commitment to clinical excellence and his ability to transmit his ideals and skills to a generation of students have helped place the School of Dentistry among the leaders in dental education in America. The unparalleled quality of restorative dentistry that the people of Oregon are universally acknowledged to receive is a direct result of his teaching. The respect and admiration accorded him by his colleagues is richly justified and forever secure."

Cantwell helped in the 1950s to introduce a new high-speed hand drill, which revolutionized dentistry. Thanks to his interest and intervention, Oregon's dental school was the first in the nation to equip students with the drill. He was criticized at the time by people who thought the students shouldn't have it. "I received caustic phone calls," he says, "asking why I put such an explosive device in the hands of 'children.' But fortunately, students are so conservative and careful, they handled it even better than the dentists when it was introduced."

Characteristically, Cantwell doesn't take much credit for his part in introducing the instrument that is still the standard for practice. "It's easy to be a hero if things work out," he says.

Another place things "work out" is in dental study groups, where practicing dentists try out new techniques and materials before they are applied in everyday practice. He serves as an instructor to several of these in Portland and Salem and continues his involvement in this form of continuing dental education (which he considers "the heart of the profession") since his July 1 retirement as chairman and professor of operative dentistry, a post he held since 1950.

Again, typically, he gives credit to others. "Study groups have been going on in Oregon since as early as 1939; before the 1950s they were the only source of continuing education available to dentists. They are unique to the West Coast, especially the Northwest, and are a key to this region having what we consider the best dentistry in the world. I'm very proud of our Oregon dentists for their high participation — I think about half of practicing dentists — in continuing dental education."

And of course he doesn't want anyone to think his work is the same thing as basic science: for that he defers to Dr. David Mahler, chairman and professor of dental materials, who, Cantwell says, "has done the greatest work on materials in the United States. He and his department have been our source of information, and in study groups we develop how to use their discoveries."

Alumni of the School of Dentistry have honored Cantwell, first in 1982, by naming him Alumnus of the Year, and again this year, by initiating the plan to name the school's continuing education facility the Kenneth R. Cantwell Continuing Dental Education Clinic.

A special honor created for him by the 1986 graduating dental students was bestowed on Cantwell in June. Its name sums up how these and all the students in 39 previous graduating classes feel about his teaching: "The Outstanding Lifetime Contribution Award."

Dr. William Clark

After 32 years on the faculty as a pediatrician, researcher, teacher and hospital administrator, Dr. William Clark knows the OHSU well and finds it "a nice place to be. This institution has a friendliness you don't feel in many medical centers," he says. "Also, I enjoy watching it develop."

Clark has been watching the university from a different perspective since the first of the year, when he became associate medical services director of University Hospital and changed to a part-time work schedule. Until then he was director of graduate medical education for the hospital and the School of Medicine.

Clark earned his M.D. degree and did his internship and pediatric residency at the University of Chicago before serving in the Air Force and then coming to the OHSU for a second year of residency in pediatrics. He became an instructor in pediatrics in 1954 and held a number of other academic and administrative titles, including two stints as acting chairman in that department. He was made professor emeritus of pediatrics the first of this year.

In each of his positions, Clark has found, "Working with young people is the greatest pleasure, and the most stimulating part." He is pleased to be able to continue his contact with students, interns and residents while having four-day weekends for family, fishing and photography.

Dr. Robert Neerhout, chairman and professor of pediatrics, comments, "Bill Clark is one of those unique people who have been so important in the development of the university — always available, always ready to do what is needed and always capable of getting the job done. The Department of Pediatrics is particularly enriched by his continuing presence although on an attenuated schedule."

Dr. Richard Moore

After a career that encompassed faculty positions at several Midwestern university hospitals and 16 years as chairman of pathology at the OHSU, Dr. Richard Moore is more than content to spend time at his rural home outside Sandy.

He followed his own advice before he retired at the end of last year: "Develop other interests first." His interests include gardening, woodcarving and reading.

Having served on the School of Medicine's curriculum committee for "longer than I care to remember," Moore is pleased with the results of combining residency training for anatomic pathology and clinical pathology, an arrangement that works well for residents, he says.

Moore was born in Spokane and attended Gonzaga University before heading east to go to medical school at Case Western Reserve University, where he also served on the faculty. He was a professor of pathology there before returning to the Northwest in 1969 to join the OHSU.

Dr. John Kendall, dean of the medical school, says of Moore, "He was a strong advocate for an effective curriculum for medical students and worked hard to assure that students are authoritatively evaluated in their progress toward becoming physicians. He played a key role in a number of faculty committees that form the basis for effective communications. We'll miss him."

New drug studied at OHSU gains FDA approval

Oregon Health Sciences University researchers played a key role in the testing of an important new drug recently approved by the U.S. Food and Drug Administration. The OHSU has more experience with the drug, which treats acute organ rejection in kidney transplant patients, than any other medical center in the world.

"The drug, a monoclonal antibody, successfully reversed the rejection of newly transplanted kidneys in 94 percent of cases and was superior to conventional drugs in a clinical trial," says Dr. Douglas Norman, associate professor of medicine and director of the Laboratory of Immunogenetics and Transplantation at the OHSU.

Monoclonal antibodies, sometimes called "magic bullets" because they are precisely targeted, have been effectively used for several years in diagnostic tests ranging from cancer detection to early pregnancy diagnosis. But the new drug ORTHOCLONE OKT*3 (trademark), developed by the Ortho Pharmaceutical Corporation, is the first monoclonal antibody successfully used as a treatment, the area in which they hold the most promise.

Under FDA approval, the drug has been used experimentally by the OHSU transplant programs since 1982. Having treated more than 150 patients with OKT3, Norman and his colleagues are responsible for describing many of the properties of the drug and have published several journal articles reporting their findings. Results of an 11-center trial comparing Orthoclone OKT3 with conventional antirejection drugs were published recently in the *New England Journal of Medicine.*

"The monoclonal antibody OKT3 is expected to save hundreds of kidneys that might have been lost with traditional therapies," says Norman. The drug, targeted to react with the body's cells that cause organ rejection, was approved for use with kidney transplant patients and will continue to be studied in patients receiving other major organs such as a heart or liver.

Dr. John Barry, chairman and professor of urology, and director of the Renal Transplant Program at the OHSU since 1976, agrees with Norman on the drug's value. "In all my years of caring for kidney transplant patients, this has been the best drug for reversing rejection," he says. Since performing the first kidney transplant on the West Coast and the 18th in the world, OHSU surgeons have done more than 1,000 kidney transplants.

"Because acute rejection is the major obstacle to transplant success, saving transplanted kidneys is critical, both for the patients' well-being, and because demand for transplanted kidneys significantly outstrips the supply of available organs," Barry explained.

Among important findings in studies at the OHSU was that the monoclonal antibody could be used to treat patients for whom the conventional methods of treatment had already failed. The drug successfully reversed kidney rejection in about 75 percent of such patients.

"Successfully reversing rejection is crucial to transplantation," says Norman. "Despite advances over the years, most treatments either fail to control rejection completely or overly supress the immune system, leaving the patient vulnerable to infection. The high doses of steroids commonly used to fight rejection can have serious side effects."

A rejection episode begins when the body perceives the new kidney as a foreign invader and mobilizes its defense forces to fight the organ. About 60 percent of the approximately 7,000 patients receiving kidney transplants annually in the United States experience an acute rejection episode. While a rejection episode does not always mean that the kidney will be lost, this is sometimes the case. Those patients must return to a course of dialysis treatments when the transplanted kidney loses its function.

MARK EVANS/PAT WALLACE

Dr. Douglas Norman injects kidney transplant patient Hildred Douglas with OKT3, antirejection drug.

"This is why OKT3 is so important. It reverses acute rejection — but does not suppress the entire immune system in the process," he said.

In the nationwide clinical study, OKT3 reversed the initial rejection episode of transplanted kidneys 94 percent of the time, a significant increase over the 75 percent achieved with treatment by conventional therapies. The study involved 123 patients, 63 of whom were treated with OKT3.

Telethon tops $.5 million

As the fourth annual Children's Miracle Network Telethon ended, pledges to Doernbecher Memorial Hospital for Children totaled more than one-half million dollars. Included in the total was a $100,000 anonymous corporate donation, announced during the last half-hour of the show. The telethon was broadcast live May 31-June 1 on KGW-TV.

Most of this year's donations will go toward remodeling Doernbecher's Pediatric Intensive Care Unit. Doernbecher, celebrating its 60th birthday this year, is staffed with full-time specialists devoted to treating ill children from all over the Northwest.

The show was carried in 160 television markets and benefited 130 children's hospitals around the country. While the Children's Miracle Network Telethon is produced by the Osmond Foundation, a national nonprofit organization, all money raised locally stays in the local area.

Twenty minutes of each hour was devoted to local programming and featured Doernbecher patients and staff. The show was hosted by KGW's Pete Schulberg, Tracy Barry, Scott Lynn and Jim Little. About 150 OHSU employees volunteered their time to help out with the event.

The Doernbecher Guild, founded before the hospital opened, coordinates fund raising year-round. More than 30 events were held before and during the telethon, including the U.S. Lifeline 10K Run, the sixth annual Silver Tea and a gourmet Chinese dinner. The telethon included remote broadcasts from a 23-hour square dance marathon at the Portland Masonic Temple.

LARRY LEWTON

Proceeds of the 1986 telethon will be used to remodel Doernbecher's Pediatric Intensive Care Unit, where very ill children receive tender care from staff members such as Sylvia Yerkes, PICU nurse.

LARRY LEWTON

Larger-than-life pictures of a helicopter, a girl in a wheelchair and a Tri-Met bus adorn the "Wonderful Wall" at the ground-floor entrance of the OHSU Outpatient Clinic. To decorate the hallway between the Sam Jackson Park Road entrance (one floor below the main entrance) and the clinic, patients in Doernbecher Memorial Hospital for Children used the theme "going places" to sketch pictures. Supervising artist Judy Aiello drew the children's sketches on the wall and young people from Marquam Middle School's Talented and Gifted Program painted the scenes in bright colors. The colorful 8- by 71-foot mural was dedicated June 26. The collaboration was sponsored by the Marquam Hill Arts Committee (a subcommittee of the Marquam Hill Steering Committee) and the Artists in Education Program of the Contemporary Crafts Association.

Marquam Hill Lectures begin Oct. 1

The Marquam Hill Steering Committee's sixth annual lecture series will begin Oct. 1. The series features the following nationally respected OHSU scientists:

- Dr. Donald Trunkey, chairman of surgery, "Trauma: The Neglected Epidemic," Oct. 1, 1986
- Dr. Earl Zimmerman, chairman of neurology, "Brain Grafts: Curing the Incurable," Nov. 6, 1986
- Dr. Ronald Katon, director of the Gastrointestinal Diagnostic and Therapeutic Unit, "Seeing Inside: Fiber-Optic Treatments," Dec. 4, 1986
- Dr. Lesley Hallick, associate professor of microbiology and immunology, "Viruses: The Hidden Villains," Feb. 5, 1987
- Dr. Grover Bagby, head of the Division of Hematology and Medical Oncology, "Cancer: Pursuing the Source," March 5, 1987
- Dr. Virginia Tilden, associate professor of mental health nursing, "Family Secrets: Battered Women," April 2, 1987

The Marquam Hill Steering Committee is a group of Oregon citizens committed to furthering understanding of the OHSU and to fostering its continued growth toward excellence.

All lectures in the series will be at 8 p.m. in the OHSU Auditorium. They are free and open to the public. For more information call the Office of University Relations, 225-7686.

Marquam Hill concert entertains university family

JIM CRAVEN

Joseph Consani

The sun shone on the university's family party, "Music on Marquam Hill," and the mood of those gathered mirrored the names of the songs: "Everything Is Beautiful," "It's All for the Best," "Consider Yourself (at Home)," "It's a Fine Life," "You Are the Sunshine of My Life." From the opening welcome to the sing-along finale of "When the Saints Go Marching In," the enthusiasm of all who put on the jazz-pops concert was infectious.

The spring celebration was hosted by President Leonard Laster and sponsored by the Marquam Hill Steering Committee. The show was exclusively the work of university faculty, staff and students. About 35 people volunteered many hours to plan, coordinate, rehearse and do the technical work for the production.

The participants included musicians with professional training and experience. For instance, Dr. Charles Rightmer, an endodontic resident, was a vocal music instructor in Oklahoma before going to dental school. Dr. William Howard, chairman of fixed prosthodontics, worked his way through dental school playing the string bass. Dr. Jan Muller, a semiretired oral surgeon from Holland, got early classical training on the violin, then laid aside his musical instrument for dental instruments for more than 30 years before taking up the violin again.

All of these are part of the Class IVs jazz band, named for a very bad dental filling, and organized by Joseph Consani, associate dean for administrative affairs at the School of Dentistry. He also played guitar and bass and produced the May 18 show.

Consani attributes the success of the program largely to the work of production coordinator Sherrideth Iron, who has directed musicals at local community theaters. Iron, an administrative assistant in the dental school, designed all the staging, choreography and lighting. "The show came together because of her talent, her perception about timing and pace, and her ability to get people to buckle down," Consani says.

Some of those who buckled down are the Marquam Hill Singers, a group formed for the occasion. The four men and four women sang solos, duets and group numbers, acquitting themselves well in a moving traditional round, "Dona Nobis Pacem," and in many Broadway show tunes.

Joining the group for six weeks of rehearsals before the show was Dr. Susan Rustvold, piano accompanist. Rustvold also served as musical coordinator for the concert and played two duets for flute and jazz piano with flutist Dr. Stephen Persichetti. Rustvold and Persichetti, both dentists, collaborate professionally as well as musically; they are the two faculty members of practice management, a department new to the dental school last year.

Both Consani and Iron felt the real joy of working on the program was the way people from all over the university came together to help. Iron says, "All the people working on it brought the best part of themselves to the show. I'm pleased and proud to have been a part of it."

Members of the Class IVs jazz group, besides those named above, are: Dr. James Bennett, Hospital Dental Service; Boyd Munson, Wynn Okuda and Jed Shitabata, dental students; Steve Salvey, Physical Plant; and Peter Seidel, University Hospital.

The Marquam Hill Singers include Jean Ghadiri, OHSU Administration; Brian Gifford, Hospital Purchasing; Steven Harrison, OHSU Foundation; Kathy Lee and John MacDuffee, Patient Accounts Office; Dean Olsen, medical student; Barbara Paugh, Crippled Children's Division; and Linda Webb, Fiscal Services.

Additional technical and production assistance came from Ralph Tuomi, Facilities Management; Jeannene Dale, Audiovisual Services; Sharon Gail, Design Center; Mary Ann Halinen, Clinical Supply, dental school; Hayward Webster and Darlene Dorety, Radiation Therapy; Betty Rogers, Dental Bookstore; Mary Sweatt, Nursing Service; and Cordelia Johnson, Ophthalmology.

Claire Rives and Mary Clark chaired the concert committee for the Marquam Hill Steering Committee, the unit of the OHSU Board of Overseers that began the Marquam Hill Lecture Series, campus tours, the campus arts program and other enhancements to university life.

Major research and training grants awarded

Between Nov. 1, 1985, and July 31, 1986, the following members of the Oregon Health Sciences University faculty received grants of $300,000 or more for new or competing renewal projects. ("Competing renewal" projects are continuing studies that are not automatically renewed but have to compete against other applicants for funds.)

Project Director	Title	School/ Dept.	Funding Source*	Project Period	First-Year Award	Est. Total Award
Connor, William	Essentiality of Dietary Omega-3 Fatty Acids in Primates	Medicine/ Medicine	NIH-NIADDKD	7/1/86-6/30/91	$ 174,190	$1,192,463
Faber, Job	Extraplacental Exchange of Water and Solute	Medicine/ Physiology	NIH-NICHHD	7/1/86-6/30/89	146,055	487,737
Faber, Job	Respiration During Development	Medicine/ Physiology	NIH-NICHHD	7/1/86-6/30/91	568,585	2,977,390
Herbert, Edward	Regulation of Processing of Opioid Peptide Precursors	IABR	NIH-NIADDKD	12/1/85-11/30/89	154,546	664,046
Hirshman, Carol	A Model of Acute and Reactive Airway Disease	Medicine/ Anesthesiology	NIH-NHLBI	4/1/86-3/31/91	220,152	1,258,010
Litt, Michael	DNA Polymorphisms Via Cosmid Probes	Medicine/ Biochemistry	NIH-NIGMS	7/1/86-6/30/91	152,726	990,520
McCarron, David	Calcium and Hypertensive-Cardiovascular Disease Research	Medicine/ Medicine	National Dairy Promotion and Research Board	1/1/86-12/31/86	1,139,980	1,139,980
Mela-Riker, Leena	Metabolic Defects and Toxic Factors in Chronic Sepsis	Medicine/ Surgery	NIH-NIGMS	7/1/86-6/30/89	215,564	753,649
Metcalfe, James	Oxygen and Prenatal Growth	Medicine/ Medicine	NIH-NICHHD	9/1/86-8/31/89	88,422	342,671
Resko, John	Steroid Hormones and Fetal Development	Medicine/ Physiology	NIH-NICHHD	12/1/85-11/30/88	115,587	348,229
Rittenberg, Marvin	Functional Differentiation in B Lymphocytes	Medicine/ Microbiology	NIH-NIAID	4/1/86-3/31/91	150,931	978,618
Rosenbaum, James	Chemotactic Factors in Animal Models of Uveitis	Medicine/ Ophthalmology	NIH-NEI	5/1/86-4/30/89	105,786	362,251
Smith, Gerald	The OHSU Interdisciplinary Training Project in Mental Retardation/Developmentally Disabled	CCD	PHS-HRSA	7/1/86-6/30/87	630,000	630,000
VanBuskirk, Michael	The Ciliary Microvasculature of the Primate Eye	Medicine/ Ophthalmology	NIH-NEI	1/1/86-12/31/88	122,039	392,044

*All of the grants listed except McCarron's and Smith's are from National Institutes of Health (NIH) agencies. In alphabetical order, the full names of the agencies abbreviated are: HRSA — Health Resources and Services Administration; NEI — National Eye Institute; NHLBI — National Heart, Lung and Blood Institute; NIADDKD — National Institute of Arthritis, Diabetes, Digestive and Kidney Diseases; NIAID — National Institute of Allergy and Infectious Diseases; NICHHD — National Institute of Child Health and Human Development; NIGMS — National Institute for General Medical Sciences; and PHS — Public Health Service..

SM alumni hold meeting

Drs. S. Gorham Babson, '36; Ernest T. Livingstone, '51; and Tom Stern, '50, received Charles E. Preuss Distinguished Alumnus Awards during the annual School of Medicine Alumni Association meeting in April.

Dr. John Kitzhaber, '73, president of the Oregon Senate, was speaker at the awards luncheon, where the Medical Faculty Auxiliary was given an honorary membership in recognition of contributions to the school, the alumni and volunteer faculty. Dr. Robert Meechan, '53, professor of pediatrics, received a special citation for his excellence in teaching and his major efforts as a member and chairman of the school's admissions committee. Meechan served on the committee for 20 years before stepping aside earlier this year.

This year's Sommer Memorial Lecturers, who spoke during the scientific sessions, were Drs. Dani Bolognesi, James B. Duke professor of surgery at Duke University; George Glenner, professor of pathology, University of California at San Diego; and Richard Simmons, professor of surgery and microbiology, University of Minnesota. OHSU speakers presenting papers were Drs. Susan Tolle, assistant professor of medicine; Earl Zimmerman, chairman and professor of neurology; and Margaret Green, resident in public health, whose paper was selected as the winner of the residents' paper competition.

The Charles Preuss Award was established in 1984 to recognize outstanding School of Medicine graduates. Dr. Preuss, a 1929 alumnus, is a family physician in practice in Santa Barbara, Calif.

Dr. Babson, whose class celebrated the 50th anniversity of its graduation, received the Preuss award for pioneering work in the field of prenatal care. Dr. Livingstone, a longtime member of the volunteer faculty in the Division of Endocrinology, Metabolism and Clinical Nutrition and currently chairman of the Sommer Memorial Lecture Committee, was recognized for tireless commitment to the school. Dr. Stern, former vice president of the American Academy of Family Physicians and now, among other activities, an advisory board member of Cable Health Network, was honored for contributions to education and clinical care.

New association officers named during the meeting are Drs. James Gilbaugh, '63, president; Kathrine Avison, '75, vice president and program chairwoman; Alton Wiebe, '57, treasurer; and Keith Holmes, '60, secretary.

Meritorious Achievement Awards were presented to 14 members of the volunteer faculty, nominated by their department chairs, and Lifetime Memberships went to 21 members of the 1946 class.

Laster praises Howard Vollum for personal qualities

At a March memorial service for Howard Vollum, OHSU President Leonard Laster eulogized his friend in this way:

Dear Howard:

I come to this moment deeply sensitive to my inability to do justice to your distinction as a human being.

You deserve poetry. You deserve majestic images and musical phrases.

But all that I can bring to you are ordinary words, words without wings to soar on high, words made heavy by a profound awareness and a deep sadness that we shall not see your like again.

In so many ways you passed among us, touched by a mystical quality, a greatness of spirit which transcended the boundaries of our daily lives.

It was a privilege for us to walk within your aura, and I hope here today to capture the essence of what you gave to each of us as individuals, and to all of us as a society.

I am concerned, just now, not with your intellectual brilliance, albeit this quality is interwoven inextricably with your memory.

Nor am I concerned with your material success, despite the magnitude of your attainments in the practical world.

Nor will I dwell on your power and influence, although despite your indifference to these, you were able in your time to change the course of history for many of us gathered here.

What I seek, instead, are the ineffable and transcendental qualities of your life.

In the time I knew you, I thought that it was only I who always came away from a conversation with you having learned something new or having seen something old in a new light — you illuminated the darkness of my ignorance with facts, with insights and with shining visions of what might be.

Once, it was windmills and energy; another time, it was modifying Soviet and American attitudes to foster world peace; once, it was elevating the tone and quality of political life in academic institutions; once, it was societal behavior and ethics; once . . . the memories stretch out into the vastness of infinite time and space.

Imagine my astonishment, Howard, when I learned that everyone who ever knew you felt the same way — and also saw you as a universal teacher.

For a long time, I thought that only I came away from visits with you more inspired than ever to evolve into a finer person — from your examples of effortless decency and concern for human beings, from your unflagging faith in the goodness of people, from your standards of excellence in every endeavor, large or small, I drew strength and I absorbed a relentless aspiration to attain your level of humanity, if only to please you and to earn your approbation.

Again, imagine my surprise, Howard, when I discovered that everyone who knew you was similarly ennobled — and also saw you as an eternal catalyst for evoking the best in people.

It may begin to appear that I am trying to shape your memory into a fictitious legend, but not so. I have had but few heroes in my time, Howard, and you were the real thing, needing no imaginary embellishments.

With wisdom and with skill, you created or you revitalized a monastery library; a college; a center for the physical sciences; a research institute for the biomedical sciences; centers for the visual arts, for music and for healing; and only you and Jean know what else should be added to this list.

You transferred into the outside world your inner blendings of art and science, of scholarship and caring, of analysis and feeling, and in doing so you elevated, you transformed, you inspired and you helped to change the very world in which we live.

You never walked an institution but that people emerged from nooks and crannies to call you by your first name and to take up conversations from the past —about cars, about radios, about airplanes, about new ideas, about friendship.

You never sat in a meeting but that you deceived some newcomer into thinking your closed eyes betokened the somnolescence of a tired man, and you never failed to startle them by suddenly posing a question or adding a comment of such crystalline rationality, of such common sense, that you redirected the flow of the entire discussion into a fresh and meaningful direction.

I believe, Howard, that on rare occasions in the course of human history, an individual is sent to live amongst us as a reminder of what we could be if only we would unleash the decency that lies within ourselves and if only we would reach for the greatness of the stars in the heavens. Such an individual serves us as a beacon in the night to reaffirm faith in our natural civility and compassion, our proclivity for good. I believe, Howard, most sincerely, that you were one of those uncommon individuals.

I can see you now, wherever you may be, sitting with closed eyes and suffering through my feeble meanderings; I can see you opening your eyes and smiling a radiant and glorious smile; and I can hear you say "Be careful, Len, soon you will really believe all that stuff you are saying."

Well, Howard, I do believe it, we all do. We believed it when you were with us and we continue to believe it — down through the days and years to come.

Dear Howard, we love you.

Howard Vollum

Vollum active on OHSU Board of Overseers

(continued from page 1)

Vollum helped to forge a renaissance on Marquam Hill.

"With their gift, we've begun our march toward making the Hill a center where molecular biology is studied for the prevention and treatment of human disease. By inspiring creation of the IABR, they helped bring into existence one of the country's outstanding institutes for the study of how the brain works.

"As a member of the university's Board of Overseers, Howard Vollum was an invaluable source of advice, guidance, wisdom, faith in excellence and belief in the individual human being," Laster said.

Vollum's friendship for and support of the OHSU were also demonstrated in his will. He bequeathed approximately $14 million of his estate to the university to support IABR faculty and their research.

A 1936 graduate of Reed College, Vollum founded Tektronix Inc. in 1946 with M.J. "Jack" Murdock. Their company grew to become Oregon's biggest employer and one of the world's largest electronic instrument companies. Vollum was president and chief executive officer of Tektronix from 1946 to 1971, then became chairman in 1971 after Murdock died in a plane crash. Vollum held that post until 1984, when he became vice chairman.

Active on behalf of many civic and community organizations, Vollum was named First Citizen of Portland in 1973. He served on the boards of several major companies and was a trustee of Oregon Graduate Center, University of Portland and Reed College.

Besides his wife, Vollum is survived by five sons, all of whom are residents of the Portland area.

Scott Sonniksen paintings shown

Paintings by Scott Sonniksen, former Reed College faculty member, will be on exhibit in the OHSU Library student lounge Sept. 15-Oct. 29. The exhibit is sponsored by the Marquam Hill Steering Committee's art committee.

Sonniksen, now a Northern California resident, has a master's degree from Yale and studied at the Brooklyn Museum of Art. His works are on exhibit at the Seattle Art Museum, Brooklyn Art Museum and Yale University Art Gallery.

The paintings can be seen daily during regular Library hours.

The Oregon Health Sciences University NEWS

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