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UNIVERSITY OF OREGON
HEALTH SCIENCES CENTER
NEWS

Health Sciences Center News is published by the University of Oregon Health Sciences Center to inform students, employees, faculty and friends of the institution of programs, activities and events of interest to them.

Scanner lets physicians 'hinge open' patient's body

A new computerized X-ray body scanning system which experts believe is destined to revolutionize the field of radiology worldwide, will soon be in operation at the Health Sciences Center.

Probably every physician has had a case so baffling and frustrating that he has longed for a safe way to "hinge open" his patient's body at some point, if only for a moment, for a look at what's wrong.

Now this far-fetched fantasy is becoming a reality. Radiologists believe that the whole body X-ray scanner, which has come into use only in the last five or six years, is destined to revolutionize their field.

In the next few weeks, University Hospital will begin using its new scanner—called a CAT, for "computerized axial tomography" scanner, according to Dr. Charles Dotter, chairman of the department of diagnostic radiology.

The CAT scanner provides physicians with an X-ray picture of a slice-like cross section of the patient's body at any desired point. The picture shows details of bones, organs, and tissue formations previously impossible to detect.

The scanner is non-invasive, causing no discomfort to the patient, and exposing him to no more radiation than conventional X rays. Though the apparatus is extremely complex, the examination itself is a fairly simple procedure.

The patient reclines on an adjustable couch which extends through a circular opening in the scanner.

Emitting a pencil-thin fan of X rays, the device rotates around the body in eighteen 10-degree increments until it traverses 180 degrees, requiring about 20 seconds.

Moving with the tube but on the opposite side of the patient are detectors which detect and measure differences in the minute amounts of radiation passing through the patient.

These differences are fed into a computer which uses them to construct a cross-section picture on a television monitor. The computer also provides a quantitative print-out of the respective densities of each area. Each picture can be photographed or stored on magnetic tape for later review.

Although conventional X-ray films show the bones and tissues of the body, they don't give a cross section of the body and its organs.

The Health Sciences Center's new scanner, which is much more sensitive to small differences in densities, can often differentiate be-

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Patients undergoing X-ray scanning recline on an adjustable couch extending through the scanner.

Visitors get 'a little closer to medicine'

Medical students at the Health Sciences Center have set up a program to lend a helping hand to pre-med college students from Oregon who are applying for admission to the UOHSC.

The School of Medicine's Student Council has created a formal tour program to acquaint pre-med students with the campus, educational programs, and current students.

The first group of students toured the campus February 24. The 20 students, all from the University of Oregon, attended a Humanistic Medicine brown bag seminar and then broke up into smaller groups to tour facilities and talk with current medical students who graduated from U of O.

"Our goal is to help them get a feel for the educational programs at the School of Medicine," explained Steve Bailey, junior, Student Council member.

"In the past, we have provided tours for WICHE students, but we have assumed that Oregon students already know about our hospital and training programs," he said.

"But this is not really true. It takes a lot of knowledge to make an informed judgment.

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Twenty pre-medical students from the University of Oregon toured the School of Medicine in February. In the photo on the right, School of Medicine sophomore Kathy Scanlon (center) explains pathology specimens to her group in the Basic Science Building. The students' visit was part of a new formal tour program for pre-med students from Oregon colleges. According to Steve Bailey, Student Council member, talking with current UOHSC students helps medical school applicants "get a little closer to medicine" and acquire the knowledge necessary for choosing among the School's many programs.

Patients speak out about University Hospital

What do patients think of University Hospital? To find out, administrators send questionnaires to a random sample of patients each month following discharge.

The Hospital began the practice in 1975 in an effort to discover how patients really feel about admissions, their rooms, meals, nursing service, hospital care, personal services, and patient billing.

Patients discharged from the Hospital during the third week of every month receive a questionnaire at home. They send their responses directly to the university relations office, which keeps monthly and quarterly tabulations of results.

Mary Ann Lockwood, assistant to the president for university relations, monitors incoming responses. If a negative response requires prompt attention, she notifies Shirley Geis, patient relations coordinator, who looks into the problem immediately.

"Patient responses are usually positive, but if there is a complaint, our nursing coordinators check with the appropriate head nurse on the ward to find out the cause of the problem."

If Mrs. Lockwood notes a new trend—either negative or positive—in incoming responses, she sends the questionnaires involved to Miss Geis and Hospital administrators.

Monthly tabulations of results (with separate statistics for the north and south hospital units) go to Dr. Donald Kassebaum, vice president for hospital affairs, Stan Urban, hospital administrator, and Miss Geis. They share these summaries with appropriate members of the supervisory staffs.

"Patient responses are usually positive," said Gale Rankin, director of hospital nursing service. "But if there is a complaint, our nursing coordinators check with the appropriate head nurse on the ward to find out the cause of the problem.

"As a result of recent budget cuts, the nursing staff is working terribly hard," she continued. "They welcome the positive reinforcement in the questionnaires; and we find patient comments very helpful in pinpointing areas that need improvement."

According to Stan Urban, the questionnaires are partly responsible for the current push to increase efficiency within the admitting process and to make patient meals more appealing. (Mr. Urban and other administrators now sample patient meals themselves in a once-a-week, spot-check program.)

Questionnaires were also responsible for drawing administrators' attention to the need to lengthen visiting hours on the maternity ward.

A look at responses to two of the seven sections in the questionnaire for last December (selected at random by *HSC News*) illustrates the types of questions asked and the answers:

	Percentage of "Yes" responses
ADMISSION	
Admittance	
Was prompt	50%
Was routine	29%
Was slow	18%
Admitting clerk	
Was courteous and efficient	87%
Was indifferent	5%
Was slow	5%

PATIENT CARE

Did the doctors explain your care in terms you could understand?
Always, 68%; Usually, 26%; Never, 0%.

Were you satisfied with their care?
Yes, 97%; No, 0%.

Were tests and treatments explained to you so that you understood what was happening?
Always, 81%; Usually, 13%; Never, 3%.

Did you receive instructions on caring for yourself at home?
Yes, 81%; Partially, 5%; No, 11%.

Were you satisfied with services given by X-ray technicians?
Always, 63%; Usually, 18%; Never, 0%; No contact, 16%.

Were volunteer services satisfactory?
Always, 50%; Usually, 11%; Never, 3%; No contact, 32%.

Was the chaplain service appropriate to your needs?
Yes, 39%; Inadequate, 3%; No contact, 32%.

When you entered the hospital, were you told that residents, medical students and nursing students would be assisting in your care?
Yes, 79%; No, 21%.

Among the patient comments on the December questionnaires were the following:

"I think that the shifts should have larger staffs and smaller numbers of patients to give more concentrated attention to."

"Doctors shouldn't act put out when you ask questions, or try to put you off until later."

"Dr. Sunderland performed a heart cath on our daughter. She is an absolutely wonderful doctor. All the care for our daughter was very good."

"Visiting hours for husbands/wives should be liberalized so that the patient can spend more time with spouse, thereby avoiding tedium, depression, etc."

"It would have been nice to know that the doctor bill was to be sent separate. It was quite a shock. The doctors and nurses and staff couldn't have been nicer. Thank you all very much."

"The nurses seemed to be understaffed for a floor with children. David's family had to do much of his nursing care."

"The financial counsellors could be more organized. Also, the admitting procedures are awfully slow."

"Everyone was just great. Thank you for your care. From the bottom of my heart."

Are health care consumers at the UOHSC satisfied with their experience at University Hospital? This pair, waiting to complete the admissions process, may get a chance to express their feelings on a questionnaire sent to a random sample of hospital patients at home following their discharge.

HEALTH SCIENCES CENTER
NEWS

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University of Oregon Health Sciences Center, 3181 S.W. Sam Jackson Park Road, Portland Oregon 97201

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Students plan Brown Baggers

Coordinators of the Program for Humanistic Medicine have released a schedule of upcoming Brown Bag Seminars to be held in room 4340 of the Basic Science Building from noon to 1:00.

Thursday, April 14—"Psychological Adjustment to Disabling Injury—Chronic Care." Dr. James Lindemann, professor of psychology, UOHSC. A discussion by Dr. Lindemann of the physician's role in treatment and rehabilitation and discussion by a patient of the adjustment process.

Friday, April 15—"The Physician as God—The Cure Mentality in Chronic Care." Speakers to be announced. Goals of the therapeutic situation. How physicians playing God may help or hinder reaching those goals. Doctors are often accused of playing God. Why and how does this happen?

Thursday, April 21—"How Health Care Professionals Influence a Person's Sick Behavior." Dr. John Lipkin, chief of psychiatry, VAH.

Given that physicians and medical students affect a patient's sickness, how do they affect a patient's sick role behavior? Can we teach patients to feel healthier?

Thursday, April 28—"Cynicism." Speakers to be announced. Staying sensitive to and concerned about the people they see as patients can be difficult when students are continually fatigued, frustrated, emotionally drained and angry with the practice of medicine; a fitting scenario for developing cynicism.

Test reveals origin of impotence

Taking advantage of an unusual, new piece of equipment, the division of urology is offering sexually impotent men new knowledge about the origin of their dysfunction.

Using nocturnal penile tumescence (NPT) equipment designed by Dr. John Barry, assistant professor of urology, physicians are now able to distinguish between organic and psychological impotence.

Dr. Barry began using this equipment last year at the VA and University Hospitals.

After they are tested, patients are able to make an informed choice—for the first time—between psychiatric counseling and further physical evaluation and therapy, Dr. Barry explained.

The NPT equipment records the number and duration of erections the patient has at night. It consists of a tiny elastic strain gage which is placed around the patient's penis at night; a plethysmograph which responds to changes in the organ's diameter; and a recorder which charts such changes on a graph.

Patients are tested on three successive nights. They may take the equipment home and conduct the tests themselves, or, for those who are not mechanically inclined, tests are performed at night in the hospital.

Physically normal males—including those who are psychologically impotent—have numerous erections during rapid-eye-movement (REM) sleep, regardless of the content of their dreams.

Thus, if the NPT equipment reveals that a patient does have erections at night, physicians can be certain that he is physically normal and that his impotence is psychogenic. Psychiatric referral usually follows.

Patients whose tests reveal no erections may have one of numerous physical problems: diabetes, impaired nerves, insufficient hormone levels or blood supply to the penis, or other anatomical problems.

Some patients are understandably relieved to learn that their impotence is organically based, Dr. Barry explained. Some have gone to psychiatrists for years under the assumption that their impotence was due to a psychological disorder.

Now, if diagnosis warrants, these patients may elect surgical implantation of a penile prosthesis—either a rigid prosthesis which results in permanent erection (which may be concealed in various ways) or an inflatable prosthesis, which is more expensive and complex, but which may be inflated by the man or his partner prior to intercourse.

Dr. Barry and his surgical team perform both these procedures as well as a newer, experimental operation in which small blood vessels in the penis are altered to allow the organ a greater supply of blood.

New equipment allows more sophisticated diagnoses

The HSC's Cardiac Catheterization Laboratory is operating with new equipment valued at more than $250,000.

Laboratory director Dr. Shahbudin Rahimtoola said the equipment, completely installed in December, allows the laboratory greater sophistication in diagnosis of heart problems.

New equipment includes X-ray machinery valued at $157,000. Photographic cameras, devices for measuring blood flow, heart and circulation pressures, electrophysiological study equipment, and an eight-track tape recorder for data retention are also new.

Laboratory diagnosis is by catheter, a wire-like surgical tube inserted in an artery or vein and directed to the heart. Still and motion picture photos of the heart and arteries are taken by using X rays and injecting photosensitive materials through the catheter. Photographic film is taken of what appears on the X-ray screen.

Laboratory diagnosis is by catheter, a wire-like surgical tube inserted in an artery or vein and directed to the heart.

With these photos, physicians are able to see such things as heart tissue damage, valvular damage, congenital heart defects, and portions of the heart arteries clogged by fatty deposits caused by cholesterol in the blood.

Photos are taken and data recorded while the fully conscious patient lies on a laboratory operating table.

From the photos and data, cardiologists who are also experts in interpretation of data, make decisions about open heart surgery, medication, and pacemakers, in consultation with cardiac surgeons.

Since the laboratory opened in 1955, there has been a rapid increase in patients receiving cardiac catheterization procedures (except in 1976, when the laboratory was shut down at times for equipment installation).

In 1955, 117 patients received the catheterization procedure. In 1975, procedures were performed on 436 adults and 235 children. Children, even infantas a few hours old, have cardiac catheterization procedures done by pediatric cardiologists.

The laboratory's electrophysiological heart studies are not performed elsewhere in Oregon, Dr. Rahimtoola said.

"We record activity in the heart's specialized conducting tissue," he explained. "How this microscopic area reacts to stimuli tells us more about a patient's heart and problems such as irregular or slow heart beat, for example."

Performing a cardiac catheterization are Dr. Shahbudin Rahimtoola, right, and Dr. John McAnulty. During the procedure, still and motion pictures of the heart and arteries are taken.

Body scanner

(continued from page 1)

tween diseased and healthy tissue (making early detection of cancer possible in some cases), and can detect abnormal cavities, blood clots, and enlarged organs.

Because computerized axial tomography is a recent development, physicians are continually discovering new diagnostic uses for it. No one really knows the full range of the scanner's capabilities. Likewise, physicians have much to learn about its limitations and cost effectiveness for certain cases. However, it is known to be of particular value in studying the head; so most early work at University Hospital will be on the head.

As more is learned about the scanner's efficacy in body diagnosis, HSC radiologists will use it more often in the search for tumors in the kidneys, pancreas, liver, lungs, and bones, said Dr. Henderson.

According to Dr. Sidney Henderson, assistant professor of radiology, head scans will expedite the diagnosis of tumors and abnormal collections of fluid or blood such as subdural hematomas.

Head scans will also be used to document the location of strokes, which appear as areas differing in density from the surrounding brain.

These scans also will allow physicians to measure the effect of radiation therapy on tumor size.

As more is learned about the scanner's efficacy in body diagnosis, HSC radiologists will use it more often in the search for tumors in the kidneys, pancreas, liver, lungs, and bones.

It also will aid in diagnosis of obstructive jaundice, fluid in the abdomen and lungs, and aneurysms. It may prove to be an aid in evaluation of the pelvic area, prostate, and perhaps, eventually, the heart.

According to members of the radiology department staff, the scanner will not make angiography obsolete but will aid in selecting those patients who need it.

It should result in savings to the patient in many cases. First, the patient need not be hospitalized, but can be examined as an outpatient. Second, the scan may make further costly tests unnecessary. Third, although scans may cost between $250 and $350, they can eliminate the need for more expensive exploratory surgery.

One Canadian hospital which did a cost study on its scanner estimated that patient savings totalled $2 million during the first year of operation.

University Hospital is leasing the new EMI whole body scanner at an annual cost of $109,000.

At the end of the six-year lease, which is renewable annually, the Center can own the unit for the purchase price of $1.

According to Gerald Hale, director of technical services in radiology, the department hopes to schedule about a dozen patients each nine-hour day for scans. The instrument would also be available on a 24-hour basis for emergencies.

Diet booth draws crowd

One of the main centers of attraction at the Jewish Community Center Health Fair February 20 was a booth concerned with diet and health which the Health Sciences Center sponsored.

"The response was terrific," said Dr. Beatrice Rose, associate professor of public health and preventive medicine, one of six HSC staff members who hosted the booth.

"We found that people are extremely interested in what they eat and in how it affects their health. Ours was one of the most successful booths at the fair. It attracted people of all ages."

Visitors to the HSC booth were given an opportunity to fill out a questionnaire about their diet. The questions were part of a much longer questionnaire which will eventually be administered to hundreds of Oregonians for the department of neurology's one-year feasibility study to develop a model comprehensive stroke center for Oregon.

During the four-hour fair, 163 persons stopped for the 20 minutes necessary to fill out the questionnaire.

Nurse coordinators in the stroke project later evaluated the results to determine if each individual's diet is high, moderate, or low in cholesterol and sodium. Results were mailed to those who participated.

Half of those who filled out questionnaires asked that more information on diet be sent to them. One-third requested that the HSC offer special diet clinics and that further information on the Center's services be sent to them.

According to Dr. Rose, diet clinics which the public could attend are "a new concept for the Health Sciences Center."

Each clinic might consist of as many as 10 patients who would meet with a dietitian to discuss their eating habits. Patients would learn how poor diet can contribute to risk of stroke and heart disease.

In addition to providing a service to the community, HSC staff at the health fair were able to pre-test the diet section of the epidemiological questionnaire for the proposed stroke center.

"Project staff used the feedback to change their questionnaire a little, but they found in general that those who took the test found it easy to understand," said Dr. Rose.

Others hosting the HSC booth were Louise Queener, Cheryl Barnett, and Jan Weisgerber, nurse coordinators for the stroke project; Nancy Beshear, dietitian; and John Hutchins, administrator, University Clinics.

Posters for the display were created by the HSC's medical graphics unit.

Jane Nelson joins Council

The All-Hill Student Council's new representative on the HSC Advisory Council is junior nursing student Jane Nelson.

Miss Nelson is replacing Steve Bailey, School of Medicine junior, who has attended Advisory Council meetings for the last year and a half.

In describing the Advisory Council's February 17 meeting, the first she attended, Miss Nelson said, "It was stimulating to see these minds at work. It's valuable for any student to learn about the management process and see how the administration works."

The new Advisory Council member said her function is to provide the Council with student input, get answers to questions which students raise, and keep the All-Hill Council up to date on the Advisory Council's decisions.

Among the student body's special concerns which Miss Nelson will relay to the Advisory Council are their interest in a student center or union; a broader student health care program; and tuition increases.

Pre-med tour

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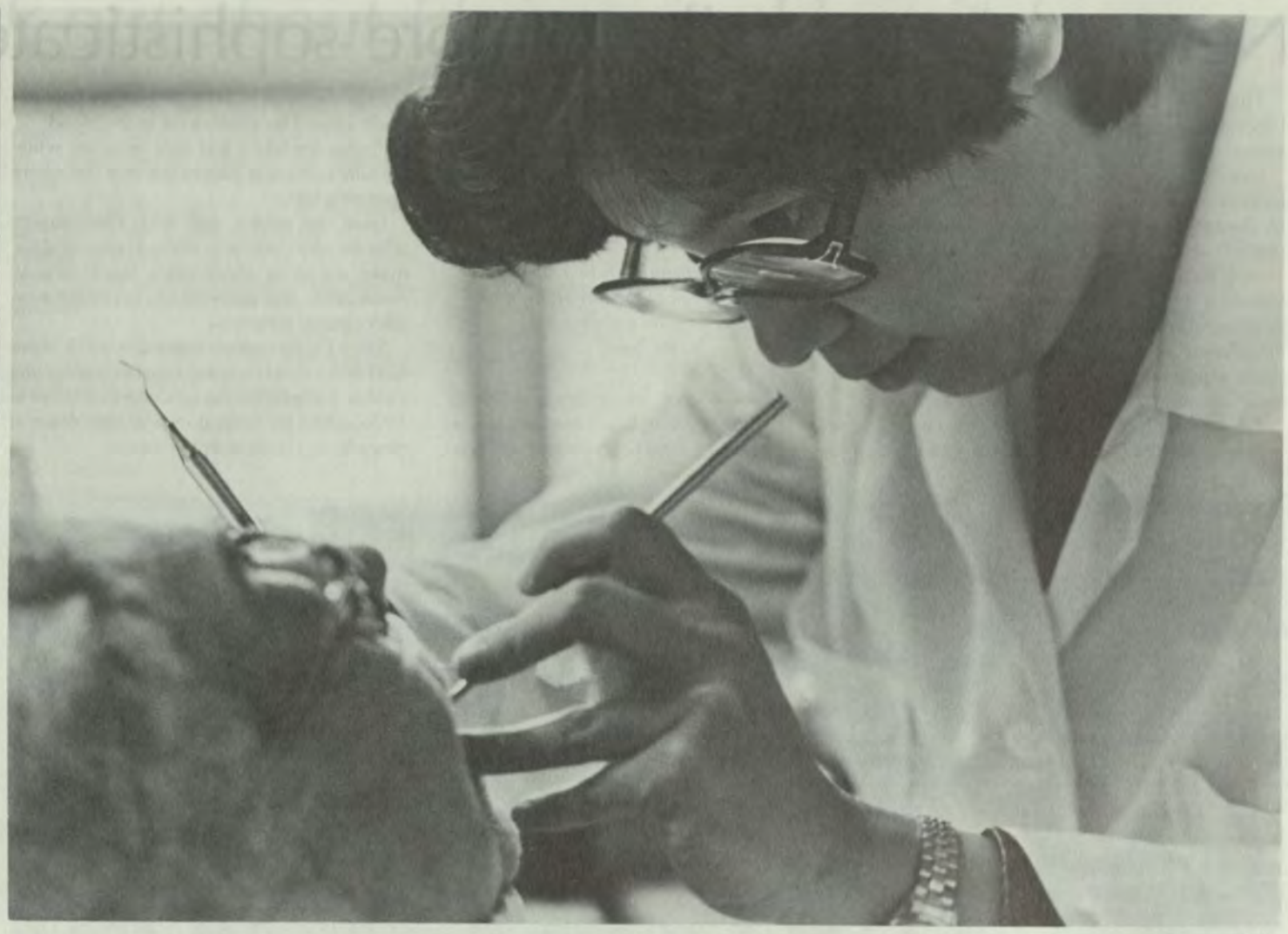
We are trying to guide applicants through the maze, to tell them what it's like to be a medical student, what we do on a day-to-day basis, and a little of the philosophy we've acquired."

Mr. Bailey explained that freshmen and sophomore medical students (as opposed to upperclassmen) have been selected to lead the tours "because they are closer to what the college student is going through."

During their tour last month, college students saw the Basic Science Building's classrooms, labs, and study areas, the Library, clinical areas, and the neonatal intensive care unit.

Their questions ranged from topics such as student examinations and hours spent in class to instruction in medical ethics, faculty-student rapport, and social life.

"We hope that their visit helped them get a little closer to medicine," said Mr. Bailey. "In the long run, this service will benefit not only the students, but the School of Medicine as a whole."



Hygiene students gain experience in the community

Dental hygiene students from the Health Sciences Center are making an impact in community health programs throughout the city.

This term, 27 hygiene students have worked once a week in schools, nursing homes, mental hospitals, half-way houses, community health centers, and other agencies.

Their experience is part of a new course called Community Education for Dental Hygiene Students.

"We want the students to get first hand experience working in community projects with people who don't ordinarily receive on-going dental care," explained Marge Empey, clinical instructor in dental hygiene, who is one of the program's three coordinators. (The others are Jennifer Robertson and Dr. David Rosenstein.)

She continued, "We want them to have experience working with patients other than middle-class, white adults and children.

"We think they will benefit from seeing the career possibilities available to dental hygienists in the community. Many of the agencies they work with employ hygienists.

"So many of our students envision spending their careers in a private dental office," Mrs. Empey said. "This class tries to make them aware that private dentistry doesn't serve all segments of the population. Hygienists in community health programs can help bridge this gap."

The students' activities range from cleaning the teeth of elderly patients to teaching school children—both normal and retarded—how to care for their teeth. Several students teach basic dental health to young mothers and mothers-to-be in University Hospital.

Two of the 27 students, Terry Sotta and Daphne Cooluris, work with children at a Portland public school.

"Our main goal is to get them started on a fluoride rinse program," said Miss Sotta.

"They're really cavity prone at this age," added Miss Cooluris, "and many come from homes where oral hygiene isn't a top priority. So a regular fluoride rinse can help.

"When we first went to the school, the children's hygiene habits were pretty bad," she continued. "Now they look forward to our visits. They're more interested in taking care of their mouths, and they ask a lot of questions. It's great!"

PHOTOS ABOVE: Upper left, Terry Sotta prepares a badge for youngster whose teeth are clean at Portsmouth Middle School. Below, class member brushes hard before inspection. Right, Debbie Tse works on patient at Mt. St. Joseph.

HSC Library looks to alumni for crucial funding needs

The School of Medicine Alumni Association is focusing its 1977 fund raising efforts toward meeting the crucial needs of the HSC Library.

The Association has set a goal of $60,000 to be used for one-time expenditures that would help bring the Library to a minimal, basic level from which it could move forward.

Inflation and a chronic shortage of public money has put the HSC Library 15 years behind similar institutional libraries.

A recent comparison of the HSC Library with other comparable libraries in the U.S. showed Oregon at the bottom of the list in terms of total budget and funding for books and journals.

The Library now spends less than half as much money on materials as the average state-supported medical school library.

Even if the legislature provides a 50 per cent budget increase during each of the next two years, as the Library has requested, administrators doubt that there will be sufficient funds to do much more than maintain the status quo.

For this reason, the Library is seeking assistance from alumni. In outlining areas of acute need to the alumni, Library administrators proposed these specific projects in which contributions could be spent:

• Center for independent learning—Funds would be spent on the purchase of audiovisual hardware and a lending collection of software.

According to Library officials, audiovisual materials are now considered a vital learning tool. They hope the HSC Library will be able to join the majority of medical libraries which store and provide for the use of audiovisuals.

• *Materia medica*—This project would provide funds for purchase of printed materials, as well as audiovisuals, which would help bring the Library's collection up to date.

In addition, funds could be spent to purchase a traveling collection of books, journals, and audiovisual materials which would rotate to hospitals throughout the state. Such a program could dovetail well with the Oregon Medical Association's audiovisual program.

• The Library is also in great need of a microfilm-microfiche reader-printer; a collection on biomedical ethics; a new circulation counter; a paging system with pocket pagers; a temporary binding system for periodicals; installation of two book return units in University Hospital; and additional data retrieval systems such as Medline.

"The Health Sciences Center's position of esteem in the Northwest should not be jeopardized in this respect any longer," according to James Morgan, director of the Health Sciences Center Library.

"We are once again looking to alumni of the Health Sciences Center to help support their Library," commented James Morgan, Library director. "If additional funding is not found immediately, the Library will continue to suffer. In spite of staff efforts, students will not have books, journals, and resources critical to the educational process. Physicians and other health care professionals will not have some of the tools so necessary to the acquisition of knowledge.

"The Health Sciences Center's position of esteem in the Northwest should not be jeopardized in this respect any longer."

According to Dr. Robert S. Stone, vice president of the Health Sciences Center and dean of the School of Medicine, "By their interest in helping to improve the Health Sciences Center Library the alumni of the School of Medicine demonstrate a significant conviction. This belief is that the availability of a strong library is a critical element in the education of physicians at every stage in their careers.

"Of course this is most evident after formal education is completed," said Dr. Stone, "because every physician knows that if he or she is to serve patients well, unremitting self-instruction is vital."

All-Hill Council consults students; works to begin new programs

Results of a questionnaire distributed to all HSC students last fall are the basis of an effort to begin new programs.

A questionnaire distributed to all Health Sciences Center students last fall has resulted in student efforts to begin several new programs and expand others.

Nearly 300 students completed the questionnaire, indicating an interest in such areas as: establishing an Office of Student Affairs, broadening the hours of the Student Activities Building, and adding dental care to the health services provided to medical and nursing students.

The All-Hill Student Council, which sponsored the survey, has referred its findings to appropriate campus administrators and committees. In at least four areas, students have already taken initiative in solving problems:

1. Responses indicated that career, academic, and personal counseling is not adequate. There were requests for an advisor system, for better aid in placement after graduation, and for advice on further training.

Students and administrators are using the survey results as a basis for modifying existing programs to meet student needs.

2. Responses indicated that there is a lack of communication among the student bodies of the three schools.

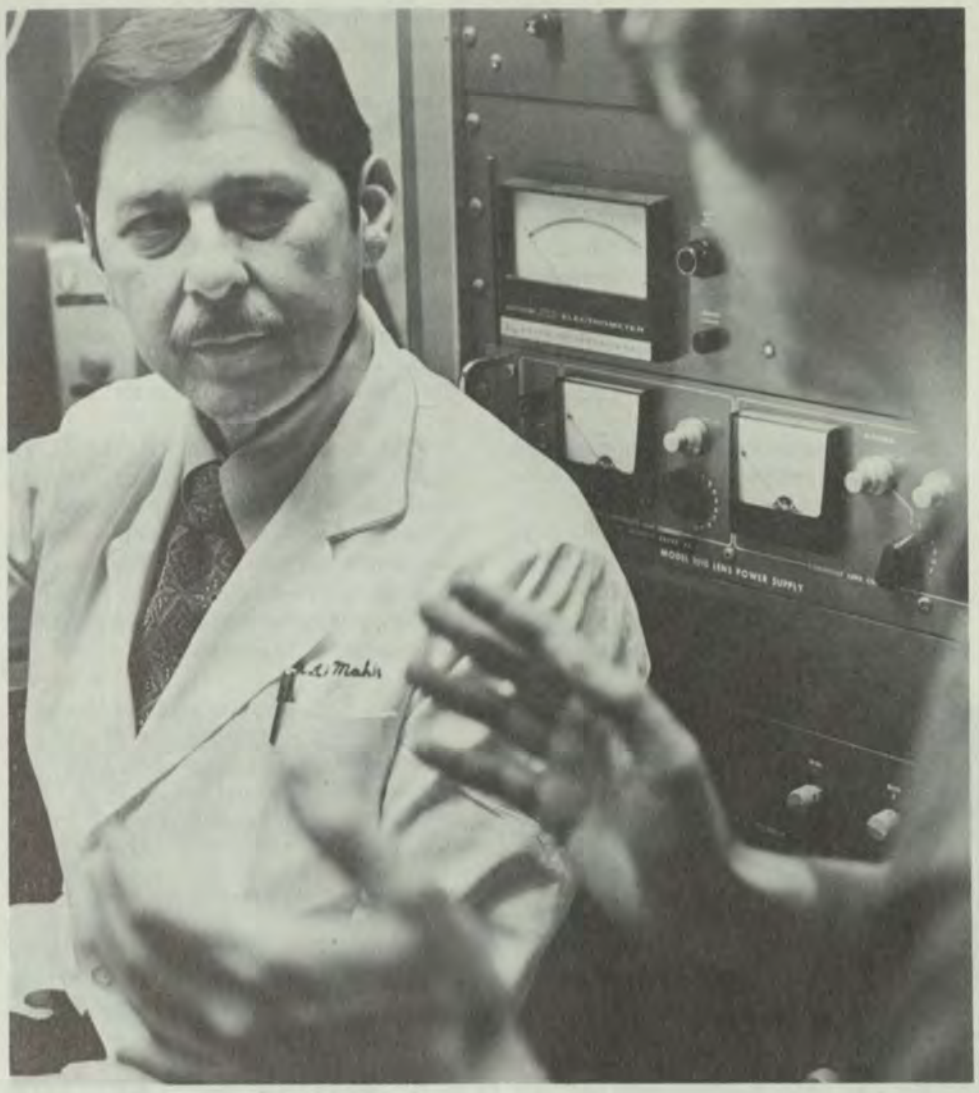
To bridge this gap, students will begin putting out a small newspaper which will cover events of each school and news of general interest to students. The first issue should be out this spring.

3. Students expressed an interest in more interdisciplinary workshops. To meet this need, students are working to organize a Health Professional Seminar to begin next fall.

At this seminar, students from health professional schools throughout the state could get together to learn more about each other's roles and how to function as a total health care team.

4. Students wanted more extracurricular activities such as parties and organized classes at the Student Activities Building. At least one new class, physical fitness (see separate article in this issue), is scheduled. Others may be organized.

Dental research team seeks to prolong life of fillings



Dr. David Mahler and an associate discuss an electron-microprobe scan.

In spite of your dentist's best efforts, the silver amalgam fillings in your teeth probably won't last you a lifetime.

In fact, the average life of a filling is about ten years. The problem lies not in workmanship, but in the metallurgical properties of the silver amalgam itself.

For the last five years, one of the most intensive efforts in the nation to develop an improved alloy for fillings has been centered at the Health Sciences Center School of Dentistry.

Dr. David Mahler, professor and chairman of the department of dental materials science, has just received an additional five-year, $221,125 grant from the National Institute of Dental Research for continuation of his metallurgical studies of dental amalgams.

As researchers throughout the country develop new dental alloys, these alloys are evaluated in Dr. Mahler's department by examination in an electron-microprobe, which looks at an alloy's "inner space." Dr. Mahler and his associates are also using the microprobe to study the variety of metallurgical reactions that produce dental amalgams.

A direct result of the HSC project has been increased use of a new copper dispersant silver alloy developed elsewhere which demonstrates increased clinical longevity. Dr. Mahler's team tested the alloy and was able to identify the metallurgical factors that contribute to its clinical efficacy. As a result, many new alloys based on the same principle have been developed.

Dr. Mahler explained that most dental amalgams are constructed of four elements—silver, tin, copper, and zinc—mixed with mercury. An amalgam's good or poor behavior in the mouth depends on how these elements are combined, how the resulting ingot is cooled, the size of the particles mixed with mercury, and other factors.

"In recent years, there has been a proliferation of alloy systems. The researchers who develop them may not understand the mechanism that results in their success or failure," explained Dr. Mahler.

"Our evaluations are contributing to an informational base that will contribute to the development of superior alloys."

Dr. Mahler and his associates are also conducting a lengthy clinical study of how various amalgams behave in patients' mouths.

Elks present gift

McMinnville Elks Lodge No. 1283 has given nearly 1,000 pairs of eyeglass frames, valued at about $3,000, to the Elks' Children's Eye Clinic at University Hospital.

The lodge donated the frames, in different styles and sizes, after receiving them as surplus stock from C.B. Company, an optical laboratory in Portland.

"These frames will assist many patients who can't afford to pay for frames," said Dr. Kenneth Swan, clinic director. "Many people don't realize federal law now prohibits the reuse of old eyeglass frames. Also, most health policies don't cover the cost of glasses."

New book maps change-over to alternative diet

Sweet 'n' sour beans. Hawaiian chicken. Raspberry mousse. Who says low-cholesterol recipes are no fun!

A new cookbook with these three dishes and dozens of other tasty low-cholesterol recipes has just been published. The book's authors hope it will help thousands of Americans begin the transition to a healthy diet—and a longer life.

The cookbook is called *The Alternative Diet Book*. The "alternative diet" was developed by Dr. William Connor, HSC professor of medicine and director of the Lipid Research Laboratory, Sonja Connor, research dietician in the lab, and Martha Fry, dietician in the Clinical Research Center.

Research by the Connors, Mrs. Fry, and other scientists indicates that the current diet of Americans plays an important role in causing coronary heart disease, which is responsible for about half of all deaths in this country.

The cause of coronary heart problems is well known and understood. The blood supply to the heart muscle, by way of the coronary arteries, is blocked by deposits of cholesterol and scar tissue.

These blockages develop chiefly because the cholesterol level in the blood is too high. Cholesterol from the blood enters the lining of the artery and sets up the deposit which ultimately causes the trouble.

What can be done to prevent coronary heart disease? The most logical approach, say the Connors, is to change dietary habits and thereby limit cholesterol deposits.

Their *Alternative Diet Book* not only contains delicious, new low-cholesterol recipes; but it also tells readers how to change their nutritional lifestyles.

Some persons may be able to change their eating habits within a few years. Others, who are less motivated, may require a decade to change.

The Connors advise people to modify their diet gradually in three phases:

Phase I—Avoid foods high in cholesterol and saturated fat, *i.e.*, delete egg yolk, butterfat, lard, organ meat (such as liver), skin of poultry and fish, and visible fat on meat.

Substitute margarine for butter, vegetable oils and shortening for lard, skim milk for whole milk, egg whites for whole eggs.

Research by the Connors, Mrs. Fry, and other scientists indicates that the current diet of Americans plays an important role in causing coronary heart disease, which is responsible for about half of all the deaths in this country.

Phase II—Cut intake of meat from a maximum of 16 ounces a day to no more than six to eight ounces a day. Plan and eat meatless lunches. Use less fat and cheese.

Use fewer products containing large amounts of salt (which contributes to hypertension and heart disease). Acquire a variety of new recipes.

Phase III—Eat mainly cereals, legumes, fruit and vegetables. Use meat as a condiment. Use low-cholesterol cheeses. Decrease the amount of salt used for cooking.

The authors stress the fact that readers need not throw away their old recipes but, in many cases, need only alter them.

For example, most recipes, including baked items, can be made without egg yolk. Usually one and one-half egg whites can be used successfully in place of one whole egg.

In their new book, the Connors emphasize the fascinating choices—a variety of foreign dishes and a whole new range of tastes—available to persons who switch to the "alternative diet."

"Do not feel that because the alternative diet is different it is less desirable," they write in the preface.

The Alternative Diet Book, 1,000 copies of which have already been sold, is now available in the HSC bookstore and may soon be available in bookstores in Portland. It sells for $3.95 and was published by the University of Iowa Press.

The Connors, who are former faculty members at the University of Iowa, were assisted by their Iowa associates in testing, standardizing, and calculating the recipes in the new cookbook.

According to the University of Iowa *Spectator*, one of the Connors' fans is well known actor Tony Randall, who has a syndicated television program on cooking.

Randall discussed the alternative diet on his program, and as a result the University of Iowa received more than 2,000 letters and postcards requesting more information.

Teaching aids will let students study at own speed

Mini-grants are encouraging School of Dentistry faculty to develop innovative and improved teaching methods, Dr. Patrick Nalbone explains.

Six School of Dentistry professors are making a special effort this year to develop teaching materials that let students study at their own pace.

All six faculty are participating in a project called FIG (Faculty Instructional Grants) set up by the School's Teaching-Learning Committee to encourage innovative and improved teaching methods.

The six professors receiving the grants and their projects include:

—Dr. J. Henry Clarke, director, division of behavioral sciences. His program will include a videotaped simulation of an encounter between a dental hygienist and a patient.

—Dr. Ross Kaplan, assistant professor of orthodontics. His program, which will also use videotape, will cover methods of identifying and correcting problems of occlusion, or bite.

—Dr. R. Curtis Lundeen, assistant professor of oral diagnosis. His program, using slides and audiotape, will explain use of School of Dentistry clinic records and forms.

—Dr. Roger Lunt, assistant professor of pedodontics. His program, using color slides in microform, will deal with the removal of tooth pulp and placement of a filling material.

—Dr. Patrick Reynolds, assistant professor of physiology. His program, using audio cassettes, will deal with the functioning of the human nervous, muscle and gastrointestinal systems.

—Dr. Fred Sorenson, professor and chairman of the oral radiology department. His program will include a videotape on X-ray techniques for oral examinations.

According to Dr. Patrick J. Nalbone, the School of Dentistry's director of instructional development, the FIG program was initiated "because the task of designing, producing and testing teaching materials with assured effectiveness is a difficult job. Good instructional design and audiovisual production require expertise that few faculty without special training have."

Professional education specialist Jeannette Schiller was hired to consult with the FIG instructors and arrange for production work with technical experts from the UOHSC media services division.

The FIG program set aside about $200 for each faculty "mini-grant," mainly for materials costs.

Each project is being conducted systematically with development of a rough of prototype version that will be tested with a small number of students first and then revised before use in regular courses.

In this way, "we can be sure the materials really do teach," said Dr. Nalbone.

He added that ultimately a collection of such tested learning materials will allow students to structure their study time better and will free faculty for more individual contact with students as well as for further materials development.

Most of the new teaching materials will be used by students in the School of Dentistry's new Independent Learning Center (ILC).

The ILC will house special study stations equipped with audiovisual equipment such as slide projectors, and audio- and videotape players.

Easy tasks not so simple for autistic youngsters

Using behavior modification techniques, teachers are making significant progress with autistic children at CDRC.

Giving a kiss. It sounds easy enough.

But for an autistic child, kissing, tying shoes, brushing teeth, and—most importantly—communicating are difficult tasks.

Autism is characterized by severe problems in communication, behavior, and ability to relate to others.

Teachers in the Autistic Education Project classroom at the HSC's Child Development and rehabilitation Center are using new approaches to teach communication skills to autistic youngsters.

Instruction is based on the hypothesis that the non-language child can be a productive learner in the classroom setting if he or she is first given a basic communication system.

"The behavior modification approach we use is making significant progress with autistic children," explained Pat Kemper, project program coordinator.

In the five-day-a-week class, six autistic children, ages seven to 20, work one-to-one with trainers on a curriculum stressing language, behavior, social and self-help skills.

About 70 per cent of class time is spent on communication skills. Children are taught to imitate sounds and then to build on this ability to label objects and actions, identify people and ask questions.

According to Ms. Kemper, autistic children are more apt to begin using language spontaneously if sign language is taught in conjunction with verbal skills.

For this reason, children learn a sign-speech system of hand signs in which, for example, touching the chin means "I want an orange" and hands clapped together means "I want the ball."

If students gain proficiency in communication skills, they may be able to progress to lessons in letter identification, writing, and basic arithmetic.

During class time, each youngster sits in a small cubicle with his or her trainer, learning at an individual rate.

While one child works on speech imitation, another may be learning how to work the zipper on his coat. Other children and trainers may be working on an approach to language using color and shape discrimination.

When they perform lessons correctly, children are rewarded with bits of cookie or some other favorite food and with warm outpourings of physical affection and hugging from their trainers. This kind of positive reinforcement is vital to learning, say the instructors.

Likewise, inappropriate behavior results in quick punishment, such as a brief stand in the corner or a squirt of water in the face.

But the pervading atmosphere in the classroom is the one of love and delight in the youngsters' continued accomplishments.

"Our trainers get very wrapped up in their work," said Ms. Kemper. "They really love the children they work with. It pays off in how much we and the parents see the children improve."

Ms. Kemper added that parents are an integral part of the classroom, working at least two hours each week with their child.

Parent coordinator Steve McCormick visits the children's homes every other week and conducts a monthly class for parents.

In addition to Ms. Kemper and Mr. McCormick, other staff members include Dr. David Krug, project director, associate professor in special education, Portland State University; Cheryl Scanlon, program director; and Mari Border, program assistant.

Other trainers are from PSU, Lewis and Clark College, Oregon College of Education, Reed College, and various high schools.

The program is affiliated with PSU's department of special education. It is supported by a federal Title VI grant and by the school districts sponsoring the individual pupils, all of whom are CCD patients.

When a young man reaches the age of 20, it's high time he learned how to give a kiss, according to trainer Mari Border, program assistant for the autistic project. So she set about teaching her student how it's done. It took more than one class period for him to get the hang of it. But even a near miss warranted a loving hug from Ms. Border.

Techs find poem

When Becky Kruse, Claudia More, and four other University Hospital X-ray technicians went on a recent weekend outing to Mrs. More's family's cabin near Mt. Hood, they made an unusual find.

The weather was so bad that they stayed inside, spending part of the day looking through dusty, old family albums and scrapbooks.

As they browsed through one album, an old magazine clipping fell out.

The clipping contained a poem about Marquam Hill written by Clara S. Hoff. The X-ray techs, who say they know nothing about the author or when the lines were written, thought *HSC News* would want to share the poem with readers.

Marquam Hill

Old Marquam Hill stands near the
city's streets,
A symbol of the western wilderness
When only day and night in silence wove
A mystic pattern on its rugged slopes.
Now on its shoulders healing temples
stand
Like mighty forts that guard the health
of man;
This hill bestows a kindly atmosphere
That stills the gnawing fears of pain
and death
And intimately throbs upon the breast
Of Portland's busy throng; the winding
road
Mounts up, like hope, within the human
heart.
With gratitude our hearts recall a name
Of one we proudly call a pioneer . . .
He gave this tranquil spot remembering
An ever present need of future years.
And we, with pride, enjoy and know its
worth.
Across the valley old Mount Hood looks
down
On this small hill and gladly seems to
say,
"O Little Mount, you hold much more
than I
Of Life, and Love, and gracious Power
to Heal!"

Family practice patients air their views

The Family Practice Clinic is the first of the University clinics to send patient-satisfaction questionnaires to its patients.

The Clinic has just completed a six-week pilot study in which a 12-question survey was given to all patients as they left the office. Results from about 1000 questionnaires are now being analyzed.

In charge of the patient satisfaction project are Brian Hines, MSW, research associate in family practice; Lynda Ater, a student in the social work masters program at Portland State University; and Deane Clarkson, biostatistician from PSU.

Initial patient responses to the questionnaire indicate that the Clinic's only major problem is lengthy patient waits.

In addition, the questionnaires have provided Clinic administrators with insights into several widely held misconceptions about patient attitudes.

"For example," explained Ms. Ater, "we wanted to know whether it is true that patients who are not assigned to their regular doctors are less satisfied. Or whether patients on welfare are less satisfied in general than other patients. Or if the length of time which patients wait affects their perceptions and attitudes about the care they receive."

Responses indicate that the single most important factor in patient satisfaction is the doctor-patient relationship, Mr. Hines said.

"Patient dissatisfaction with factors like parking and waiting doesn't appear to be associated with a negative attitude toward the doctors or office staff," he explained.

"This suggests that people do discriminate between care that is truly depersonalized and that which is merely inconvenient or inefficient."

Six of the questions in the survey relate to the rapport between doctor and patient. For example, the survey asks patients to respond to the following statements (indicating one of five possible choices, from strong agreement to strong disagreement):

—Today my doctor made me feel foolish.

—Today my doctor let me tell him or her everything that was important about my condition.

—My doctor did the right thing for me today.

"We would like to use the patients' responses as a teaching tool for residents," said Mr. Hines. "If a doctor learns that he works poorly with a certain set of patients—the overweight, for example—the doctor can work to change his approach. He can use the questionnaires to monitor his improvement."

The other six statements in the survey deal with nursing staff, office staff, admission time, and general satisfaction.

For example, patients are asked to note the extent of their agreement or disagreement with the following statements:

—This visit the receptionists were polite and friendly.

—I had to wait too long for my doctor today.

—Today the nurses helped me understand what I am supposed to do.

Mr. Hines and Ms. Ater said that in the future the Family Practice Clinic will set goals for each question and then strive to improve in each area. For example, they may set a goal of no more than 10 per cent of patients responding negatively to a certain statement.

"But from the initial results of this survey," said Mr. Hines, "it's apparent that most Family Practice patients are already quite satisfied with their care.

"On 11 of the 12 questions, only about five to seven per cent of the patients indicated dissatisfaction. Waiting time, however, was a problem to 20 per cent of those responding."

The questionnaire used in the recent pilot study is a shorter, more effective version of a questionnaire which Mr. Hines distributed to a random sample of Family Practice patients on a trial basis last year.

Mr. Hines hopes to introduce a patient satisfaction questionnaire in other clinics on campus this summer.

HSC Library and its staff are still on the move

The HSC Library is continuing to undergo a metamorphosis that began last summer when James Morgan was named director.

Massive shifts of materials and personnel have characterized the transformation. In addition there are new offices, a new, informal study lounge for students, and some expanded services.

According to Joan Ash, who was hired in August as the Library's first associate director, other new positions include a coordinator for collection development and an extension librarian.

As the Library's first coordinator for collection development, Leonoor Ingraham is available to survey the collection when departments apply for reaccreditation or for grants.

Often, granting or accrediting agencies ask applicants to comment on the availability of supporting materials. If Mrs. Ingraham's survey shows the collection lacking in certain areas, she will encourage the department to ask the granting agency for funds for additional materials.

Edith Throckmorton is temporarily serving as extension librarian in order to conduct a pilot study to determine the extent to which health professionals throughout the state use services of the HSC Library.

Her study will serve as the basis for a grant proposal to the National Library of Medicine. The proposal will recommend a state-wide plan for disseminating health information.

In addition to these changes in personnel and their activities, the Library has undergone a physical transformation.

Current periodicals are now housed in the former study hall on the main floor. This change was made so that the Library's indexes and abstracts (formerly located in the far recesses of the basement and not readily accessible to the reference staff) could be moved to the former periodical reading room.

"One of the reference department's traditional functions is to help people use the indexes and abstracts," explained Mrs. Ash. "Housing these important references in the basement was unworkable."

An unfortunate, but unavoidable result of relocating the current periodicals was the elimination (due to space reduction) of a number of current periodicals from display in the new reading room. The Library staff is still accepting suggestions from faculty and students who believe that a vital periodical has been eliminated.

Other physical changes in the Library have resulted in new offices for the reference department in the former north lobby. Library administrators foresee rearrangement of the main lobby sometime later this year.

Two other future improvements for which additional funds must be secured are a large, modern circulation counter and an internal paging system with pocket pagers. The Library's public address paging system was discontinued after repeated complaints that it was noisy and distracting.

In spite of a shortage of funds, the Library has upgraded services in several areas:

—The information desk is now staffed throughout the day and evening and on weekends in an effort to assist more users.

—The Library's daily hours of operation were lengthened. In addition, the building is now open on most holidays. Library administrators report that holiday usage has been heavy. However, because of substantial expense incurred, they say they will carefully evaluate this practice at the end of the year.

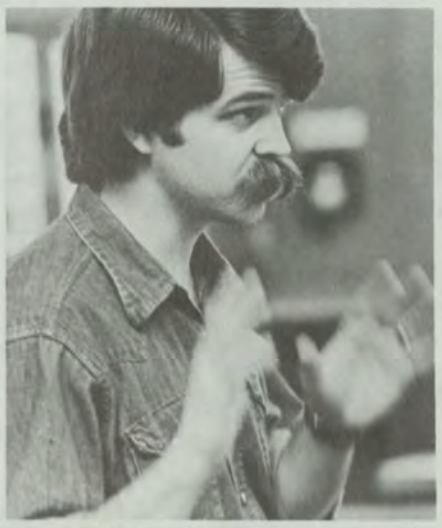
—As mentioned, collection survey is available to interested departments.

Projected future changes in services include:

—Greater restrictions on the circulation of journals—so that materials will be on the shelf when users need them.

—Cancellation of some titles in the Library's serials holdings so that titles with greater usage potential may be ordered. This will be done only after an extensive evaluation—involving faculty on campus—of all serials.

Serving Oregon's health professionals are HSC Library employees, l to r, Dick Matthews, Evelyn Evans, Heather Rosenwinkel (center), Mary Ann Stewert, and Edith Trockmorton.



Heating plant opens; first utility tunnel completed

A labyrinthine tunnel system will one day connect all areas of the Health Sciences Center. The first tunnel, connecting the new heating plant with a point near Veterans Road, has been completed in conjunction with construction of the new plant. Above, Ray Kuykendall, HSC construction inspector, looks over the first of many tunnels.

If you think a boiler room is a dreary cavern full of dull, gray pipes and homely equipment, you've got another think coming.

The HSC's new heating plant on Southwest Gaines Road is an artistic riot of forms in bright orange, yellow, blue, and green. To a casual observer, the new plant resembles a huge, modern sculpture.

But to Ralph Tuomi, director of facilities management, this aesthetic creation serves a dual role.

"We tried to take a drab boiler room that just produces steam and make it jazzy," he said. "But the color scheme serves a purpose. It's a pipe coding system that permits quick identification of pipes and their functions."

The new plant will begin producing steam for all buildings on the south campus in April. The plant and a new utility tunnel for steam and electrical systems are the first part of a multi-phase construction project which will centralize the steam-heating facilities for the entire campus.

Mr. Tuomi had hoped to continue with the second phase of the project this year. But due to limited capital construction funds for the coming biennium, the earliest the project could resume is 1979.

The second phase called for expansion of the new plant (for service to north campus) and construction of a combination steam conduit and pedestrian bridge over the ravine separating north and south campus.

"Due to the fund shortage, the north campus will have to continue to rely on the 22-year-old boilers in University Hospital South," Mr. Tuomi explained.

"The heating plant crew is being extremely careful about checking them and rebuilding them each summer as necessary.

"They must continue to run without fail all winter for several more years if we are to avoid an emergency situation."

Mr. Tuomi explained that in case of an emergency, a limited amount of steam from the new plant could be transferred to the north campus. But this would be "a drop in the bucket," he said.

When all construction phases are eventually completed, the new heating plant could monitor and control all systems—mechanical, electrical, heating, and cooling—for each individual area of the entire campus.

This could be accomplished by adding a central monitoring system and a mini-computer and modifying the plant's controls. The new plant was designed to accommodate this system with minimal modification.

Ashes to ashes—who must pay the costs of smoking?

National health insurance is hovering on the horizon again. And some experts are suggesting "your-fault" insurance.

According to Dr. James F. Morris, professor of medicine at the Health Sciences Center and VA Hospital and president of the Oregon Thoracic Society, America is far behind Europe, where national health insurance was introduced even before the turn of the century. That kind of insurance was "no-fault" in one sense. Most people were felled by infectious diseases such as tuberculosis and influenza over which they had no control. The causes and treatment of these diseases were unknown then.

But today the causes of many major diseases are well known, Dr. Morris commented in a recent report from the Oregon Lung Association.

Cigarette smoking, for example, is the chief cause of emphysema, chronic bronchitis, and lung cancer, the physician added.

Every year 300,000 Americans die prematurely from the effects of cigarette smoking. The estimated financial cost of smoking is more than $5 billion each year, said Dr. Morris.

This mind-boggling figure is based on the costs of providing medical care to patients with smoking-related diseases such as emphysema, chronic bronchitis, coronary heart disease, and lung cancer. It also includes income lost because of illness. Smokers, for example, are sick in bed 88 million more days each year than are nonsmokers, the report continued.

The figure includes projections of future income lost because of premature death. Every year 300,000 Americans die prematurely from the effects of cigarette smoking. Also contained in the $5 billion total is an estimate of the monetary value of property lost in fires caused by smoking.

When health hazards have been identified and some people choose to ignore these warnings, should everyone have to pay the financial costs of the consequences, Dr. Morris asked, adding that Dr. Keith Reemtsma, director of surgery at New York's Presbyterian Hospital, has proposed that people with good health habits should be rewarded with lower taxes.

Dr. Reemtsma suggests that taxes for medical care be added to tobacco products, alcohol, autos, gas, and firearms. Industries that produce pollutants would be taxed for the medical consequences of pollution.

In his report, Dr. Morris also commented on recent research showing detrimental effects which smoke has on non-smokers.

When nonsmokers are forced to inhale noxious gases from other people's cigarettes, even their saliva is affected, he said.

"Not until the last few years was it discovered that nonsmokers experience physiological changes upon exposure to cigarette smoke. First, increased levels of carbon monoxide were found in the bloodstream of these nonsmokers. Even after they left smoke-filled areas, increased levels of the gas stayed in their blood for hours afterward, robbing their bodies of oxygen," Dr. Morris explained.

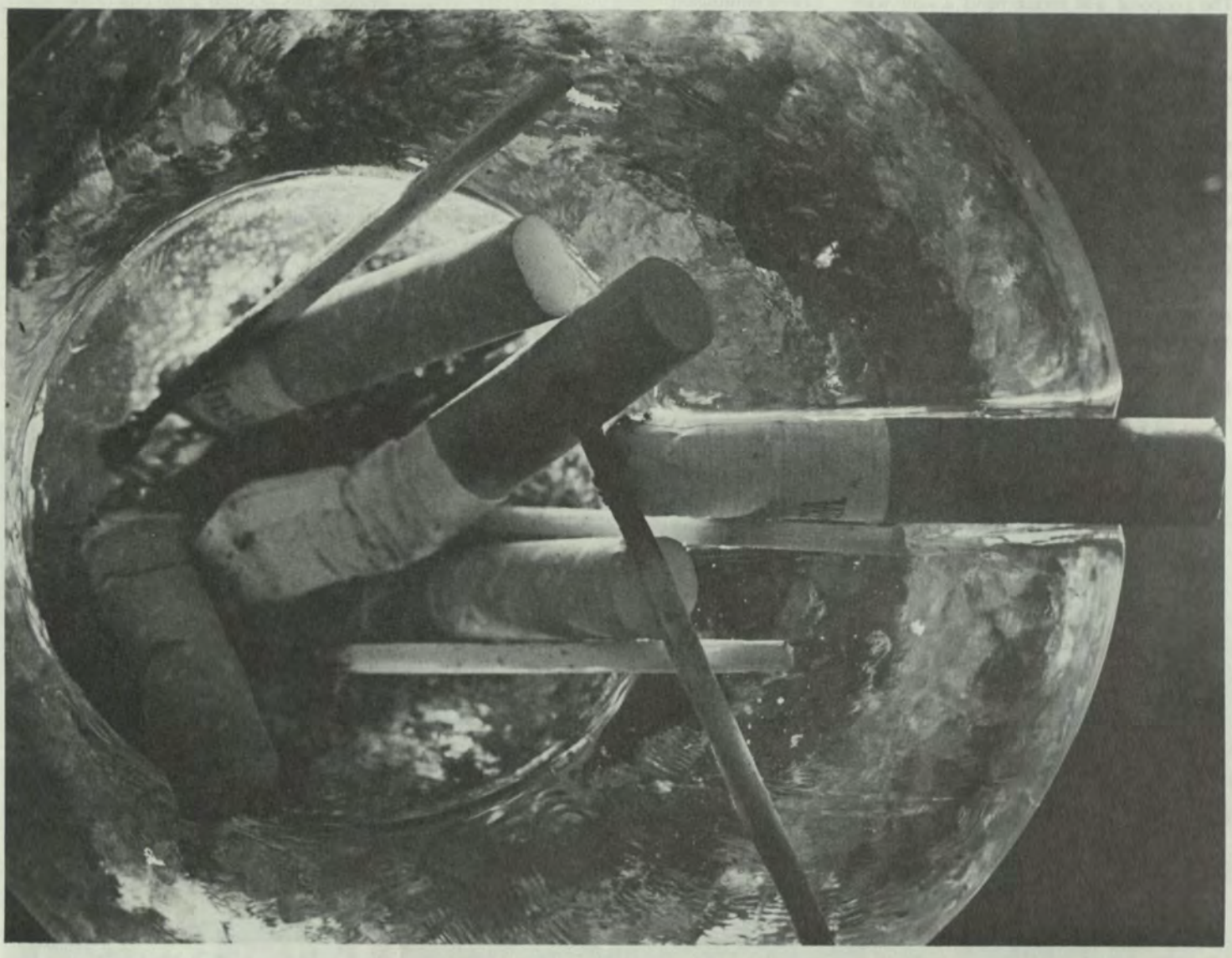
Further research has shown that nicotine levels in the urine excreted by nonsmokers can increase—sometimes by as much as 1000 per cent—after exposure to tobacco smoke, he said.

Cyanides, including hydrogen cyanide, are among the highly poisonous types of chemicals in cigarette smoke. When smoke is inhaled—by smokers and, scientists now know, nonsmokers—cyanides are converted into thiocyanates.

Thiocyanates are known to cause the growth of goiters. They are also strongly suspected as contributing agents in the formation of cancer-causing chemicals in the stomach. Even 20 hours after nonsmokers leave a smoky environment, thiocyanates can be found in their saliva.

Dr. Morris warned, "Exposed nonsmokers become involuntary smokers in many smoke-filled situations. And, of course, smokers inflict even worse damage on themselves voluntarily."

Dr. Morris is chief of pulmonary diseases section, Veterans Administration Hospital.



News honored

HSC News has been named recipient of the International College of Dentists' 1977 Golden Pencil Award. The award, honoring the *News'* "striking photographs and typography", will be presented to editor/photographer Susan Pogany at a March American Dental Association conference in Portland.

Physical fitness course offered

HSC students surveyed this fall in an All-Hill Student Council questionnaire said they wanted organized physical fitness classes on campus.

This spring they have a class, Conditioning and Physical Fitness, offered Monday and Thursday evenings in the Student Activities Building. It is taught by Karen Morgan, Portland State University women's basketball coach.

Council member Jane Nelson, a junior nursing student, promoted and did much of the leg work to see the students' request filled.

"I think exercise is important for all. As health professionals we should be concerned about our own well being, physically, too," she said.

The class is provided at no extra charge to students through the Oregon State System of Higher Education Division of Continuing Education. It can be taken for credit or audited.

Miss Nelson said the class is one in which students "can set their own physical fitness goals and achieve them. The ways to do it might be jogging or work on the Universal Gym, for example. Also the physiological aspects of exercise will be discussed."

If this initial class is well received by students, other classes, such as folk dancing and yoga, might be offered in the future.

"It's a start," she said. "Students wanted something like this. Those I've talked to have been very positive about it."

Photos by Tim Marsh

Singing, magic tricks, piano playing, and other talents were featured in the first All-Hill Talent Show February 25 in the Library Auditorium. Performer Quince Mabry (large photo), first-year medical student, grooves on jazz piano. In the audience (right, above), applause comes from second-year medical student Robert Wells and junior nursing student Nancy Molahan, both of whom were featured in a musical skit "If I Were a Sick Man." Dr. M. Roberts Grover, associate dean, adjusts his wig (right, below) backstage before performance in the instant hit "Old Dogs." HSC student officials said based on the show's success, another will be held next year.

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