

Current emphasis on "wellness" is hardly a new concept for academic health centers such as the Oregon Health Sciences University. Faculties of these institutions have been committed through the years to teaching their students that the duties of a health professional begin first with helping individuals to stay well and then extend to restoring good health when illness intervenes. The faculty imparts this philosophy by didactic presentations, by preceptorship at the bedside and by example in the clinic and in the community.

With great skill and dedication, the faculty goes about the tasks of encouraging students of dentistry, medicine, nursing and many of the allied disciplines to seek, above all, to enhance human well being through the promotion of robust good health and through the prevention of disease. By increasing knowledge about human biology through their laboratory and clinical research and through their contributions to technological development, faculty members have extended immeasurably the capabilities of all those who would apply their knowledge and their talents to fostering good health. Thus, research by such individuals as OHSU's Dr. William Connor has deepened our understanding of the influence of dietary fat on human vulnerability to heart attacks and, as a result, during recent years health professionals throughout the world have enjoyed gratifying and impressive success in promoting wellness in individuals who otherwise would have suffered the ravages of coronary artery disease.

To inform Oregonians about the many and varied relevant programs, courses and services available in their health sciences university, we asked the staff of the OHSU News to devote this entire issue to activities on Marquam Hill related to wellness. Despite space limitations that precluded a complete and exhaustive presentation, we hope that the information will be of direct and immediate benefit to some readers and of great interest and encouragement to others.

Leonard Laster, M.D.
President, OHSU

FEBRUARY 1985



FOCUS ON
WELLNESS

THE OREGON HEALTH SCIENCES UNIVERSITY

NEWS

Issue of News examines OHSU role in wellness

Remember when an apple a day kept the doctor away?

For some reason keeping healthy isn't as simple as it used to be. Or could it be we now understand that good health isn't something that grows on trees?

Our health is a complex matter and is influenced by many factors, including factors often outside our control, such as genetic heritage, environment and access to health care.

However, the single most important contributor to our health is something each of us can control — our lifestyle.

This fact is grasped by more Americans today than ever before, and, as a result,

Long before the wellness movement became popular, OHSU was involved in teaching and researching health promotion and disease prevention.

more people are taking responsibility for their own well-being. Evidence can be seen everywhere we look: weight-loss clinics, stop-smoking programs, health food stores, fitness classes, stress management books, employee fitness centers.

This proliferation of services to help people stay healthy has come to be widely known as the "wellness" movement.

The movement is the culmination of many forces. Among the more influential forces are biomedical research findings that link behavior to today's major causes of death (heart disease, cancer, stroke, accidental injury); the tremendous health care costs associated with treatment of diseases and disabilities that, in many cases, can be prevented; and a pervasive desire for self-determination that has its roots in

the turbulent 1960s.

Long before the wellness movement reached the popularity it enjoys today, health centers — such as the Oregon Health Sciences University — were teaching students, advising patients and making research breakthroughs in the areas of health promotion and disease prevention.

But the movement's popularity has confirmed and given new momentum to the wellness-related work of health care professionals.

At the OHSU, the emphasis on wellness is seen in many varied and exciting ways. This special issue of the OHSU News explores the role the university plays in adding to the crucial understanding and promotion of preventive health care and health maintenance. Articles introduce readers to university programs or services that are predominantly concerned with keeping people well.

Whether it be teaching future dentists nurses or physicians, conducting research projects or caring for patients, the OHSU is able to meet the ever-changing health needs of Oregonians.

Contributing to the OHSU's leadership are the people who make up the university — people like Dr. Robert Taylor, chairman of the Department of Family Medicine, Dr. Joseph Matarazzo, chairman of the Department of Medical Psychology, and Dr. Finn Goldberg, director of the Human Performance Laboratory.

Each has edited comprehensive publications related to wellness. Taylor edited the textbook, *Health Promotion: Principles and Clinical Applications*. Matarazzo is senior editor of the textbook, *Behavioral Health: A Handbook of Health Enhancement and Disease Prevention*. Both books are written for health professionals.

And Goldberg, along with Dr. Diane

(continued on page 12)



Pictures of health are becoming commonplace, as more Americans take responsibility for keeping themselves healthy. The OHSU is a leader in the movement often referred to as "wellness."

Curriculums stress health promotion and illness prevention

More Americans are searching for paths to good health, and the OHSU is preparing future dentists, nurses and physicians to lead the way.

No matter which health care profession they choose, tomorrow's "healers" are learning that good health care is more than fighting disease: It is helping people know what constitutes good health, how to achieve it and how to maintain it.

Of course, the idea of teaching health care professionals about wellness is nothing new. But now, more than ever, the idea is claiming new significance because we who ask and pay for health care are

becoming convinced that we can save the physical, emotional and financial expense of poor health by making some basic changes in lifestyle.

The School of Nursing applauds the notion that we can shape the quality of our health by the way we live.

"Historically, the nursing profession has helped patients promote their health as well as prevent illness," says Dr. Carol Lindeman, dean of the School of Nursing. "Nurses help people understand they do not have to be victims of disease. People are able to do things such as exercising, reducing stress and eating balanced meals

to keep themselves from becoming ill."

That attitude is shared by the School of Medicine, and perhaps can best be seen in the new course called "Personal Health Promotion" offered by the Department of Family Medicine to first-year medical students.

Using themselves and classmates as examples, students will test their own fitness levels, analyze their diets, conduct health-risk appraisals and probe ethics of health promotion.

Dr. John Kendall, dean of the School of Medicine, says the new course represents one of many ways medical students learn

about disease prevention.

"Prevention is vital to every course we teach," Kendall says. "Preventive medicine is the ultimate goal. Every time we get the opportunity, we practice it."

And anyone who has been on the business end of a dentist's drill knows that preventive care through good diet, brushing and flossing is the best route to healthy teeth and gums.

"All of dentistry is a reflection of the emphasis on wellness," says Dr. Henry Van Hassel, dean of the School of Dentistry. "Before they learn anything else, dentistry

(continued on page 2)

Heart of problem lies in eating too much cholesterol

If you seasoned your New Year's egg-nog with resolutions to begin cutting cholesterol the next day, you've already made progress in evading the nation's number one killer: heart disease.

Helping Oregonians resolved to overcome the odds of heart disease is the specialty of Drs. William Connor and Roger Illingworth, co-directors of the OHSU Lipid Disorders Clinic. They operate the state's only center for the evaluation, treatment and prevention of lipid disorders, or problems related to blood fats and cholesterol.

Connor and Illingworth are among a rare breed of some 200 American physicians specializing in lipid disorders, but the cardiovascular problems they aim to reduce are as all-American as hamburgers. About half the deaths in the nation each year are caused by atherosclerosis and its complications.

Illingworth and Connor advise patients and their families to prevent future cardiovascular problems by identifying risks of heart disease during childhood and, if necessary, lowering their blood cholesterol levels.

"People come to our clinic for many different reasons: because they have heart disease at an early age, because their blood cholesterol levels are high or because they have a family history of heart disease," says Illingworth.

"A very strong relationship exists between blood cholesterol levels and the age you develop heart disease," he adds. Research has shown that Western cultures suffer from more coronary disease than Eastern and primitive cultures in which people eat fish, rice and vegetables more

often than meat and high-fat dairy products. Asian immigrants to the U.S., for example, show an increase in blood cholesterol levels and heart disease.

The major single contributing cause of atherosclerosis and its complications is the diet most Americans follow, says Connor. The most important harmful factors in the diet are too much saturated fat and cholesterol and an overabundance of calories. A combination of other factors such as family history of heart disease, hypertension, cigarette smoking and obesity produce the greatest risk.

Atherosclerosis occurs when cholesterol in the blood infiltrates the artery walls, forming an obstruction that slowly and eventually blocks the flow of blood. Increased concentrations of low density lipoproteins (the main carriers of cholesterol in the bloodstream) speed the rate at which cholesterol is deposited.

The first step to treating cholesterol problems is a review of each patient's family health history. Blood tests are then taken to determine the levels of cholesterol and other fats in the patient's bloodstream. If tests reveal high levels of cholesterol, Connor and Illingworth attempt to lower them through measures such as diet and, if necessary, specific lipid-lowering medications.

Most patients with hereditary lipid disorders require medications to either enhance cholesterol excretion from the body or reduce the rate of cholesterol synthesis. Such therapy recently has shown significant reductions in the incidence of heart disease in a group of men with high blood cholesterol levels treated for a period of seven years.

Up to one quarter of the clinic's patients, and about one of every 500 Americans, suffer from a hereditary cholesterol problem called familial hypercholesterolemia. It is a genetic disorder in which the body produces too few low density lipoprotein receptors. Thus, cholesterol remains in the low density lipoproteins, and blood cholesterol levels become two to three times higher than normal. If one parent has the condition, statistics indicate that half of his or her children will inherit it. By identifying patients and beginning treatment at a young age, Connor and Illingworth hope the natural history of the disorder can be changed and that affected children will not grow up to suffer heart attacks in their 30s and 40s.

"It's worthwhile establishing whether you have a lipid abnormality," says Illingworth.

"We advise patients with familial hypercholesterolemia to have their children checked for high cholesterol. We also give our patients written information and provide enough copies so they can send it to members of their families."

The incidence of heart disease in the United States has slowly decreased since 1960 as the public has become more aware of cholesterol's impact on the heart. Between 1968 and 1976, an estimated 630,000 lives have been saved due to improvements in medical care and changes in lifestyle, says Connor. Of those saved lives, the majority were attributed to lifestyle changes: 190,000 resulted from reductions in cholesterol levels; 150,000 from decreased cigarette smoking, he explains.

To further their life-saving efforts, Connor and other researchers across the

nation recently met during a National Institutes of Health Consensus Development Conference on "Lowering Blood Cholesterol to Prevent Heart Disease." They agreed about the key role of cholesterol in heart disease and that half of all Americans have cholesterol levels too high (more than 180mg/dl) for optimum health.

"These levels should be lowered," says Connor. "The key to controlling high cholesterol for most patients predestined to develop coronary artery disease lies in dietary change initiated during childhood or as early in adult life as possible."

The safest, most effective diet, says Connor, is one that:

- restricts daily cholesterol intake to 100 mg per day (the amount found in three to four ounces of meat alone);
- reduces fat in the diet to 20 to 25 percent of total daily calories, with a minimum of saturated fat;
- derives much, but not all, of its protein from vegetable sources; and
- includes high-fiber or starchy foods such as cereals, fruits and vegetables totaling about 60 percent of the daily diet.

In short, adds Illingworth, "Indulge in foods that lower cholesterol, such as vegetables. Avoid excess meats, particularly organ meats, and don't eat a lot of high-fat dairy products or egg yolks. If you can eliminate egg yolks, you can eliminate a large source of cholesterol."

Tradition and heredity don't necessarily spell a future of heart disease. Risk identification and changes in diet can lead to healthy and hearty years to come.

For more information, contact the Lipid Disorders Clinic, 225-8005.

OHSU students prepare to lead way toward healthier lifestyles

(continued from page 1)

students are introduced to methods of preserving the natural state of the teeth and gums."

Only later in the sequence of their studies do students learn about filling cavities, repairing teeth and treating gum disease.

Although wellness has yet to claim its own field of study, the topic is a necessary part of many areas of OHSU curriculums.

In the School of Nursing, health promotion is a key part of two areas of study: family and community nursing. Family nursing students learn how to help families promote and restore their children's health. Community nursing students go

Although wellness has yet to claim its own field of study, the topic is a necessary part of many areas of OHSU curriculums.

into the community to provide health screenings, instruct people about stress management and personal development, and discuss the best ways to handle important changes in lifestyle.

Both nursing and medical students rotate through the OHSU Well Baby Clinic, where they learn to examine children and to advise parents on child care.

Another area common to nurse and physician education is care of pregnant women. Nursing students learn to work closely with prospective mothers (and fathers) to help them maintain maximum health during pregnancy. Medical students concern themselves with prenatal care, particularly with detecting early signs of high-risk pregnancies and factors that may complicate pregnancy.

The list of opportunities for future physicians to practice preventive medicine goes on.

The main thrust of the pediatrics program for medical students is aimed at keeping children healthy. Students learn about immunizations, accident prevention, proper nutrition, and how to assess whether a child is developing normally.

Second-year students of pathophysiology and endocrinology research the prevention of atherosclerosis, coronary artery disease, hypertension and the role of physical activity in health.

A first-year course and a second-year clinic in genetics focus on early detection of potential disease and on ways to avoid genetic problems in the next generation, primarily through family planning.

In the Department of Public Health and Preventive Medicine, highest priority is attached to understanding risk factors related to disease and ways to alter those factors to improve the overall health of a community.

In addition, the School of Medicine offers a first-year nutrition course that includes lectures on ideal diets and the consequences of eating foods too rich in cholesterol or fat, as well as discussions on the dangers of undernutrition and obesity.

Concern for nutrition is shared by the School of Dentistry. Proper eating habits help preserve teeth, and without healthy teeth and gums, people may have difficulty eating the kinds of foods they need. Students also learn about fluoridation, oral hygiene methods and sealants — substances used to fill nooks and crannies in teeth before decay sets in.

"What we are talking about in dentistry is not curing sickness, but maintaining the opposite," Van Hassel says.

He champions fluoridation, the process of adding fluorides to a water supply as a means of preventing dental caries. He says fluoridation is the single most successful advance in all of dental care.

Wellness is also "a feeling of looking good," he adds, and dentistry students are introduced to the latest developments in orthodontic and restorative procedures.

Those developments have dental patients smiling more these days, and smiles are something the OHSU can help put on the faces of many more Oregonians in the months and years ahead.

More than the students, the real beneficiaries of the OHSU education, research and patient care services are Oregonians. People who feel healthy and look healthy have something worth smiling about.



Dr. Margaret Vandenberg, assistant professor of family medicine, times medical students as they perform sit-ups during a fitness assessment in Vandenberg's Personal Health Promotion course.

THE OREGON HEALTH SCIENCES UNIVERSITY NEWS

Vol. 13, No. 2
February 1985

The Oregon Health Sciences University, 3181 S.W. Sam Jackson Park Road, Portland, OR 97201

Leonard Laster, M.D., President

Mary Ann Lockwood, Executive Assistant to the President;
Director of University Relations

Marlys Levin, Publications Director

Editors/Writers

Rich Bruer, Holly Barker

Writers, Office of University Relations

Lee Lewis, Julie Jones



More than 200 Portland families were the subjects of a five-year study that introduced families to a way of eating that helps protect against heart disease and other illnesses related to the foods people eat.

Project makes better eating habits a family affair

A five-year wellness project aimed at getting families in Portland to "Eat for the Health of It" has been completed, leaving more than 200 families and an OHSU research team with plenty of food for thought.

According to Dr. William Connor, a principle investigator of the Family Heart Study, "The purpose of the study is to characterize the types of families that would make many, some or no changes in their eating habits to reduce the risk of coronary artery disease."

The study began in 1978 under the guidance of Dr. Connor, professor of medicine and director of the Lipid Disorders Clinic; Sonja Connor, a registered dietitian; Dr. Joseph Matarazzo, chairman of medical psychology; and a team of dietitians, medical psychologists, nurses and statisticians.

Results are still being compiled, but Sonja Connor is calling the undertaking a huge success.

"I already know we aren't going to be disappointed," Connor says, while taking a break from her laborious schedule of deciphering mounds of data yielded by the study.

Researchers believe that by changing their eating style families could reduce risks of developing hyperlipidemia, high blood pressure and certain cancers.

With help from the Department of Statistics at Oregon State University, the research team randomly selected 233 families in Portland's Hollywood district to participate in the study.

Through the use of printed materials and group discussions led by dietitians, medical psychologists and nurses, investigators set out to open participants' eyes to an alternative to the typical American diet. They promoted foods low in cholesterol and saturated fat (fruits, vegetables, grains and beans) and foods high in complex carbohydrates.

Researchers believe that by gradually changing to such an eating style the families could reduce risks of developing related diseases of hyperlipidemia (excessive levels of fat in the blood), high blood pressure and certain cancers, such as colon and breast cancer.

But changing eating habits even slowly is no simple task. As the investigators learned, people and their children, spouses and friends erect many barriers to change.

Parents' busy schedules these days work against one of the best atmospheres for change: meals in which the entire family eats together.

Furthermore, asking people to eat leaner and less red meat and cheese in favor of more beans and grains runs counter to what our culture says is good.

Meat is a status symbol, says Dr. Cheryl Brischetto, one of several university medical psychologists involved in the study. "Grains and beans are seen as poor people's food," she says.

Some also believe these foods will make them gain weight. But the families learned that, by first removing fat from their diet and then adding grains and beans, carbohydrates would not make them fat.

Another barrier to change is fear that a lower-fat eating style would cost more. Many participants in the study were surprised to learn that they could save on their food bill, says Brischetto.

To make changing to a new way of eating easier, the study was designed to include three phases. That way participants could move gradually toward the ultimate goals of the "alternative diet."

In the first phase of the diet foods that are high in cholesterol and saturated fat — egg yolks, butter, lard and organ meats — are to be avoided. Substitutions recommended include soft margarine instead of butter, vegetable oils and soft shortening instead of lard and skim milk instead of whole milk.

The second phase introduces new recipes. People are urged to reduce red meat consumption; use less fat and cheese; eat more grains, beans, fruits and vegetables; and try new (and altered old favorite) low-fat, low-cholesterol recipes.

The final phase encourages a new and on-going attitude about eating properly. People learn to eat meat, cheese, poultry and fish as condiments rather than as main courses; to eat more beans and grains as protein sources; to use no more than five teaspoons of fat per day; to drink four to six glasses of water daily; and to keep extra meat, shellfish, regular cheese, candy and richer foods for special occasions (no more than once a month).

At this point, researchers do not know how many participants met the goals of the final phase, but they do know that participants are eating more fish and chicken, using lower-fat red meat and eating fewer eggs (many are cooking with egg whites). In addition, they are using lower-fat dairy products and are eating more meatless and cheeseless meals.

Helping them make these changes are recipes from the cookbook, "The Best

from the Family Heart Kitchens," developed by the nutrition staff under the Connors' direction.

The cookbook, copies of which are available at the OHSU Bookstore, stresses the same gradual, three-step approach to diet change used in the study.

The approach seems to have helped Family Heart Study participants retain the healthy changes they've made.

"I think we are seeing something that hasn't been shown in other studies: Our families have made dietary changes and have maintained them over the first four years for which we have the analyzed data," Sonja Connor says. "Most studies show backsliding. We have seen very little backsliding."

Whether a significant number of families



Dr. William and Sonja Connor, an OHSU husband/wife research team, are authors of a cookbook used as the basis for the Family Heart Study nutritional diets.

made it through phases two and three is not crucial to the project's success, investigators say, because the primary goal of the study is to characterize the types of families that would make many, some or no changes in their diets.

And already the Family Heart Study has achieved a number of benefits.

The study has certified the practical value of the Connors' "alternative diet" because the families showed they can eat happily on a lower fat diet. Many skeptics have doubted whether such an eating style would be accepted by healthy people, the Connors say.

"Secondly, we have come a long way in

addressing the complexity of lower-fat eating and in showing how people can have variety in their diet," says Sonja Connor. This is helping investigators work more effectively with their clinic patients at the university.

Third, the study has influenced more than just the families and investigators involved. Portland-area wellness programs have picked up on many of the techniques employed in the Family Heart Study, as have leaders of several similar studies in the United States.

A national study sponsored by the National Institutes of Health is testing a similar low-fat eating style to evaluate the dietary prevention of breast cancer. The NIH researchers will provide a copy of the Family Heart Study cookbook to each participant. The same diet is promoted by the American Heart Association to treat elevated blood-fat levels.

Because most of the data analyses are not completed, much of the impact of the Family Heart Study is still to be felt.

Between now and June 1986, investigators will, among other things, measure the biochemical endpoints of the study's par-

The study has certified the practical value of the "alternative diet;" families can be satisfied with a lower-fat diet.

ticipants (such as plasma lipids and lipoproteins and urinary, sodium and potassium excretions); assess various dietary habit changes; and examine lifestyle factors related to coronary artery disease, such as smoking, exercise, stress and Type A behavior.

A number of other issues also are being examined. For example, one study involves determining whether heart attack-prone Type A behavior patterns cluster in families. The question is: Do children whose parents show Type A behavior patterns also show these same patterns?

Also to be investigated is exercise: How much does the average person in Portland exercise, and does changing eating patterns also change the amount of exercise?

Somewhere between all the work that has been completed and what still lies ahead, Sonja Connor hopes to catch her breath.

"We've been going full-speed since 1977, and that means year-round," she says. "We have seen 800 people three times a year for five years."

That's an awful lot of hearts to win over.

Laboratory eases transition into more active lifestyle

Regular exercise can make you feel better than you've ever felt before. It can also be harmful. The key is tailoring the exercise to the individual.

Discovering how exercise affects the heart and lungs and creating individual fitness programs based on that information is the job of the new Human Performance Laboratory at the OHSU. The lab, which opened last January, is appropriately located next to the university's gymnasium and is filled with state-of-the-art equipment that helps determine how exercise and human health are linked.

"Exercise is not a cure-all," says Dr. Linn Goldberg, assistant professor of medicine and director of the laboratory. "It can promote health for most, but may be very dangerous for others."

Although Goldberg sees many trained athletes in his lab, especially distance runners, those most often tested are people for whom exercise may pose some form of health risk.

"Those who benefit most from our testing are men over 35 or women over 45 who are sedentary or who have a risk factor, such as high cholesterol, smoking, high blood pressure or a family history of heart disease," Goldberg says. "Also, anyone who is experiencing symptoms, such as shortness of breath or chest pain during exercise, should be tested."

Among the sophisticated equipment used in the lab is a machine called a metabolic cart. It is the only one of its kind available to the public in the Portland area and the same model is used at the U.S. Olympic Training Center in Colorado Springs.

The metabolic cart can analyze a patient's expired gases, the amount of breathing being done and the amount of oxygen consumed while exercising on a treadmill

or stationary bicycle.

"We observe a person's fitness level through his or her oxygen consumption, and then develop a program for improvement," Goldberg says.

Through these tests, Goldberg detects health problems of which the patient may not even be aware, but which cause serious health risks during exercise. Heart disease and arrhythmia (irregular beating of the heart) are among those conditions most often found through the testing.

"A man came here from another Oregon city to be tested after he had become dizzy while exercising," Goldberg says. "Soon after we began the exercise test, he developed a heart rhythm disturbance and nearly passed out. His condition could have resulted in a heart attack, but once we were able to identify the problem in the lab we could begin to treat it."

Although coronary artery disease is declining each year, it still kills 1.5 million people annually (more than 10,500 in Oregon alone), making it America's major cause of death. Goldberg believes many instances are linked to lifestyle.

"You have to look at our former lifestyles," he said. "We've taken a very vigorous body and placed it in a very sedentary society. We've changed our diet — we no longer eat the lean meat of wild animals, nuts and berries — and we no longer go through periods of starvation and plenty. Our ancestors exercised regularly through hunting and ritual dancing. Now we drive everywhere, have a remote control on our television and eat fat."

Much of Goldberg's research in the lab concerns what happens when sedentary people begin exercising. In a study conducted earlier this year and published in the *Journal of the American Medical Association*, Goldberg instigated a weightlifting program with men and women who had previously led sedentary lifestyles. After 16 weeks of regular weight training, significant declines were found in the subjects' levels of cholesterol, a substance which has long been linked to heart disease.



Dr. Linn Goldberg (right) runs a fitness test on a patient in the Human Performance Laboratory. Test results contribute to an exercise program designed specifically for the individual patient.

Goldberg instigated a weightlifting program with men and women who had previously led sedentary lifestyles. After 16 weeks of regular weight training, significant declines were found in the subjects' levels of cholesterol, a substance which has long been linked to heart disease.

Goldberg is expanding his findings in a study that introduces both weightlifting and jogging to a group of previously sedentary men and women. Future studies will investigate the effects of exercise on kidney dialysis patients, pregnant women and overweight persons.

You don't have to be a research subject, however, to be tested at the Human Performance Laboratory. The test series in-

cludes analyses of resting lung function, heart and lung capacity during exercise, blood gas levels and a physical examination. The test data are analyzed immediately and provide the basis for an exercise program that may prove to be the most inexpensive and efficient way to enhance lifelong health.

"Exercise has definite benefits with very few side effects," Goldberg says. "If the benefits of exercise could be placed in medicinal form, they would be the most prescribed medications physicians would use."

For information about an exercise prescription to fit your needs, call the Human Performance Laboratory at 225-7521.

Early precaution reduces risk of developing osteoporosis

Once osteoporosis begins robbing bones of the minerals they need to stay strong, the thievery can't be stopped.

Therefore it's crucial to keep the condition from setting in. Even though we all lose bone as we age, doctors say we can take steps to prevent the severe erosion of bone that occurs among those with osteoporosis.

Among the growing contingent of medical researchers urging people to act early to block the debilitating effects of osteoporosis are two physicians at the Oregon Health Sciences University, Drs. Michael McClung and Eric Orwoll.

"Clearly, to wait until osteoporosis has developed is too late," McClung says. The time to take steps to retard bone loss is in early- to mid-adult life. The skeleton is strongest near age 30.

McClung and Orwoll treat patients at OHSU's Bone and Mineral Clinic, the first clinic in the Northwest devoted to the detection and treatment of bone mineral disorders, including osteoporosis, a condition that some say has reached epidemic proportions in this country. It affects an estimated 15 million Americans.

McClung, the clinic's director and associate professor of medicine, and Orwoll, assistant professor of medicine, see patients with osteoporosis who have been referred to the clinic by other physicians.

However, McClung says, an increasing number of people who do not have osteoporosis are calling and visiting the clinic on their own because they want to know more about preventing the condition.

In response to this wide interest, the clinic staff will begin offering educational sessions for the public about osteoporosis and its prevention. The first session is March 27 at 7 p.m. in room 8B-60, University Hospital (south).

Plans are also being made for an Osteoporosis Prevention Clinic, in which patients will be screened for osteoporosis risk factors. Bone density will be measured and an individual prescription for prevention will be provided.



A photon densitometer is among the pieces of equipment used in the Bone and Mineral Clinic to screen patients for early signs of osteoporosis.

McClung and Bernie Perry, a registered nurse and staff member of the Bone and Mineral Clinic, will conduct an educational program for University Hospital employees so that they, too, may become more familiar with osteoporosis.

"Osteoporosis has been around a long time, but no one has paid much attention to it," says Orwoll, who also is director of the Endocrinology and Metabolic Clinic

at the Veterans Administration Medical Center. "Only in the last few years has the magnitude of the problem been realized."

How serious is it? Consider that complications from fractures suffered as a result of osteoporosis is the 12th leading cause of death in the United States, according to the National Institutes of Health.

"Osteoporosis is one of the more frequent causes of death in the geriatric population," says Orwoll. He lectured on the subject of osteoporosis Dec. 6 as part of the Marquam Hill Society 1984-85 Lecture Series at OHSU.

The condition is most common among the elderly, particularly older women. However, it can affect people of all ages. Experts say it can be prevented in many cases by exercising regularly, which helps strengthen bones, and by eating foods that provide plenty of calcium.

Orwoll says everyone is at risk for osteoporosis because nearly everyone loses bone with aging. Women, however, start out with less bone than do men and seem to lose it faster, particularly after menopause. Women are also less likely than men to include enough calcium in their diets.

But Orwoll, who is investigating the little-understood but widespread condition of osteoporosis among men, cautions that others are at high risk, too.

"There are a whole variety of factors besides being an older woman that result in osteoporosis," he says.

Others who should be aware of the dangers of bone loss include people who smoke cigarettes and drink alcohol, women who experience premature menopause, people who don't eat dairy products and people who have had stomach surgery or who have kidney or lung disease, all of which accelerate bone loss.

"These people should learn more about prevention," he says.

While most experts agree that people can lower the risk of developing osteoporosis through regular exercise and plenty of dietary calcium, one preventive mea-

sure remains a controversial topic — estrogen replacement for postmenopausal women.

Estrogen deficiency is seen by many physicians as playing a crucial role in the development of osteoporosis among women who have gone through menopause. Estrogen therapy has been shown to be very effective in preventing bone loss in these women; however, some physicians advise against estrogen use because it has been linked to uterine cancer.

McClung and Orwoll say they fall somewhere in the middle of the estrogen debate, preferring to neither understate nor overstate estrogen's cancer-related risks.

While the controversy over estrogen continues, researchers are still trying to unlock the clues to detecting osteoporosis early. At this point the first signal that

Clinic staff will begin offering sessions to the public about osteoporosis. The first session is March 27 at 7 p.m. in room 8B-60, University Hospital (south).

osteoporosis has set in is usually a bone fracture, and that means the condition is advanced and irreversible.

"Perhaps the greatest predictor of risk is how much bone one has at the peak of bone development, which is the age 30 to 40 period," McClung says.

Fortunately, the Bone and Mineral Clinic has some of the newest equipment available to screen people for early signs of osteoporosis. Among the pieces of equipment is a radial photon absorptiometer, which measures mineral content in the forearm. It represents the only practical and inexpensive means of assessing bone mineral density available today.

For information about the clinic or its public session on osteoporosis, call 225-7360.

Study takes closer look at what it means to be fit

Ever spent a day raking leaves or gardening and then felt guilty because you didn't take time out for "real" exercise, such as training for a marathon or working out to a Jane Fonda album? Relax; you may have gained all the exercise you needed for one day.

At least that's the sentiment of Dr. David Leaf, a physician and a research fellow in the Department of Medicine. He is involved in a study that could help change the popular definition of "fitness" to something more closely related to health than to competition.

"You don't see a competitive leaf-raker," he says, but people raking leaves may be gaining the same cardiovascular benefit as their neighbors who just jogged by.

Leaf is working on the study with Dr. William Connor, professor of medicine

Exercise for competitive reasons may not be the same as for maintaining a strong heart and for protecting against cardiovascular disease.

and director of the OHSU Lipid Disorders Clinic, and Dr. M. Rene Malinow, director of the cardiac rehabilitation program at the Portland Metro YMCA (and chief of Cardiovascular Disease Laboratory at the Oregon Regional Primate Research Center).

They have recruited 12 men between the ages of 30 and 50. According to Leaf, before the study began all of the men were "totally sedentary," and their blood had high levels of triglyceride fats and low amounts of HDL (high density lipoprotein) cholesterol. HDL protects against heart disease and generally increases with exercise.

Over a 12-week period, the men are meeting every other day at the "Y" for 30-minute exercise training sessions. They are also instructed to expend 2,000 calories each week in leisure-time activities.

After 12 weeks, the men will end their formal training program and will be told to check back in six months to compare their maximum aerobic performance, their bodies' ability to use fat and their HDL levels. During that half year, they are urged to continue doing activities they enjoy.

Leaf says the goal of the study is to arrive at an exercise prescription for people who want to achieve cardiovascular fitness, but not necessarily competitive fitness. Such a prescription would focus on physical activities that people can incorporate comfortably into their lifestyle and still derive cardiovascular benefit.



Leaf raking will never become the latest fitness craze, but an OHSU study now under way is looking at whether low-level activities, such as raking leaves, contribute to cardiovascular fitness.

The point, he believes, is that exercise for competitive reasons, such as for running a faster race, may not be the same as for maintaining a strong heart and protecting against cardiovascular disease.

Competitive fitness, Leaf asserts, is not "health related. It's performance related."

Leaf is not out to justify his own inactivity; he's among the ultimate exercise fanatics. He doesn't just run, he runs ultramarathons — road races of 50, 100 or more miles. In fact, his times in the 50-mile, 100-mile and 100-kilometer events are among the fastest in the nation.

Running ultramarathons, he says, is for him "a challenge. It's not fitness."

Leaf subscribes to the definition of fitness offered by the President's Council on Fitness, namely, the ability to get through a normal day's activities while feeling good and retaining a certain amount of energy at day's end for emergency or other uses.

"We know very little about what chronic low-level physical activity will do to lipoproteins," Leaf says. He believes his study will help reveal that lengthy, demanding daily workouts aren't necessary for improving plasma lipids and thereby minimizing the risk of coronary artery disease, the nation's No. 1 cause of death.

The body's ability to take in oxygen is important for peak competitive perform-

ance, but it does not affect a person's risk of heart disease, Leaf says. Lipids or blood fats are significant risk factors, however.

In other words, people can be quite healthy in relation to the condition of their heart and yet be unable to complete a marathon, much less compete with someone like Alberto Salazar, the former University of Oregon track star and Olympic marathon runner, Leaf says.

Yet, he notes, in the recent fitness craze, it is the Salazars of the world who are held up as the definition of excellent health. Such athletes, however, are "genetically gifted for competition" and are inappropriately figures for fitness comparison by the average person.

"I think we need to satisfy the public more than the athlete," Leaf says, and that involves focusing on physical activities that most people can do and enjoy their whole lives.

"You can achieve fitness doing things you truly get satisfaction from," such as dancing with friends regularly, Leaf says.

"Because you enjoy the intrinsic value of the activity you are likely to stay with it and incorporate it into your daily life," he says. "On the other hand, running and dance aerobics, two of today's most popular exercise forms, are in vogue but may not truly be life sports."

"These are merely two of many activities people can do. There are many others that may suit your personality."

Many people have begun exercise programs only to stop a few weeks or months later because of boredom or inconvenience, Leaf says. People should find activities that suit their needs and that are pleasurable, whether they be taking, gardening, housework, sailing, swimming, bowling, mowing the lawn or building a home.

To achieve and maintain cardiovascular fitness won't necessarily require strenuous two- or three-hour workouts daily, Leaf says. He cites a recent study of Harvard University alumni, which concluded that people who burned around 2,000 calories a week with physical activity — whether it be by raking leaves, playing with their children or any combination of activities — significantly reduced their risk of heart attacks.

Among other things, a person could expend 2,000 calories a week by walking 45 minutes or by swimming 30 minutes five days a week. Or they could gain similar benefit by dancing Saturday night, cleaning house Sunday, mowing the lawn Tuesday, playing tennis Thursday, running Friday.

Says Leaf: "The concern should be how to prevent heart disease, rather than how fast you run that next race."

Researchers examine method of treating high blood pressure

People have long viewed calcium as essential for building and maintaining strong bones, and soon they may find that it also plays a role in controlling blood pressure.

Researchers at the Oregon Health Sciences University are conducting two studies to determine whether some people can lower their high blood pressure by increasing their intake of calcium, either in tablet form or through foods.

If the studies are found valid, individuals will be presented with still another way to protect their health.

The first study, conducted over 12 weeks, is attempting to determine if calcium supplements can give relief to people between the ages of 50 and 80 who suffer from hypertension (high blood pressure).

The subjects suffer specifically from systolic hypertension, a condition in which pressure measured when the heart contracts is out of proportion to the diastolic pressure measured when the heart relaxes.

A second study lasting 16 weeks will look at whether increased dietary calcium (calcium contained in foods) is as effective in

reducing blood pressure as supplemental calcium. Subjects in this study are between the ages of 20 and 70 and suffer from mild to moderate hypertension. (Volunteers are still needed; call 225-8490.)

The two studies are part of a growing number of investigations that point to calcium deficiency as another in a long list of factors that contribute to high blood pressure. Calcium is considered by many to be second only to iron as the chief nutritional deficiency in the United States.

(Calcium deficiency has also been linked to the growing occurrence of osteoporosis — the so-called brittle bone disease that affects an estimated 15 million Americans. See story on page 5.)

Dr. Cynthia Morris, a research instructor in the School of Medicine, is leading the OHSU studies under the direction of Dr. David McCarron, director of OHSU's Hypertension Program who is on sabbatical leave. She is being helped by two nurse practitioners, Mary Forehand and Jan Schurman.

Morris also was involved in an eight-week study completed in March that was similar to the two studies she is conducting

now. The earlier study involved 100 volunteers and showed that about 45 percent of the hypertensive volunteers lowered their blood pressure at least 10mm — "or what we would consider a therapeutically significant decrease" — with supplemental calcium.

Morris says she is unable to explain why some subjects responded to the calcium supplements and others did not.

Nevertheless, she says, the findings from the March study indicate some people can control high blood pressure by calcium supplements alone and suffer no significant side effects.

Despite the early favorable findings, Morris says OHSU researchers are not ready to recommend calcium supplements as therapy for all hypertensive people.

"We know how calcium works in an twelve-week period," she says. "We don't know how calcium works in a one-year period."

Morris says the study examining supplemental calcium's effects on the 50 to 80 age group will take a long-term view. Those hypertensive subjects who respond favorably to calcium supplementation after the

initial trial period will be asked to continue taking the mineral tablets for about a year.

Many questions also remain unanswered about the long-term effects of consuming more calcium through food alone, she says. Dairy products provide an average of 75 percent of the nation's calcium intake, but they are also a rich source of cholesterol. Fortunately, Morris notes, low-fat dairy products are available and their number is growing.

Morris says people involved in the study of dietary calcium will be monitored for changes in lipid levels to see whether increasing calcium through food necessarily increases the amount of harmful blood cholesterol.

While she awaits results from the current studies, Morris still urges people to make sure they consume at least the recommended daily allowance of calcium, which the federal Food and Drug Administration has set at 800mg. She would like to see the RDA increased to 1,000mg.

If Morris and her colleagues' hunches are correct, their studies will further debunk a long-standing belief that adults don't need calcium.

Prenatal care makes trip through pregnancy safer

Pregnancy is like getting on a white-water raft headed down the Snake River Canyon during the early spring runoff. Progress can be thrilling, frightening, boring, certainly memorable and, after a certain point, inescapable.

If you want to get to the end safely, you hire the best guide you can find. For more than 2,000 women each year, that guide is the team of obstetricians and midwives at the Oregon Health Sciences University.

It's a long journey, even for the fit and healthy.

Expectant parents seek plenty of guidance during the journey; many consult their OHSU obstetrical team a dozen or more times during the 40 weeks it takes for the baby to make its own journey into the world. There will be blood tests to confirm the mother's Rh factor as well as her immunity against rubella and other diseases that can harm the fetus if contracted during pregnancy.

There will be regular check-ups for early signs of rising blood pressure, toxemia and gestational diabetes mellitus. And of course there will be recordings each month of the additional baggage gained along the way.

There will be that heart beat the first time, the sound of tiny white-water rapids trumpeting through the Doppler stethoscope held to the mother's stomach. And the faint flutters against mom's abdominal wall — a tiny protest against being poked at, listened to and even occasionally watched on the silent screen of ultrasound.

In partnership with their guide, prospective parents make plenty of decisions on the way to parenthood. Mothers who conceive their first child after the age of 35 run a statistically higher than average risk of delivering a child with a chromosomal

"Fortunately, 97 percent of the results come back normal. We end up giving our patients reassurance, although we cannot guarantee a normal baby."

abnormality, particularly Down's syndrome. To make better plans for the future, about 300 women each year seek prenatal diagnosis and counseling at the OHSU's University Hospital and Crippled Children's Division.

The hospital and CCD clinics can detect more than 100 different disorders during pregnancy, although not all tests are performed on each pregnancy. In addition to Down's syndrome, it is possible to determine the sex of the fetus, an important piece of information in knowing whether diseases such as muscular dystrophy and hemophilia are likely to appear in the next generation. Both of these diseases are X-linked, which means they are, in general, transmitted by the mother and expressed in the male offspring.

Prenatal diagnosis is available to women over 34 years of age or whose family history indicates significant risk to the child.

"In a way, prenatal diagnosis is the ultimate in prevention," says Dr. John Buckmaster, an obstetrician and gynecologist with a subspecialty interest in medical genetics. "It is prevention at the earliest possible stage."

Two procedures are available to diagnose chromosomal and biochemical abnormalities, according to Dr. Susan Olson, a cytogeneticist who, along with Dr. R. Ellen Magenis, director of the CCD Cytogenetics Laboratory, are part of the prenatal diagnosis and counseling team.

That counseling may involve amniocentesis, a process in which amniotic fluid is withdrawn through a needle inserted in the pregnant abdomen. Chorionic villus sampling (CVS) is a new technique available at only one other hospital in the state and is similar, from the patient's perspective, to a gynecological examination. The procedure involves inserting a catheter through the cervix into the placenta and

removing a sample of chorionic villi — the hairlike projections that surround the embryo in early pregnancy.

The primary advantage of CVS over amniocentesis is that it can be performed in the first rather than second trimester, yielding results much earlier in the pregnancy. "This is important in the few cases in which an abnormality is discovered," says Olson. "It gives parents more time to arrange specialized care for the child, or make a decision about the pregnancy."

Ninety-seven percent of the results come back normal, says Dr. John Bissonnette, director of the Prenatal Diagnosis and Counseling Center. "We end up giving our patients reassurance, although we cannot guarantee a normal baby."

Of the 283 women who participated in prenatal testing at the OHSU in 1983, 82 percent did so because of maternal age. The remainder came because they had previous children with problems such as Down's syndrome, neural tube defects, or a family history of genetic, chromosomal or metabolic defects.

The prenatal counseling center also serves as a resource for the harmful effects of drugs and other teratogens — substances that adversely affect the fetus. "Many women want to know if 'binge'

drinking prior to discovering that they were pregnant might harm the baby," says Olson. "Women who are frightened and want to do the right thing call often."

But what if you're not in a high risk group and haven't been exposed to harmful substances? Parents who don't expect problems along the route to parenthood may find expert guidance through the many childbirth education classes offered by the university.

These classes include one for women who hope to have a normal delivery after a cesarean section. "Despite the high risk nature of our patient population, we have maintained one of the lowest cesarean section rates on the West Coast," says Dr. E. Paul Kirk, chairman of the Department of Obstetrics and Gynecology. Our research shows that 85 percent of women who want a normal delivery after cesarean are successful, given certain precautions. This represents a complete turnaround in obstetrical trends in recent years."

The second thing OHSU baby doctors do to ensure a healthier mother and baby on discharge is known as active management of labor. "This means identifying a particular abnormality during labor and then applying the appropriate interventions," says Kirk. "This way we often are

able to correct the problem before it is necessary to perform a cesarean."

Because the cost of prenatal care and delivery can be high, University Hospital offers a low-cost program known as Special Delivery. It was developed for low-risk mothers who want a family-centered childbirth experience and who want to go home shortly after delivery. Kirk reports that complications are relatively low among this group and two-thirds of these mothers leave the hospital within six hours following delivery. The program includes an orientation session, a three-week childbirth preparation class, routine laboratory work, prenatal care, a newborn examination and a postpartum visit.

Other parents-to-be may want to enroll in the seven-week childbirth education series in which "patients create the experience they want," according to Diane Solomon, prenatal education coordinator. Instructors review nutrition, sexuality, physiological changes occurring during pregnancy, and what to expect during labor, including the use of anesthetics.

The trip is almost over. At the end, you'll recognize the faces of help, the people who are ready to pull you out of the water and welcome you to the largest and most special club on earth. Parenthood.



Little doubt exists that regular exercise contributes to better health, but much is still unknown about how exercise affects pregnancy. Some of the world's most comprehensive research on the subject is being conducted in the OHSU's Heart Research Lab. Dr. James Metcalfe, the Oregon Health Association professor of cardiovascular research, and his associates have been studying the effects of exercise on pregnancy for 12 years. "There

seems to be some relationship between the amount of the mother's physical activity and baby growth," Metcalfe says. "Women who work during pregnancy, for example, have smaller babies than those who don't, and those whose occupations require standing have smaller babies than those with sitting occupations."

Program gives comfort to sufferers of PMS

Menstruation is a cycle we expect to run like clockwork. Painless. Short. Predictable as the days on a calendar. But there are times when it would make even Superwoman feel "under the weather."

The good news about menstrual problems is that they often inspire commitment to better health. Research indicates that certain behavioral and lifestyle changes — diet, exercise and stress management — can be particularly helpful in easing menstrual problems, says Jan Murphy, nurse practitioner and acting director of the Premenstrual Syndrome and Menstrual Disorders Clinic.

The clinic, which was the first in Portland to focus on premenstrual syndrome, has seen more than 2,500 patients since it began in 1982. The staff compiles data toward research of menstrual problems

while it helps patients solve problems occurring before and during menstruation. In addition, Murphy and her staff offer a Well Woman Clinic to help patients maintain good health through annual exams, cancer screening, contraceptive counseling and health education.

Menstrual problems strike eight out of ten American women to some degree, says Murphy. A smaller percentage, between five and eight women of every one hundred, experience severe symptoms that interfere with their lifestyle or ability to function.

Unlike other menstrual problems, PMS occurs before instead of during menstruation. Sometimes called the "Dr. Jekyll and Mr. Hyde Disease," it is an unfortunate combination of emotional and physical symptoms that begin at ovulation and sub-

side at the onset of menstruation. At least 105 symptoms have been recorded, including physical and psychological changes such as mood swings, depression, food cravings, bloating and breast tenderness. Women between the ages of 20 and 35 are the most frequent sufferers. Research indicates that childbirth, pelvic surgery and oral contraceptives may be linked to incidence of PMS.

The fight against PMS is not a simple battle. It can't be diagnosed with a blood test or cured by a pill. Like many wellness strategies, PMS treatment relies on exchange of information between patient and nurse and the patient's commitment to make lifestyle changes.

Susan Schenk, nurse practitioner, typically begins treating patients by weaving a

(continued on page 7)

Pediatric checkups keep children on road to health

Lindsey's lower jaw drops open. Her eyes express shock and indignation as the man withdraws a needle from her arm. "See you in three months," says Dr. Robert Meechan as he makes a quick exit, knowing what comes next.

The 15-month-old child with blond curls pulled into "piggies" turns purple, her eyes closed as tightly as the door just shut. She screams. The mother scoops her into her arms and tries to comfort her. It's over now . . . you're okay . . . here's Annie . . . she needs a kiss . . . give Annie a kiss."

The child stops to look for her favorite doll. She rubs a wet face against her mother's blouse, snuffles and reaches for the doll with the orange hair.

So ends the latest well-baby check-up. Little Miss Husk will return to the OHSU Pediatric Clinic in three months for another visit with her pediatrician who has seen her regularly since birth. He was there, in fact, that Sunday afternoon in August when she was pulled from the womb in an emergency cesarean section, the cord wrapped twice around her neck.

Transition from womb to world can be dramatic, as in the case of premature and cesarean-born infants who are at slightly higher risk for respiratory distress. In either case, pediatricians like to be present at the birth to direct special care if needed.

If irregularities in either respiratory or heart rates are noted, the baby will be observed in the OHSU Neonatal Intensive Care Unit. If the abnormal rates persist, a polygraph study is performed prior to discharge to determine whether monitoring should be continued at home. Dr. Jeffrey Lindenberg, assistant professor of pediatrics, estimates that about one in five babies cared for in the NICU is discharged with a monitor. This percentage is much higher among premature infants.

Because University Hospital is a teaching hospital, children's specialists in such areas as cardiology, urology, gastroenterology and neonatology are always available for consultation. Hypothyroidism, for example, is a disorder that can cause delayed growth and development. Although cases are rare — about one in 4,000 — a staff pediatric endocrinologist, Dr. Stephen LaFranchi, can treat and follow these children in the OHSU Endocrine Clinic.

State law requires newborn screening for hypothyroidism, phenylketonuria (PKU) — a disorder that causes mental retardation — and other rare inborn errors of metabolism. The tests are performed by the State Health Division and abnormal results are referred to OHSU pediatric metabolic and endocrine specialists for follow-up.

But most babies are born without complication and are greeted by a mom and dad anxious to know whether everything is all right.

Reassurance comes within moments. First, the mouth and nose are suctioned and "we expect a cough, sneeze or wheeze in healthy newborns," says Meechan, professor of pediatrics and director of the OHSU Pediatric Outpatient Clinic. The attending nurses and doctors then check the baby's respiratory rate, pulse rate and color. Muscle tone and reflexes are also examined for any sign of trouble in the nervous system. These components make up an Apgar score which determines whether the infant is in

the normal range or needs closer observation.

Before discharge, all newborns are again examined by a pediatric nurse practitioner. Both mother and child must meet criteria established by the American Academy of Pediatrics which ensure that, among other things, the child has no serious respiratory problems, blood pressure is normal and temperature stable, and the mother or guardian is capable of caring for the infant.

"One of the best things a new mother can do to promote good health is to breast-feed. It helps the uterus contract and the baby gets milk that is clean and at the right temperature."

"Rarely do we find an anomaly," says Meechan. "Our role more often is to make sure the child has good feeding habits, counsel parents about their concerns and teach accident prevention."

"One of the best things a new mother can do to promote good health is to breast feed," says Meechan. "It helps the uterus contract and the baby gets milk that is clean and at the right temperature. We also instruct parents before leaving the hospital in the proper use of infant car restraints." Because accidents are the leading cause of death in individuals between one and 25 years of age, prevention education is a major theme of wellness care throughout childhood and adolescence.

At two weeks of age, the child returns to the pediatric clinic for the first outpatient well-baby checkup. Most first-time parents, however, have called the hospital several times for advice during those turbulent first days.

All check-ups start with the "weigh-in." Today Lindsey's mom got good news — only 10 ounces gained since the last appointment. The tot had been on a diet at 9 months. Next Meechan measures her length and notes it, along with her weight, on a growth chart. "She's in the 55th percentile for both height and weight, which means she's not fat." The first-time parent is unaccustomed to the shape of a toddler — the pot belly, dimpled thighs and bowlegs. He reassures her that "virtually all children are bowlegged until the age of two because of the shape of the womb."

They discuss her diet and the fact that she must be off the bottle by the time she is 18 months of age. The fear of choking prompts the advice: "Don't give her popcorn, peanuts or hotdogs, and make sure raw vegetables are finely chopped."

"What about stairs?" asks Lindsey's mother. "Shouldn't we install a gate to prevent her from falling?" Meechan says "yes" and uses this opportunity to discuss home safety, including the use of gates, electrical outlet covers and the removal of poisons.

Lindsey's parents know about poison. Once while they were visiting grandparents in Bend, a bottle of aspirin was left within her grasp. They called the Oregon Poison Control and Drug Information Center in Portland, where medically trained operators instructed them to take the child to the local hospital emergency room. There she was given ipecac and fluids to induce vomiting. It was a painful two hours for her parents who vowed to never let it happen again. Hospital attendants report, sadly, that poisoned children are frequent visitors to the emergency room.

Another major concern is water safety, which starts with the bath, says Dr. Emily Tufts, associate professor of pediatrics. "We teach not only about drowning but scalds and burns as well." To prevent burns, parents are advised to turn their hot water heater thermometers to 130 degrees.

Older children are taught about traffic, bicycle and pedestrian safety and what to do in the case of fire. Teenagers are taught about the perils of smoking and of driving after drinking.

Continuing his exam, the doctor notes that Lindsey has 14 teeth, a fact confirmed by a small friend at her day care center who went home with a perfect imprint of them on her forehead. He says they need to get her into the habit of brushing and to continue to give her fluoride and vitamin drops.

As he prepares the MMR vaccination (measles, mumps and rubella) he warns that five percent of children will have a reaction within a week. They review her immunization record and discuss future inoculations.

After the shot, the woman dries the toddler's tears and prepares to leave. As they go out the door, the child starts babbling and is understood to say: "Annie, next time you get the shot and I get the kisses."



Not all babies greet visits to the doctor with open arms, but those visits help keep them healthy.



A child who develops an understanding of the benefits of exercise at a young age stands a good chance of maintaining a healthy level of physical activity throughout his or her lifetime.

Lifestyle changes can help overcome menstrual problems

(continued from page 6)

series of questions and answers into a portrait of her patient's emotional and physical health.

If an examination shows no indications of physical disease, Schenk and her patient discuss possible solutions and arrange for another visit in six weeks. The prescription: increased exercise such as swimming, dancing or yoga; a vitamin regimen to start on the 18th day after the onset of menstruation; stress management; and, when necessary, medications to ease symptoms.

Most important, the patient goes home with facts: She knows how to chart emotional and physical changes in tandem with menstrual cycles so she can begin to find solutions. Next time symptoms begin, she can counter them with changes in diet, exercise and stress management.

One of the biggest factors in treating PMS is stress management, says clinic founder Diana Taylor, nurse practitioner. She recommends patients chart the events that cause stress in their lives, note their reactions to them and either cope with or avoid stressful situations during the premenstrual period.

Exercise is recommended at a minimum of 20-minute sessions, three times per week.

Changes in diet, too, help solve some types of menstrual discomfort. Food normally affects the body's ability to handle physical and emotional stress, but during the premenstrual phase it can be particularly important, says Murphy. Research indicates the body's tolerance for carbohydrates changes before menstruation, and that a woman experiencing head-

aches, shakiness and irritability should make a special effort to balance her carbohydrate intake by eating smaller, more frequent meals; avoiding refined sugars, starches and saturated fats; and increasing her diet of complex carbohydrates.

Vitamin and mineral supplements, though still under research, also may help mediate stress. The clinic staff recommends patients take a daily multivitamin and B-complex. Regulated doses of magnesium and vitamin B6 are added between ovulation (10 to 14 days before menstruation) and the onset of menstruation.

Researchers at the PMS Clinic and beyond are still just beginning to investigate PMS, its causes and treatment. PMS treatment is one way health care providers use a problem to promote better health beyond the cure.

"Traditionally, you might come to me for PMS or some other problem and I would put you on a medication for 10 days," explains Taylor. "But what happens after that? Like many other health care providers, we're now focusing on what happens after treatment and we're asking you questions. How much exercise do you get, are you willing to make some changes in your life; in short, how does your lifestyle affect your health?"

"It has taken some re-education of women to see us not as an authority but as a partner, and to see wellness as an important health care issue," she adds. "The hope is that women will begin to look to themselves as the experts."

For more information about the PMS Clinic or general women's health care, call Family Nursing, 225-8382.

Excessive noise leads to premature loss of hearing

The snowmobile rests squarely on its trailer. Packed in the car's glove compartment is a cassette player and earphones. A chainsaw weighs heavy in the car trunk. You're ready for a "quiet" weekend in the mountains.

The next morning you and your friends ride out on your snowmobiles for a day of trail riding. After returning in the evening, you grab the chainsaw and cut some firewood.

You end your escape from the city the following day with an exhilarating cross-country ski run. With every thrust of the arms and legs, the cassette player fills your ears with your favorite music.

No doubt your weekend was fun, but it could hardly qualify as "quiet," what with snowmobiles, chainsaws, stereos and all.

Noise seems to follow us wherever we go these days, even into the wilderness. We are being bombarded by noise so much, the words "noise pollution" have crept into our vocabularies.

As you might expect, there is a price to pay for noise, above and beyond the costs of our mowers and motorcycles and saws and stereos. You might say, we "pay through the ear," as the excessive noise around us robs us of our hearing.

Twenty to thirty million Americans suffer from some level of hearing loss. Much of it occurs naturally with age, and to a lesser extent it is caused by chronic infection, hereditary factors and drugs.

But along with aging, the chief cause of hearing loss is excessive noise, says Dr. Alexander Schleuning, chairman of the OHSU Department of Otolaryngology.

No longer do only elderly men or women cup their hands to their ears and

ask, "What did you say?" Hearing problems are occurring at an increasingly younger age.

Younger people, more than generations before them, are exposed for extended periods to noise at work or from powerful stereo systems, rock concerts, snowmobiles, motorcycles and hunting rifles.

"Hearing loss is a constant threat to workers exposed to loud noises while on the job," Schleuning says.

The noise levels that are produced by standing near speakers at a rock concert are loud enough to permanently damage hearing in a very few minutes, Schleuning says. This is being reflected in an increasing number of people in their teens and early 20s, who have the typical high frequency hearing loss previously seen only in people exposed to loud noise over many years.

Whether it is caused by plant machinery or stereo equipment, noise-induced hearing loss is menacing.

"The problem with noise-induced hearing loss is that it is insidious in its appearance," Schleuning says.

Because the loss begins at high frequencies and does not involve speech ranges, most people are unaware of it until it begins to affect the higher pitch speech tones.

"Tinnitus, or ringing in the ears, may also be a clue to the early development of high-frequency hearing problems," Schleuning says. "At first it may only occur following loud noise exposure, but as the hearing loss progresses, the ringing may become constant."

The danger with noise-induced hearing loss is that even if people recognize they



Preliminary results from an OHSU study suggest that listening to portable cassette players at high volumes can damage hearing.

have difficulty hearing, they are unable to restore what they have lost. Although hearing aids help, they are not an answer in every case.

"The only correction is prevention in the first place," Schleuning says.

"There is individual variation in the levels of noise that people can tolerate, but we are well aware of those noise levels that have proven to be damaging if people are exposed to them for long periods."

Most people are not aware of the high level of noise being produced by a variety

of environmental and recreational equipment.

For instance, Schleuning says, preliminary results from a recent study in the Department of Otolaryngology of a popular brand of hand-held cassette player demonstrated that most users listen to music at sound levels well above known acceptable limits for preserving hearing.

The study has demonstrated that sound levels at the halfway setting were far above those allowed in industrial worksites for an eight-hour day and could cause major high-frequency hearing loss.

Schleuning says people can best preserve their hearing by being aware of the noise about them. People should wear ear protection when working near noisy machinery or equipment or when they are in a noisy location. The sound volumes of stereos and cassette players must be monitored.

People who work in noisy environments should have their hearing checked every year or two, and others exposed intermittently to loud noise should have periodic checkups.

The OHSU Department of Otolaryngology and the Portland Center for Hearing and Speech, a division of the Department of Otolaryngology, both are available for hearing evaluations and for advice on preventive measures and protection.

For more information call the OHSU's ENT (Ear, Nose and Throat) Clinic at 225-8510, or the Portland Center for Hearing and Speech at 228-6479.

Those people who suffer the secondary complaint of hearing loss, tinnitus, may be seen at the OHSU Tinnitus Clinic. For more information, call 225-7954.

OHSU joins national study on smoking and lung ailments

The Oregon Health Sciences University will join nine other medical centers in the United States in conducting one of this decade's major national studies on cigarette smoking and lung disease.

Commissioned by the National Institutes of Health, the seven-year study will enlist nearly 8,000 carefully selected smokers. Some will be asked to stop smoking and others will be asked to take a bronchodilator, a medication that expands the airways and is used to treat asthma.

Subjects of the study will be between the ages of 35 and 54. They will also have a greater than normal risk for developing chronic bronchitis and emphysema, two conditions medically referred to as chronic obstructive pulmonary disease or COPD.

Investigators will monitor the smokers to see whether smoking cessation and bronchodilators will improve their lung conditions or slow the rate of decline of lung function over the project period.

For its role in the study, the university will receive more than \$3 million in grant money from the federal government over eight years, according to Dr. Sonia Buist, one of the study's co-principal investigators at OHSU along with Dr. Joseph Matarazzo.

Buist, professor of medicine, is acting head of the Division of Pulmonary and Critical Care Medicine in the Department of Medicine. Matarazzo is professor and chairman of the Department of Medical Psychology.

The actual study will begin near the end of 1985, following a year of planning.

OHSU was among 35 medical centers that submitted proposals to NIH to participate in the project. NIH accepted only 10.

"We were ready for this project because we have been doing longitudinal studies of lung disease since 1971," Buist says.

She and the staff of the Lung Research Lab are now analyzing data from their studies, which were undertaken to identify risk factors for COPD. The one risk factor, apart from cigarette smoking, that has emerged is increased reactivity of the airways. The airways are overly responsive to a variety of stimuli and respond by constriction, Buist says.

Some observers have wondered why



NIH chose to initiate another smoking study in light of all the research in recent years that leaves little doubt about the hazardous effects of smoking.

"There is no question at all that stopping smoking is good for a person's health," Buist says.

However, she adds, most research to date has centered mainly on the factors contributing to heart disease and lung cancer, such as smoking. The relationship of smoking and other risk factors to bronchitis and emphysema is less well understood, and that relationship and the relationship of airway reactivity to COPD is the subject of the current NIH study.

Buist says only about 10 to 15 percent of all smokers develop COPD. The current study will aim at learning more about that group and at what makes COPD sufferers susceptible to respiratory disease.

Research has shown that after people

stop smoking their lung function improves within a month, Buist says.

Remaining unanswered are the questions of whether their lungs continue to improve over time, whether they get worse but at a slower rate or whether smoking cessation has no positive long-term effect. There is also the question of whether bronchodilators slow the more rapid rate of deterioration of lung function seen in smokers, and in particular, in smokers with reactive or twitching airways.

"Is it locking the barn door after the horse has bolted?" Buist asks. "Is there a point in terms of COPD where it really doesn't make much difference if the person stops smoking?"

In other words, once a smoker has developed chronic bronchitis or emphysema there may be no turning back.

"We don't know at what point smoking cessation has an effect," Buist says, "and

whether bronchodilators will help to reverse some of the damage caused by smoking."

She and others in the study hope it will finally yield some answers to these questions and perhaps help stem the increasing incidence of respiratory diseases.

Buist says research into COPD is about 10 to 15 years behind study of coronary artery disease. Many believe the recent decline in the U.S. rate of heart disease is due largely to greater understanding of its risk factors, including smoking, high blood pressure and high cholesterol.

The current NIH project should further unravel the mostly unknown risk factors of COPD, Buist says.

It will not be an easy study to conduct, says Dr. Tim Carmody, an associate professor in the Department of Medical Psychology. He will play a major role in the study's undertaking at OHSU.

After the current planning year is over, study investigators must begin the arduous task of identifying smokers who meet requirements for the research. The study's staff at OHSU expects to interview and screen between 10,000 and 20,000 people in the Portland-Vancouver area in order to find 650 subjects for the study.

That process will take about one year. Carmody says identifying the study group will be difficult because participants must be smokers whose lungs are mildly or moderately impaired, although most will not have a documented lung disease.

Anyone entering the study must be willing to accept assignment either to a special treatment group or to a usual care group. The usual care group will receive no treatment except regular follow up. The special treatment group will receive intensive therapy using state-of-the-art smoking cessation methods and bronchodilators.

Carmody says investigators hope to find that the lung functions of people in the special care group improve more or decline at a slower rate than the usual care group.

The study will keep busy a team that will include pulmonary specialists, medical psychologists, a nurse practitioner, pulmonary function technicians and other support staff.

Regular eye exams grow more important with age

The sense of sight is among the most valued human gifts, but it can easily be lost if preventive measures are not taken as one grows older.

Dr. Michael Van Buskirk, professor of ophthalmology, says vision loss is one of the most significant problems among the elderly and often forces otherwise healthy people out of their homes.

Regular eye examinations for everyone over 40 can be particularly helpful in early detection of glaucoma, a common affliction of the elderly which produces no early warning symptoms.

The disease is caused by a build-up of fluid in the eye that slowly erodes the optic nerve fibers and results in vision loss. Although there is no cure for glaucoma, once detected it can be effectively controlled with medication in much the same way as high blood pressure.

"We're currently involved in developing new drugs for treating glaucoma, including one which is being introduced on the market later this winter," says Van Buskirk, whose work with the disease has earned him national recognition. "We have a fine drug testing center here, and we are always working on new ways to control glaucoma."

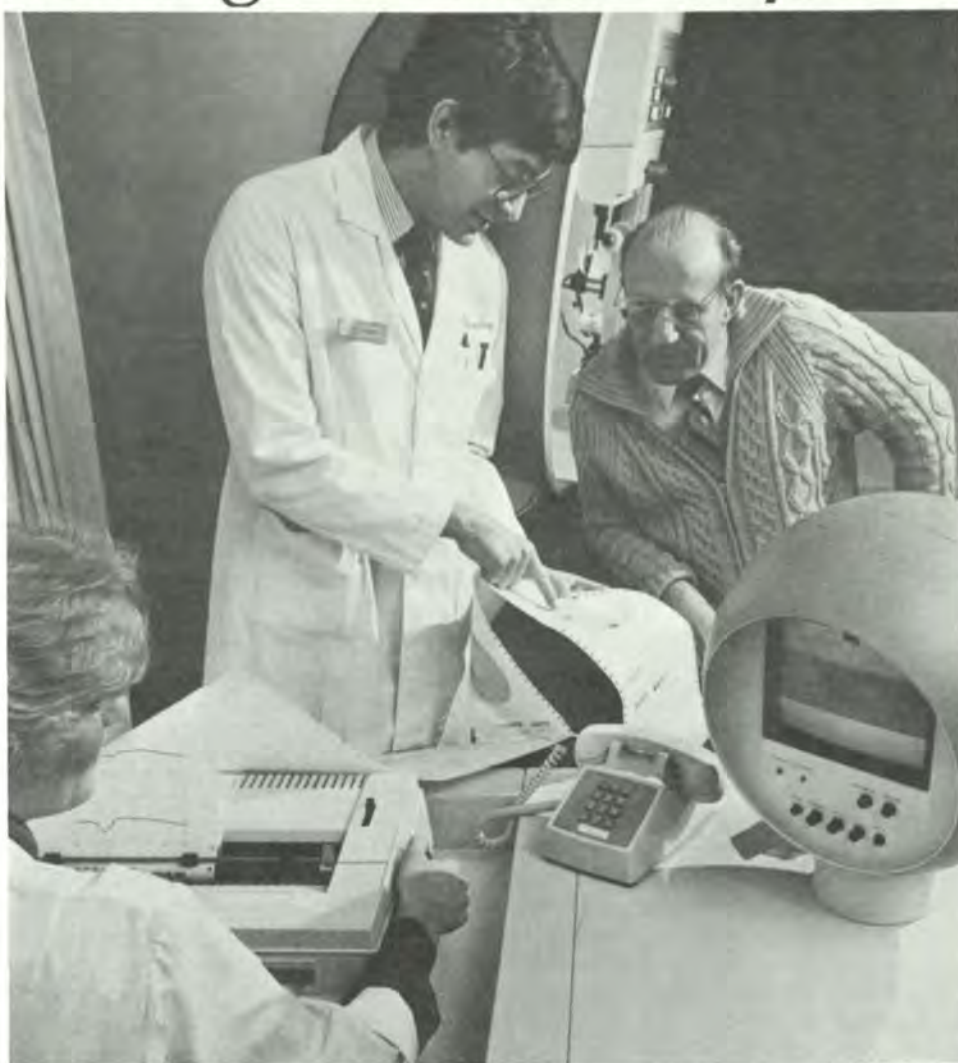
The OHSU offers the only glaucoma fellowship program in the Northwest, and this year's fellow, Dr. Michael Passo, is studying the effects of exercise on eye pressure.

In a joint study with Dr. Linn Goldberg of the OHSU's Human Performance Laboratory, Passo has found that eye pressure drops up to 40 percent immediately after exercise.

The reduction only lasts a short time, however, so Passo and Goldberg plan to investigate whether a long-term exercise program can help control eye pressure in the same way it can control blood pressure. (A related story on the research being done in the Human Performance Laboratory can be found on page 5.)

Recent research has indicated that preventive measures may also help lessen the effects of cataracts, the other major eye affliction of the elderly.

Van Buskirk says interest is growing in the theory that prolonged exposure to



The Octopus 201 Automated Perimeter helps OHSU ophthalmologists detect losses of field of vision due to eye diseases such as glaucoma and retinitis pigmentosa. It is also a valuable tool for studying these diseases.

ultraviolet rays, like those from the sun, may contribute to the development of cataracts. Ophthalmologists have begun encouraging those who work in the sun to have their eyes examined frequently.

Another group at risk for cataracts is those who take a photosensitizing drug, called allopurinol, to treat gout.

Although cataracts occur to some degree in all persons over 60, limiting exposure to the sun or wearing ultraviolet filtered glasses theoretically may delay or reduce the intensity of the condition.

Those who have had cataract surgery or

who are near-sighted need to be especially aware of what Van Buskirk calls "floaters," white specks or flashes of light across the eye.

Such symptoms indicate that the gel inside the eye is pulling on the retina, and this condition can lead to retinal detachment. People should see an ophthalmologist immediately if these symptoms are noticed. If the detachment is small and localized, it can easily be treated.

Further testing on the retina is done in the OHSU's Electrophysiology Laboratory, which is directed by Dr. Richard Weleber,

associate professor of ophthalmology. The lab is one of only three such labs in the Northwest. The lab measures the electrophysiologic activity of the retina and is especially helpful in diagnosing diseases such as retinitis pigmentosa and related disorders.

Older people are not the only ones who need to take special care of their eyes. Van Buskirk advises parents to have their children's eyes examined at age 2 or 3 for a condition called amblyopia exanopsia or "lazy eye."

He says children need to learn to use both their eyes simultaneously, or their brain will effectively stop the function of one eye. Parents need to be alert to how their children are looking at objects. Children should have their eyes examined before they start school.

If a child appears cross-eyed or wall-eyed, she or he should see an ophthalmologist promptly, no matter how young the child is.

Once children are in school and become active in athletics, Van Buskirk recommends purchasing protective eye gear to help prevent injuries to the eye. Sports such as hockey, football and squash pose special risk of eye injuries.

The OHSU is involved in treatment and research of these and many more eye afflictions. Each physician subspecializes in a different area of ophthalmology and treats patients referred through the Northwest. Subspecialties include glaucoma, retina disorders, cornea and external diseases, pediatrics, neuro-ophthalmology, oculoplastics and ultrasound.

The quality of the OHSU's eye program has been recognized by an organization called Research to Prevent Blindness, which has selected the OHSU as the site of one of its nine eye centers nationwide.

The organization is currently generating private funds to build the new 80,000 square-foot eye center, which will be located near the OHSU School of Dentistry. It will house research labs, the Elks children's and adult eye clinics, and ambulatory surgical space. The center is scheduled to be completed in 1988.

For more information about these services, call 225-8690.

Study looks closer at role of red blood cells in causing stroke

Some people are more prone than others to suffer a stroke, but so far doctors have only been able to loosely identify who they are.

Research at the OHSU Stroke Center, however, may help physicians to more accurately pinpoint those people for whom risk of stroke is greatest. That may enable doctors and their patients to reduce the incidence of stroke — one of the nation's top causes of death and disability.

Dr. Bruce Coull, head of the Stroke Center, says researchers there are embarking on a study to learn more about the role of red blood cells in the development of a thrombotic stroke, the most common of the stroke syndromes.

A stroke is a sudden disruption of blood supply to a part of the brain, which in turn disrupts the body function controlled by that brain area. The result can be death or paralysis. Researchers know that blood platelets are important, but red blood cells haven't been carefully studied.

The Stroke Center will be isolating red blood cells in certain people to see whether and under what conditions red blood cells may contribute to formation of a thrombus, or blood clot, which in turn could cause a stroke.

Coull hypothesizes that an individual whose red blood cell membranes are damaged may be at greater risk for stroke. Damaged red cells are less flexible and less

able to circulate through small blood vessels and may be more likely to trigger formation of a thrombus.

Subjects of the study will be people who have suffered acute strokes or warnings of strokes and people who are considered to be at risk for stroke because of factors such as high blood pressure, atherosclerosis, heart disease and diabetes.

Coull says the study is the next step in identifying people at highest risk of stroke within the high risk group.

"Currently, we aren't able to select people as well as we would like for medical and surgical treatment," he says. "The Stroke Center is trying to examine elements related to risk factors that help us

predict whether a person is very likely to have a stroke."

Even though a person has high blood pressure or diabetes, he or she may only be at slightly greater risk than normal for stroke. However, if that person also has damaged or rapidly aging red blood cells, the risk for stroke may be very high.

If the study proves conclusive, preventive steps could be taken, such as removing the damaged old red cells or treating the cells with a drug that will make them more flexible.

"What we are looking for are the handles that we can measure and say, 'ah ha!'" Coull says. He hopes red blood cells will be one such handle.

Statewide program encourages women 19-40 to receive rubella vaccinations

1985 has been designated the year of the Rubella Initiative.

The goal of the initiative is to ensure the protection of all Oregon babies born in the future against birth defects from rubella, also known as German measles or three-day measles.

The initiative is an outgrowth of a task force formed by the Oregon State Health Division. The panel began meeting in April 1984.

Panel membership includes three physicians at Oregon Health Sciences University: Dr. Alan Hartstein, head of the University Hospital Infection Control Unit and consultant to the Division of Infectious Diseases in the School of Medicine; Dr. John Bradley, part-time clinical instructor for the Department of Pediatrics in the School of Medicine; and Dr. Dave Mc-

Farland, a physician in the Crippled Children's Division.

Hartstein, in conjunction with Dr. Larry Foster and Lorraine Duncan of the State Health Division, was instrumental in starting the initiative. The vaccination effort has also been given a note of support by faculty of the School of Medicine.

The initiative is jointly sponsored by the Health Division, the March of Dimes and KOIN-TV in Portland.

Since Jan. 2, rubella vaccine has been available at county health departments to people who have previously not been immunized against the disease. The vaccine is free, although there may be an administration charge.

Oregon health care providers will focus particular attention during 1985 on providing rubella vaccinations to women between

the ages of 19 and 40 capable of bearing children.

More than 20,000 babies were born in the United States with birth defects and another 11,000 died as a result of the rubella outbreak in 1964 and 1965, four years before the rubella vaccination was licensed in the United States. Mothers of these babies were infected by rubella while pregnant, and in turn infected their developing babies.

Rubella is a mild, contagious disease caused by a virus. It is characterized by low fever, a slight red rash and swelling of the glands and neck. It lasts about three days and sometimes it is so mild it may not even be noticed.

A woman who contracts Congenital Rubella Syndrome early in pregnancy may have a miscarriage or deliver a baby who is

crippled, blind, deaf or has a heart defect.

In addition to women between 19 and 40, the vaccine is recommended for children (15 months and older), teenagers and many adults who haven't already been immunized since the vaccination became available in 1969.

The only reasons not to be vaccinated are: a blood-test confirmed history of the disease; a rubella vaccination documented by a physician; pregnancy or intent to become pregnant within three months; and a medical reason documented by a physician.

With widespread use of the vaccine, rubella transmission nationwide has been reduced to record low levels. Oregon has reported only two cases of CRS in recent years: one in January 1983 and another in October 1984.

Clinic screens for early signs of hereditary cancer

Certain forms of cancer, like facial features, have a way of running in the family.

Preventing so-called familial cancers or detecting them before it's too late is the purpose of OHSU's High-Risk Cancer Family Clinic.

Located on the fourth floor of the Out-patient Clinic, the cancer family clinic screens people whose families have a history of hereditary cancers, primarily cancers of the breast, ovaries and gastrointestinal tract, especially the colon.

Malignant melanoma, a skin cancer usually first noticed as a mole that has undergone change, is also a common familial cancer.

"In the last 10 years medical researchers have developed substantial new information on who is at risk for certain types of cancers," says Dr. William Fletcher, head of the clinic. He is also professor of surgery and head of surgical oncology in the

School of Medicine.

Clinic staff members, including specially trained nurses and physician oncologists, closely monitor patients. The goals are either to prevent cancer from developing or to detect it at its earliest and most treatable stage. Staff members also provide genetic counseling to high-risk families.

The clinic is set up to screen only those people at high risk because of their family history (a sibling, parent, grandparent, aunt or uncle had or has cancer) or because they have been exposed to known cancer-causing substances.

Those eligible for the clinic will be interviewed by a nurse and helped in preparing a pedigree, a medical family tree. A physician will take a detailed medical history and will physically examine the patient. Follow-up care will be based on the pedigree and evaluation of test results.

Fletcher notes that in the two years since

it opened, the clinic has had its share of successes. For example, among the first 80 patients screened, four were found to have breast cancer. Fortunately, each of the four cases was caught early.

In the general populace probably 1,000 or more patients would have to be examined to detect four cases of breast cancer.

While breast and colon cancer have received greater publicity over the years, worldwide incidence of malignant melanoma is increasing dramatically, Fletcher says.

He says melanoma is related to sunlight exposure, although sunlight has not been found to be a direct cause. He notes that incidence of melanoma increases the closer people live to the equator.

However, Fletcher adds, "Malignant melanoma, if caught early in the game, is 100 percent curable." Treatment usually involves surgical removal of the affected

mole or moles.

Fletcher advises people at high risk for developing a familial cancer to begin closely monitoring conditions of their bodies by their early to mid 20s.

They should also be aware of steps they can take to reduce their risk. For example, people who may be genetically predisposed toward melanoma should be careful not to overexpose themselves to sunlight.

Women at risk for breast cancer should avoid intake of hormones and repeated X-rays (unless necessary), keep their weight down and consider early pregnancy and breast feeding.

Those at risk for colon cancer should adhere to high-fiber, low-fat diets.

For more information about the High-risk Cancer Family Clinic call the Tumor Office at 225-8514 between 8 a.m. and 5 p.m. Monday through Friday. A physician referral is not necessary.

Caution is crucial for keeping skin in healthy condition

When it's healthy, skin is an armor of protection and a mirror of the body's health. But skin can also be the source of physical and psychological distress, revealing facts we'd rather not display about our age, long-term habits and sometimes even our sex lives.

OHSU dermatologists are working to ease the discomfort and teach patients to prevent two of the most pervasive skin diseases: cancer and herpes.

Preventive measures are vital in the effort to stop the spread of herpes, the national epidemic that eludes cure. Whether the herpes is the type that occurs in areas around the mouth, or a variant that occurs in the genital region, it makes its appearance known as a painful blister. The virus can only be transmitted through direct contact.

Although protection against wind, sun

"Although people frequently say they feel better and healthier with a tan . . . there is no question that long-term exposure to the sun causes skin cancer."

and cold seems to prevent herpes blisters around the mouth for some people, no cure for herpes has been proven, says Dr. Clifton White, associate professor of dermatology.

"Some very promising herpes medications are currently being tested, but they are not yet available to the general public," White says. "I believe a cure will be found for herpes in our lifetimes. For now, I advise my patients to avoid personal contact when the herpes virus is active."

Social and psychological aspects can create more problems than physical aspects of the disease, says Dr. Frank Parker, head of the Department of Dermatology. "Genital herpes is a terrible psychological stress; you wonder who you got it from and how they got it. It's as important for us to deal with its emotional implications as it is to make the lesions go away."

In addition to its ongoing research, the OHSU will soon offer group counseling sessions for genital herpes sufferers. Dr. Maureen McGuire, assistant professor in the Department of Obstetrics and Gynecology, will begin leading weekly sessions in March to help victims learn to cope with the condition.

"Herpes is an emotional problem because it carries the stigma of venereal disease," says McGuire. "There is shame involved, and sometimes it means the potential loss of someone you might have wanted to be close to."

"Also, because herpes is not apparent, people with herpes suffer from hearing jokes about it. You can't just wear a sign in public that says 'please spare me the grief: don't tell herpes jokes.'"



Getting outdoors on a sunny day can be invigorating, but people should take precautions against overexposure to sunlight.

Although any form of herpes causes physical and emotional discomfort, some forms of herpes threaten lives. Pregnant women with active genital herpes may pass on a deadly form of the disease to their newborns during vaginal delivery. The condition, called neonatal herpes simplex, wages a massive infection that kills nearly half its victims and leaves many of its survivors with brain damage. It can be potentially avoided by birth through cesarean section.

Increasing evidence shows that genital herpes also may be related to cervical cancer, says White. He recommends that any woman with genital herpes have a Pap

smear every nine months to ensure early detection of developing cancer.

Another skin disease thwarted by early check-ups and prevention is skin cancer.

The most common form of cancer, skin cancer occurs four times more frequently than any other type. Although it is widely recognized that skin cancer is caused by long-term exposure to the sun, that knowledge rarely affects sunlovers, says White.

"People frequently say they feel better and healthier with a tan, and it's hard to break through that mind set," he adds. "But there's no question that long-term exposure to the sun causes skin cancer."

"When warning people about the dangers of too much sun, I usually get better results if I talk about the cosmetic damage it does to the skin — premature aging, wrinkles and loss of elasticity — instead of cancer," says White.

The condition develops insiduously, recognized as bumps on sun-exposed areas of the body that slowly grow larger and may bleed. If detected in its early stages and treated by such methods as radiation, surgery or freezing of the cancerous tissue, the cure rate for skin cancer is nearly 100 percent, says White.

Malignant melanomas are particularly important to catch in the early stages, says Dr. Frances Storrs, professor of dermatology. Melanomas initially appear as moles, but change in color, itch or bleed.

Malignant melanomas "can become a tumor that has a fatal outcome," says

"There are some very promising herpes medications currently being tested, but they are not yet available to the general public. I believe a cure for herpes will be found," says Dr. Clifton White.

Storrs. "But if they are identified when they are very young, this can be prevented."

The best protection is to keep enthusiasm for sun under the shade of caution. Tanning booths provide no real protection against skin cancer, says White. The ultraviolet "A" ray touted as safe by many tanning salons is just as capable of damaging the skin as the ultraviolet "B" ray of the sun, he adds.

White encourages his patients to remember three things about being in the sun: Don't get burned by overexposing yourself to the sun; do use a sun screen once or twice during the day; and, if you insist on tanning, get a gradual tan without basking under mid-day sun.

Storrs also stresses protection against drying elements of winter, especially for people over the age of 55.

"Dry skin is a big problem in Oregon because it's wet outside and we keep our houses very warm and dry inside," Storrs explains. "When you soak up all that moisture, and then come inside, you get the same kind of dermatitis you do when you put your hands in and out of water all the time. Instead of getting 'dishpan hands,' you get 'dishpan body.'"

Different moisturizing lotions sold without prescription can cause allergic skin reactions.

Whether you choose to apply moisturizing lotion, sunscreen or caution, an ounce of prevention just may save your skin.

For more information about the OHSU's dermatology services, call the Dermatology Clinic, 225-8600.

Good habits help elderly

In their rush to embrace the wellness movement, Americans should be careful not to overlook the special health needs of today's elderly, two OHSU professors say.

Dr. John Walsh, head of gerontology in the School of Medicine, and Dr. Pat Archbold, director of the Gerontological Nursing Project in the School of Nursing, oversee instruction of medical and nursing students in the area of elderly care.

Their students learn that promotion of health, or wellness, means something different for people over 65 than it does for other age groups.

Why? Because an estimated four out of every five Americans over 65 suffer from one chronic illness or another, such as heart disease, stroke, emphysema, arthritis, diabetes or hypertension.

The wellness movement to date has mainly targeted healthy, usually younger people in hopes of keeping them healthy. If absence of illness is a qualification for wellness, then it would seem most older people do not measure up.

But Walsh and Archbold are careful not to relegate the elderly to the movement's sidelines. Both believe promotion and practice of good health habits — the thrust of the wellness movement — are meaningful for people of all ages.

Only the objectives are different. Most younger people are trying to avoid illness, while most older people are trying to enjoy the fullest life they can within limitations imposed by age or illness.

Walsh says older people who have poor habits may hasten the inevitable decline in health due to aging or to a particular chronic illness. The focus of wellness in the elderly should be slowing the decline and thereby improving or maintaining quality of life.

"The question people should ask shouldn't be how do you prolong life, but how do you make it better," says Walsh, who is also chief of gerontology at the Veterans Administration Medical Center.

Enhancing the quality of life of older people is at the heart of the programs of gerontology in the schools of Medicine and Nursing.

The School of Medicine, with funding help from the Veterans Administration, works in tandem with the Veterans Administration Medical Center to give students clinical experience in elderly care.

Over the past five years federal funding also helped the School of Nursing develop a focus in gerontology in its graduate program. Archbold headed the effort, known as the Gerontological Nursing Project.

Gerontology courses in both schools stress the need for helping the elderly remain independent and able to take care of themselves.

"Older people who take care of themselves use all their faculties, and that helps keep them from going down hill," Walsh says.

Of particular concern is that older people receive regular immunizations, eat enough food, avoid alcohol or drink it in moderation, take their medication as directed, exercise to the extent their physical conditions allow, take added precautions to avoid falls and stay active socially.

While Archbold emphasizes the need for good health habits among older people, she does not overstate that need to her students. She worries that Americans' growing preoccupation with an individual's responsibility for maintaining health may divert attention away from the larger societal responsibility.

"I think there is a danger in saying that illness is primarily a function of a person's behavior," focusing exclusively on individual behavior, she adds, tends to minimize the effects on health factors outside a person's control, such as genetics or environmental hazards.

National policy should ensure that older people are provided the resources and the know-how to live as independently and as comfortably with their disorders as possible, Archbold says.



Teeth-brushing and flossing have yet to go out of style as one of the chief means of protecting teeth and gums. As part of a first-year dental course in oral disease prevention, local elementary students are bused to the OHSU to learn about oral disease and how to prevent it.

Dentistry school focuses on prevention

Americans have healthier, longer lasting teeth than ever before, but prevention is still the name of the game for today's dentists and dental hygienists.

The foundation of dental and dental hygiene education at the OHSU lies in prevention, and revolves around three major aspects: fluoride treatment, proper oral hygiene and a balanced diet.

"Prevention should be the centerpiece of dental education, and the emphasis seems to be more so now than ever," says Dr. Murray Bartley, professor and chair of oral pathology at the OHSU School of Dentistry.

Every patient in the OHSU Dental Clinics is screened by a dental or dental hygiene student, who then makes an assessment of his or her general health, diet and oral hygiene. An individual treatment program follows which is based on the patient's needs. Fluoride treatment, nutritional counseling and oral hygiene instruction are just some of the services which may be included in the treatment program in addition to the fillings, root canals or other restorative work.

The students also reach beyond the boundaries of the dental school clinics to help bring preventive dentistry to the community. Promoting wellness in the community is emphasized in the senior year of the dental hygiene curriculum. Dental hygiene students provide oral health education in the Portland Public Schools and Project Head Start. They also screen for high blood pressure, oral cancer and other diseases of the oral cavity, and provide educational services for clients and staff in a variety of programs, including those for the elderly, physically handicapped, mentally retarded and emotionally disturbed.

"Historically the field of dental hygiene is based on promoting wellness rather than treating disease, and that history underlies our curriculum," says Margaret Ryan, associate professor and chair of dental hygiene.

In a special outreach program instituted last fall, dental hygiene students have joined students from the School of Nursing in a project aimed at increasing their knowledge of geriatric patients while performing valuable health services. The students work with the staff of the Mount Angel Nursing Center in Mount Angel, Ore., providing the residents with services

including oral cancer screening, dental and periodontal disease screening.

The results of these programs and similar ones nationwide are astounding. Perhaps the most important aspect of preventive dentistry for patients of all ages is the use of fluoride, which began in earnest more than 20 years ago with the introduction of fluoride toothpaste. Recent studies have shown a 30 to 50 percent overall reduction in enamel decay as a result of fluoride programs. Periodontal disease, which affects the gums and is linked to premature tooth loss in older Americans, also is declining, the onset coming later in life and in less severe forms.

In addition to fluoride treatment, dental and dental hygiene students and many private dentists have begun using fissure sealants to protect the grooves and pits of the teeth that fluoride can often miss. The sealants are made of a plastic material that is etched onto the enamel of the tooth and fills the tiny holes where bacteria grow.

"Historically, dental hygiene is based on promoting wellness rather than treating disease, and that history underlies our curriculum," says Margaret Ryan, head of dental hygiene.

"The sealants may cost about \$10 a tooth to apply, but 70 to 80 percent of them are still there five years later," says Dr. Arthur Retzlaff, professor and chair of pediatric dentistry.

Still in the research stages is potentially an even more effective preventive measure: an oral vaccine that would rid the body of the caries-causing bacteria called streptococcus. Researchers at Boston's Forsyth Dental Center are currently testing the vaccine on persons who are not naturally immune to the bacteria, and estimate that the vaccine will be marketed nationwide in the next three to 10 years.

"With all these preventive measures and general oral hygiene like brushing and flossing, there should be no reason to get tooth decay," says Retzlaff.

In addition to fluoride treatments and oral hygiene instruction, the OHSU also offers its patients individualized nutritional

counseling. In connection with the School of Dentistry's Division of Nutrition, students analyze a patient's diet for general nutritional content and especially for its link with tooth decay. They follow with patient education and instruction about dietary changes which could result in better health and stronger teeth.

In special cases, students conduct computerized dietary analyses, which examine patients' three-day food journal and compare nutritional content with recommended daily allowances.

As in many aspects of prevention, education is the key to successful nutritional counseling.

"We will talk to parents of a child with caries and find out what the family eats, then try and modify those habits so they're more nutritionally sound," says Dr. Tom Shearer, who directs the School of Dentistry's nutrition program. "For example, we would try to have crackers substituted for a candy bar, or milk substituted for a soft drink. We also would encourage the parents to move snacks closer to meals instead of while watching TV, because studies show that caries are not as easily promoted during meals."

In an effort to better understand the specific nutritional needs of the elderly, Dr. David Rosenstein, professor and chair of public health dentistry, will soon begin a research project using patients from the Russell Street Clinic in Northeast Portland. The project, funded by a grant from the U.S. Public Health Service, will provide dentures for patients who have lost their own teeth and cannot afford to buy dentures.

"About 25 percent of the people who no longer have their natural teeth also don't have dentures," Rosenstein said. "We will be using part of the grant money to provide them with dentures to find out if their nutrition improves with dentures. Very little research has been done in that area to date."

"It may seem like dentists are working to put themselves out of business, but they will always be needed," says Retzlaff. "The emphasis will be on different things, such as periodontics and geriatric dentistry."

At the Dental and Dental Hygiene Clinics patients may receive treatment for a variety of oral diseases. For more information about how to become a patient at the clinics, call 225-8867.

Clinic helps workers stay healthy while on the job

You've been getting a lot of headaches lately. You usually notice them first while you are working. Often they come after doing the same task each day. The headaches get worse late in the day and late in the week, but seem to get better in the evenings, on weekends or during vacations. Others at work seem to be suffering the same problem.

Those headaches may be telling you something, says Dr. Doug Linz, assistant professor of medicine. They may be a sign of a work hazard, perhaps the effect of inhaling fumes from a toxic chemical, one of the more common culprits.

Linz hears and investigates complaints of this sort nearly every week as a physician in the Occupational Health Clinic at University Hospital. There he and other clinic staff members evaluate and examine people who call about illnesses or ailments they think are associated with their work.

The clinic opened in the summer of 1982 after several labor unions requested an "objective third-party diagnostic center." Linz co-directs the clinic along with Dr. William Morton, head of the Division of Environmental Medicine, and Patricia de Garmo, a nurse practitioner. Joining them are Dr. Carl Lawyer, a volunteer clinical professor, and Dr. Adrienne Feldstein, a resident physician, both in the Department of Medicine.

The clinic meets Tuesday afternoons on the third floor of the outpatient clinic. It is open to the public.

Several hundred patients have visited the clinic since it opened. Most come to the clinic with established symptoms or illnesses.

Linz says he and his colleagues see people with a variety of problems, including neurologic or pulmonary complaints. Often those complaints result from chronic exposure to chemicals, dust, asbestos or lead. Their symptoms may include headaches, numbness or tingling in hands and feet, loss of memory, changes in personality or shortness of breath.

Linz says the clinic staff wants to hear more from people who feel well but who are concerned because they work around substances or under conditions that may be harmful. He encourages people to call

the clinic for a checkup or for advice on how they can prevent potential ill effects from those substances or conditions.

"We would be very interested in expanding on the preventive help we can offer people," Linz says. "It is a good thing to know what you are working with."

Although peoples' interest in protecting themselves while at work is growing, workers still commonly do not know of or ignore the dangers of their job, Linz says.

"There is an attitude among workers that there are certain inevitable risks associated with any type of employment," he says. Some see other workers who don't take precautions, such as wearing a mask, and they may discount any danger.

"It's an 'I can take more than the next guy' sort of an attitude."

On the other hand, others may be too worried about their workplace, Linz says. Common sense should prevail.

"It is possible for people to do most kinds of work if they pay appropriate attention to various potential problems."

Linz says the clinic staff has helped many different kinds of workers — oyster shuckers, industrial painters, shipbuilders, millwrights, to name several. Few of his patients, however, work in offices, which is not to say office workers need not be concerned with their working conditions.

"The people who have those kinds of jobs are under a false impression that so-called clean work is not associated with any hazards."

Anyone who works in an office may be exposed to many different toxins, Linz says. For example, secretaries who use certain types of treated paper can, over time, develop a sensitivity reaction.

Linz offers a few words of wisdom for everyone. He includes homemakers and hobbyists, who can be exposed to a wide variety of hazards, not the least of which are chemical cleaners.

"People spend one-quarter to one-third of their time working, and little is known about the risks of certain chemicals they use. People need to realize that so-called safe products may be responsible for causing health problems."

Common sense precautions include using gloves, working in adequately venti-



The Occupational Health Clinic staff advises workers to take precautions, such as wearing masks, when working around toxic chemicals.

lated areas, handwashing and reading and heeding advice on product labels.

Those who do avail themselves of the university's Occupational Health Clinic will be asked to fill out a detailed questionnaire about their health, the work they do and their worksite. They will then be asked to come in for an examination and laboratory testing, which will take most of an afternoon. Sometimes clinic physicians will visit the worksite to get more information.

Results from the exam and lab test will

be summarized and mailed to the patient, along with recommendations from the clinic staff about steps that can be taken to keep the problems from recurring.

Sometimes lifestyle changes may be suggested to minimize dangers of exposure. For example, people who work around dust may be urged to stop smoking and those who work around solvents may be encouraged to keep from drinking alcohol.

For more information about the Occupational Health Clinic, call 225-7967.

Immunizations protect traveler

Paradise island could be paradise lost for vacationers who don't take proper medical precautions before leaving home.

People who travel abroad should know and heed the recommended and required immunizations for the countries they plan to visit. They should also familiarize themselves with ways of preventing travelers' diarrhea and malaria, still the world's most widespread human infectious diseases.

To help send travelers on a medically safe journey, the Oregon Health Sciences University provides the Overseas Immunization and Disease Prevention Clinic.

Under the direction of Drs. Alan Hartstein and Richard Bryant, the clinic offers medical evaluations related to communicable infections, necessary or recommended immunizations, a review of malaria and diarrheal illnesses and how they may be prevented, and an International Certificate of Vaccination.

Clinic staff members keep themselves up-to-date on disease outbreaks around the world and on the latest immunization requirements of all countries.

"We are prepared to provide anything that a person needs to travel to a given country," says Hartstein, who is also head of University Hospital's Infection Control Unit.

He cautions, however, that the person's ongoing medical needs are best reviewed by his or her own physician.

For more information about the clinic, call the Division of Infectious Diseases, 225-7735. The clinic meets Friday mornings on the third floor of the Outpatient Clinic. Appointments are required.

Health promotion takes many forms at OHSU

(continued from page 1)

Elliot, assistant professor of medicine, edited a just-published edition of the medical journal, *Medical Clinics of North America*. The edition concentrates solely on exercise prescription.

These three works represent just a small fraction of the materials and services generated by the OHSU in the area of health maintenance and preventive health care.

This issue of the *OHSU News* will introduce readers to many related university programs and undertakings, such as the Family Heart Study; the Human Performance Laboratory; the Well Baby, Occupational Health and High-Risk Cancer Family clinics, and research on fitness, cholesterol and cigarette smoking.

The OHSU students of today will be the health care professionals of tomorrow, and readers will find that health promotion

and disease prevention are at the heart of the education of every dentist, nurse and physician at the OHSU.

There was a time when health care providers were lonely voices calling for patients to do more to keep themselves healthy, but that has changed.

"In years past, physicians encouraged patients to incorporate good health habits into their lives, but folks weren't sure it was pertinent. The physician's words were isolated and interpreted as sterile medical advice. We hadn't really made the good links between lifestyle and illness," says Taylor.

Those links have been and continue to be made to the satisfaction of millions of Americans. The 1964 *Report to the U.S. Surgeon General* warning about the hazards of cigarette smoking was among the first and most important documents

tying behavior to illness.

Taylor also cites the Alameda County, Calif., study published in 1972 and updated in 1980. It confirmed the health value of following certain simple practices: sleeping seven to eight hours a day, maintaining desired weight, exercising regularly, never smoking cigarettes, using alcohol moderately or not at all, eating breakfast daily and not eating between meals.

The Alameda study has served as a benchmark for subsequent research that continues unabated today. And Taylor says the health sciences are not about to relent in their pursuit of knowledge that will enable people to feel and look the best they can.

"Health promotion is the health care of today and tomorrow," says Taylor, "and the OHSU is on the cutting edge of what is happening."

FOCUS ON WELLNESS

NEWS
OHSU

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

An equal opportunity, affirmative action institution
Address correction requested

Non-Profit Organ.
U. S. POSTAGE
PAID
Permit No. 722
Portland, Oregon