

UNIVERSITY OF MINNESOTA

# MEDICAL

BULLETIN

SPRING 1988

**Medical  
School  
Researchers:  
Tracking the  
Elusive  
*Giardia***

A PUBLICATION OF THE MINNESOTA MEDICAL FOUNDATION

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**On the Cover:** Dr. Stan Erlandsen is stalked by a giant *Giardia*. (Costume courtesy of Trend Scientific, Inc. of New Brighton, MN.) Photo by Nancy Mellgren.

**The Minnesota Medical Foundation** was founded in 1939 by a dedicated group of faculty members and medical alumni who saw the need for private support to build a strong future for the Medical School. A non-profit organization, MMF raises and disburses funds for medical education and research at the University of Minnesota Medical Schools in the Twin Cities and Duluth.

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## **Education in Medicine: Protecting Age-Old Traditions**

**A**ll physicians recognize the importance of serving as each other's teachers. They all recognize the importance of learning. Self- and group-education by physicians has become an expectation of those in the profession as well as of the public. The need for learning through consultation with colleagues and through formal education is ongoing and never-ending.

It takes exceptionally well-educated and learned physicians to recognize and share with their patients their limitations of knowledge and understanding, their need to recognize the value of the prized expression, "I do not know," and their need to seek advice openly while at the same time conveying appropriate confidence and humility.

The physician must also be the patient's teacher. Yet this most humbling responsibility can be accomplished effectively only if the teacher has both the appropriate knowledge and the tools of communication. I recently had the opportunity to listen to a conversation between two physicians — one who was the patient of the other — concerning the complex issues of the use of anticoagulants to prevent recurrence of pulmonary embolism after a severe fracture. I was pleased that the physician care-provider conveyed to the physician-patient in understandable terms the state of knowledge of therapy for this precarious therapeutic dilemma, the choices for the patient, and the recommendations. The patient was able to participate in his own care because of the expertise of the physician in science and medical experience with the subject, as well as because both are teachers.

We must now be concerned that these age-old traditions of education in medicine may be compromised by externally imposed constrictions of financial productivity. Will there be time for the physician as educator and as learner? How many organizations of health care delivery expect and plan to set aside time for education and intellectual inquiry? What time constraints are placed upon the patient-physician relationship which prevent that relationship from reflecting the teacher and the learner? These are values which are intrinsic to the Hippocratic Oath taken by all physicians. These values must be cherished, protected, and maintained, regardless of the pressures and expediencies of contemporary society.

David M. Brown, M.D., Dean  
University of Minnesota Medical School

The page features several purple line-art illustrations of Giardia organisms. These organisms are pear-shaped with two large, circular nuclei, each containing a smaller, darker spot. They have several long, thin flagella extending from their bodies. The illustrations are scattered across the page, with some appearing to swim or move.

# Tracking the Elusive *Giardia*

**The negative effects of *Giardia* organisms are felt worldwide, but Medical School researchers are on their trail.**

*By Jean Murray*

*. . . wherein I have sometimes also seen animalcules a-moving very prettily; some of 'em a bit bigger, others a bit less, than a blood-globule, but all of one and the same make. Their bodies were somewhat longer than broad, and their belly, which was flatlike, furnisht with sundry little paws . . .*

— Anton van Leeuwenhoek, 1681

**R**eal *Giardia* organisms, unlike the charming character on the cover, hold little appeal for most of us, but to Dr. Stanley Erlandsen they're a source of constant excitement.



*Giardia* cyst undergoing excystation to release new trophozoites.

"You can tell I love my work," says Erlandsen, professor in the Medical School's Department of Cell Biology and Neuroanatomy, as he leads visitors through a lab filled to the ceiling with all the elements of his research — papers, books, slides, microscopes, test tubes, and photos of *Giardia* on all available wall space.

Erlandsen is in the business of tracking and studying the single-celled protozoan, *Giardia*, and the intensely uncomfortable intestinal illness it causes, giardiasis. Characterized by diarrhea, flatulence, belching, nausea, anorexia, vomiting, fatigue, and cramps, *Giardia* infections can be mild and self-limiting, or can last months or years.

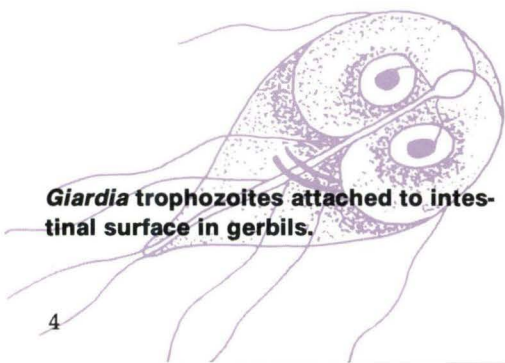
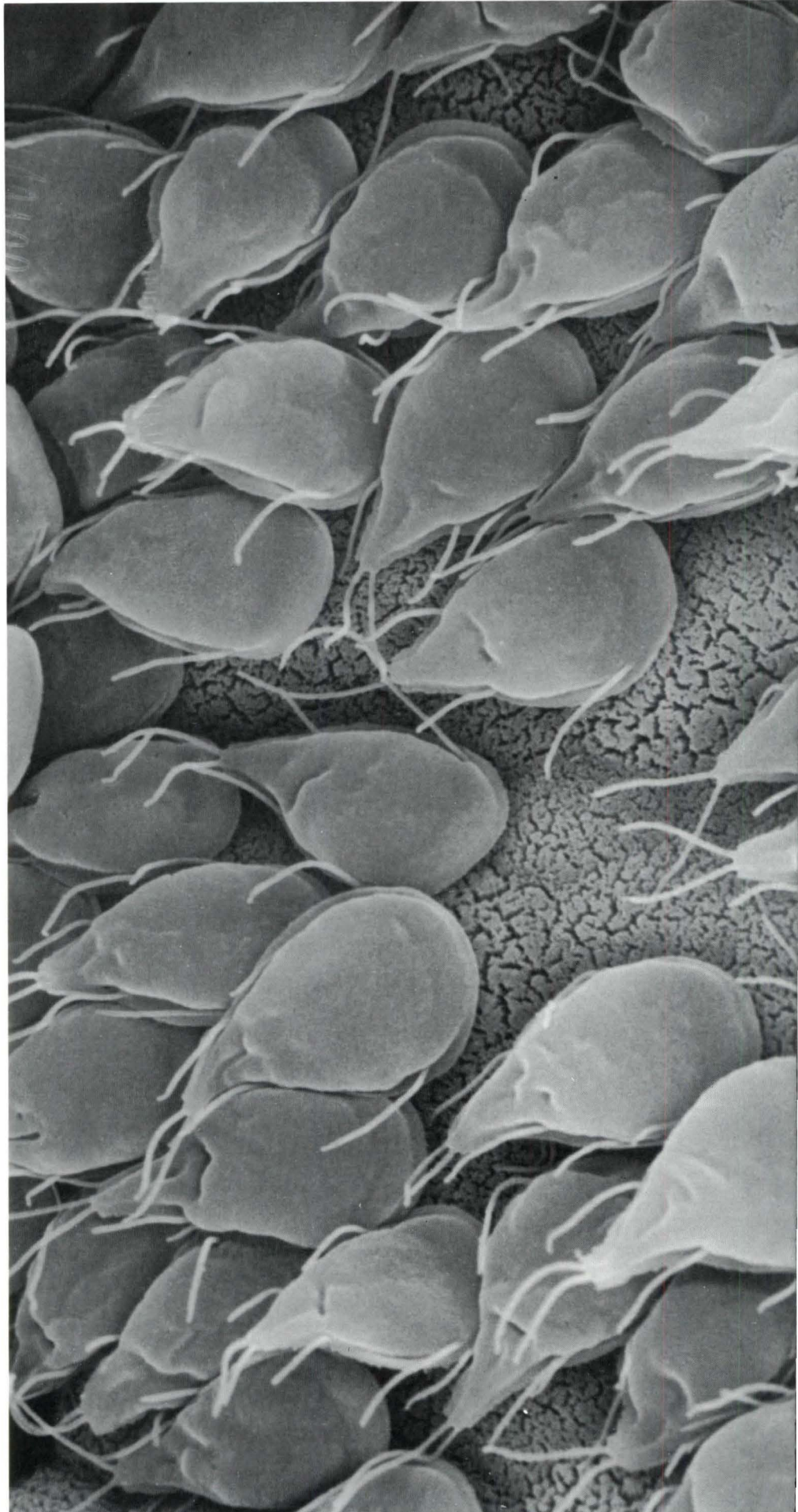
Most people are ill for about a week, and then recover. Others, especially those under stress or with immune deficiencies, may be ill for much longer periods of time. Severe giardiasis can cause dehydration and weight loss from malabsorption of nutrients.

## From babies to backpackers

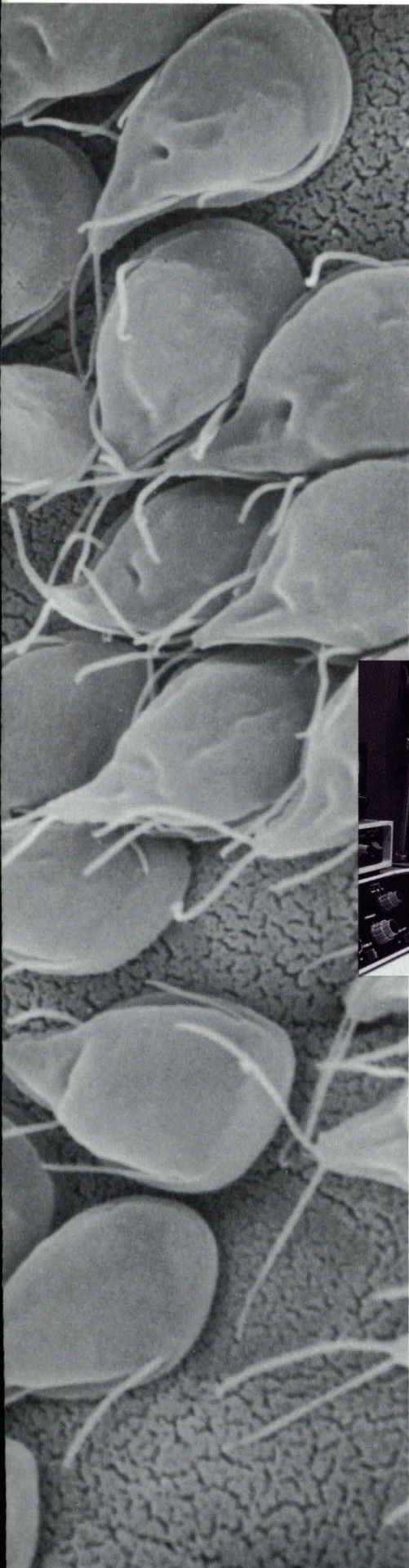
Giardiasis has become the most prominent parasitic disease in the United States, inflicting thousands of people annually, and is well-known throughout the world. Commonly affected are backpackers who drink untreated water from lakes and streams, families with children in daycare centers, and travelers to foreign countries.

According to Erlandsen, "Contaminated water may serve as a source of infection for individuals either in a wilderness situation or it may involve large numbers of people that obtain drinking water from a contaminated reservoir or watershed."

Frequently called a backpacker's disease, giardiasis is often picked up by campers who drink untreated water from lakes and streams. These same campers and hikers are often responsible for spreading the disease by ignoring outdoor toilets provided in parks and wil-



**Giardia trophozoites attached to intestinal surface in gerbils.**



Dr. Stan Erlandsen and L.A. Sherlock.

derness areas, and by careless disposal of their waste. They may empty the toilets from their recreational vehicles into rivers or drop disposable diapers into lakes and streams, escalating the potential for infection.

Many wilderness areas are now providing information on *Giardia* to their visitors, urging them to be extremely careful in disposal of wastes and to take precautions with their drinking water. *Giardia* cysts are killed by heat, and boiling water for several minutes is considered much more effective for treating drinking water than halogen tablets or chlorine.

In a study by state epidemiologist Michael Osterholm, it was found that people who drank stream water were far more likely to develop the disease than those who drank lake water, leading to the conclusion that the rushing, tumbling stream water keeps the *Giardia* cysts from settling, as they do in lakes.



Nancy Mellgren

**The JEOL 100cx transmission electron microscope greatly magnifies the *Giardia* cyst, allowing Dr. Erlandsen to observe the structure of the cyst wall.**

Public water supplies can also harbor *Giardia* if the water is inadequately treated. Most outbreaks occur in small communities and recreational areas where there is inadequate disinfection and lack of filtration. Contamination of water mains through cross-connections, repair, and damage also accounts for a number of giardiasis cases each year.

Polluted water supplies in foreign countries have proved the downfall of many travelers as well. Unlike "Montezuma's revenge" and other forms of dysentery, however, giardiasis has a 7 to 10 day incubation period and lasts about a week after onset of symptoms.

Leningrad has historically been a troublesome spot for travelers, with the polluted Neva River considered the culprit for repeated outbreaks of giardiasis in

tourists. Sporadic waterborne outbreaks of giardiasis have also occurred elsewhere, generally thought to be caused by consumption of tap water from inadequately treated water supplies.

But far surpassing wilderness and travel-related infection, according to Erlandsen, is the growing prevalence of giardiasis in daycare centers. Since giardiasis is a fecal-oral disease which can be spread by food, water, or person-to-person contact, babies and children needing frequent diapering offer prime opportunities for contagion.

Young children often carry giardiasis without having symptoms of it themselves. It's the parents who get sick. An outbreak of the disease in California was traced to potato salad prepared on a table at a daycare center where someone had changed a diaper. Even though the table had been washed, some *Giardia* cysts remained. Another outbreak in a small Minnesota town was traced to a woman who, after diapering her grandson, prepared a salmon salad for a group of school employees. Despite thorough washing of her hands, some *Giardia* cysts remained, possibly underneath her fingernails, and over 90 percent of the people eating the salad contracted giardiasis.

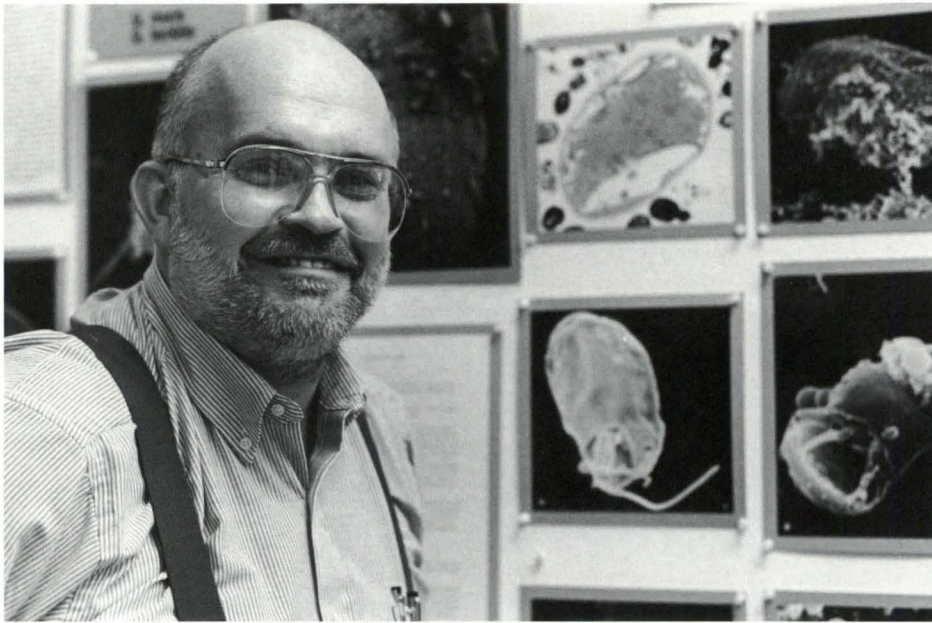
Residents of a senior citizens' home in Minnesota became ill as a result of cooks infected with giardiasis preparing food for both the seniors and the children attending a daycare center at the same location. Tracing the mode of transmission was complicated by a "grandparenting" program creating interaction between the two age groups, thus exposing the individual groups to the same food as well as each other.

Diagnosis of giardiasis can be difficult, since *Giardia* cysts are shed only intermittently and are difficult to find in stool samples, but today physicians and public health officials are much more aware of the illness and more likely to test for it and diagnose it.

Several drugs are available for treatment. Most commonly used are quinacrine (Atabrine) and metronidazole (Flagyl). Symptoms are usually alleviated rapidly, although some people are resistant to the drugs and others may experience side effects such as nausea and intestinal upset.

### How it triggers illness

The *Giardia* organism causes illness by mechanically damaging the microvillous



**Dr. Erlandsen and colleagues have photographed many stages of the *Giardia* organism.**

lining of the upper small intestine, unlike many bacteria which produce toxins or chemicals that cause illness.

The active stage of the protozoan's life cycle, called the trophozoite, lives and reproduces in the upper part of the small intestine. As they are excreted they form cysts, a dormant stage shed with the feces. Stomach acids activate ingested cysts, releasing new trophozoites into the small intestine.

The *Giardia* organisms act like leeches, attaching to the intestinal surface by means of a suction cup-like structure, the ventral disc. When not attached, the flagella-propelled trophozoites swim, roll, and twist. Where they detach, they leave round marks (lesions) in the microvillous border, something like marks left in a pile rug by furniture.

Since the enzymes responsible for absorption of proteins and sugars are associated with the microvillous border (rug surface) of the intestinal cells, damage to this surface restricts absorption of nutrients and leads to diarrhea.

A problem with combating an organism like *Giardia* is that it doesn't normally penetrate the body. It remains inside the intestine, and therefore it is not exposed to antibodies in the blood. "The organism is considered a noninvasive parasite," says Erlandsen.

Eventually, however, most people develop an immunity. If the infection causes sloughing of the intestinal epithelia, some *Giardia* cells may gain access to the lymphatic system, and these few

invasive cells could trigger the immune system. Or, more likely, the overgrowth of the parasite may lead to such large numbers of cells that breakdown products of these cells cross the epithelium and trigger a local, and even a systemic immune response, as evidenced by both circulating antibodies and the secretion of antibodies into the intestinal lumen. The latter may play a role in limiting the course of infection within the host.

### Don't blame the beaver

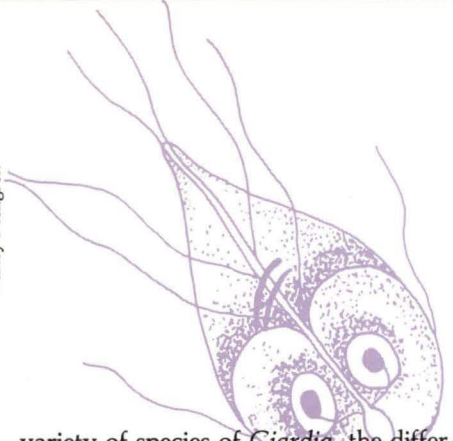
Giardiasis is now considered the leading waterborne epidemic parasitic disease in the United States, and one of the most prevalent intestinal diseases found worldwide.

Dr. Erlandsen, along with colleague Dr. William J. Bemrick of the College of Veterinary Medicine, is involved in a number of studies researching how the *Giardia* organism is transmitted, and in particular, whether there is cross-transmission between animals and humans.

In a report seeking to determine whether giardiasis exists as a zoonotic — a disease of animals transmissible to humans — Erlandsen details his research with a number of animals, including the often-implicated beaver. He states, "A definitive host animal source of *Giardia* cysts found in any water cannot be assigned to any single species of animal based on the currently employed light microscopic and serological methods."

Erlandsen's research focuses on the

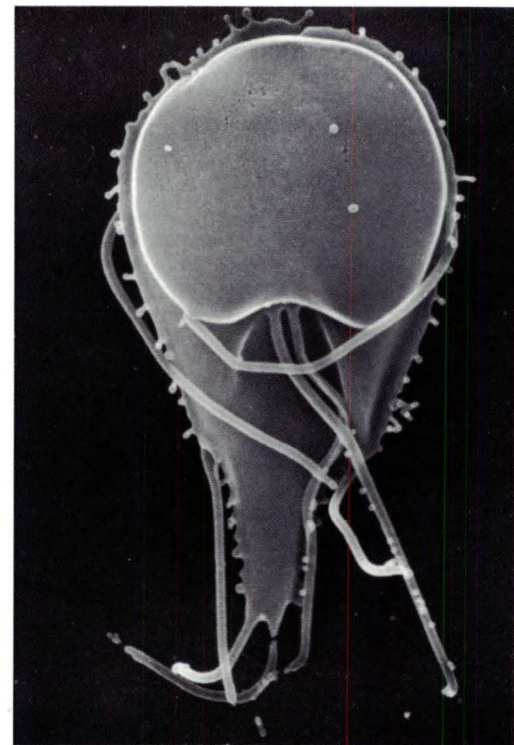
Nancy Mellgren



variety of species of *Giardia*, the differences providing clues that would seem to dispel the popular notion of "beaver fever." He writes, "While it is possible to infect beavers and muskrats with human *Giardia*, in nature each of these two animals appears to harbor a *Giardia* species that is morphologically different from those in man."

He also notes, "Another interesting observation regarding animals, other than humans, as the source of infection, would lead to an odd paradox. If the beaver were the major source of cysts in the water, as has often been suggested, then why have waterborne outbreaks of giardiasis never been detected more than once at any specific site, despite the fact that the populations of animals have essentially remained unchanged over the past decade? These animals should have been acting as a constant source of cysts during this entire time."

"With *Giardia*," Bemrick writes, "this (zoonosis) probably very rarely occurs. It



**Ventral surface of *Giardia* trophozoite showing attachment disk and flagella.**



would seem that wild animals, or perhaps even birds, which also contain a type within the *Giardia duodenalis* species or group, may occasionally have the potential to serve as a reservoir of human giardiasis in nature. When this happens these animals (birds?) are simply functioning as biological intermediaries for the human *Giardia*, having obtained their original infections from man.

"One should perhaps consider wild and domestic animals to be potential human parasitic reservoirs," according to Bemrick, "rather than sources of a zoonosis. Reservoir hosts are simply, by definition, living sources of infection. Unless one can unequivocally establish that *Giardia* observed in a specific human infection is definitely a species of animal origin, then any statements indicating that the existing giardiasis is a zoonosis should not be made."

Erlandsen and Bemrick have just been granted \$245,000 from the Environmental Protection Agency (EPA) to research "Giardia in Birds: Prevalence, Infectivity, Culture, and Animal Models." Preliminary research, funded by the Minnesota Medical Foundation, provided the groundwork which led to the grant.

The study, based in Minnesota and Maine, will ask the following questions: 1) Are all species of birds associated with a water habitat infected with *Giardia*,

and are there geographical differences in the distribution of infected birds?


2) What levels of *Giardia* cysts are found within the feces of infected birds? 3) Are the *Giardia* in birds different from those in mammals? 4) Are the *Giardia* naturally found in birds infective for mammals? and 5) Can birds serve as host for mammalian origin *Giardia*, including those derived from man?

Another research project currently underway, funded by the Minnesota Medical Foundation, is titled, "Viability of *Giardia* cysts in Lake, River, and Tap Water." Dan Deregner, a graduate student working with Erlandsen, is studying the survival rate of *Giardia muris* cysts in environmental water sources, including two different depths of lake water, and in river water. The survival of human cysts in water for a period of two to three months under laboratory conditions has suggested that cysts may survive for similar, possibly even greater periods of time in cold water sources in the natural environment.

Erlandsen has also recently applied to the National Institutes of Health for a \$400,000 grant for the purchase of a scanning electron microscope which would further unravel the mysteries of the *Giardia* organism.

Great progress has been made in understanding both the organism and the

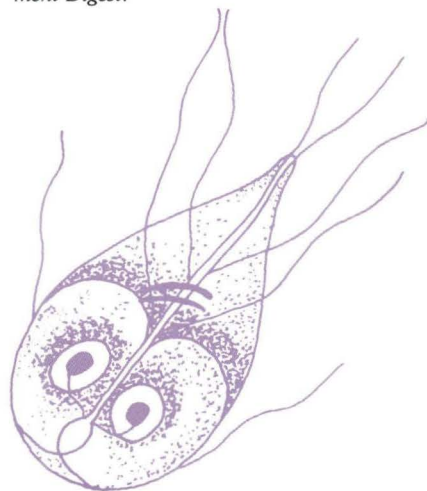
disease it causes. But many questions remain. "Some animals can harbor human species of *Giardia*, but it is still not clear if they can transmit it back to man," says Erlandsen. "Many animals have their own separate strain, which may not infect man at all. People unwittingly may be misusing the environment, infecting both themselves and the animals. There has never before been a serious attempt to check animals and birds. We are trying to do that."

Stan Erlandsen has been studying *Giardia* for close to 20 years, but continues to be thrilled each time a piece fits into the puzzle. Until the picture is complete, however, prevention is the best line of defense against infection from *Giardia* — handwashing in daycare centers, boiling of drinking water in the wilderness, adequate filtration systems in community water supplies. For, as Erlandsen says, "The symptoms produced in some individual infections are well-known, and must be experienced to be appreciated. Once experienced, they will never be forgotten." 

Resources for this article include reports by Drs. Stan Erlandsen and William Bemrick, and by Barbara Scott Murdock, editor, *Health & Environment Digest*.



Nancy Mellgren



**The giant *Giardia* is no match for the extensive research being conducted by Dr. Erlandsen and his colleagues.**

# TEEN SUICIDE

## Searching for Answers to a Growing Tragedy

University of Minnesota psychiatrists have developed a suicide prevention curriculum that will be pilot-tested in Minnesota high schools this spring.

By Michael Moore

### 2 Teens found dead in car; 3rd in serious condition

...The Washington County Sheriff's Department said it was investigating the deaths as possible suicides. Officials said they also were investigating the possibility that the deaths may be connected to the suicides last month of two friends of the teenagers.

— Star Tribune 1/11/88

**T**he words hit with a numbing impact. Teenage boys — friends — why? If it were an isolated incident, it could be dismissed as a tragic aberration. But the staggering reality is that it is but the latest in what seems to be a trend of such teenage suicide pacts. And these pacts are but a bizarre twist in the spiraling 300-percent increase in youth suicide since the 1950s.

Dr. Barry Garfinkel, associate professor and director of child and adolescent psychiatry at the University of Minnesota Medical School, has been studying youth suicide since 1972. He came to Minnesota in 1984 from the Department of Psychiatry at Brown University, where he was director of medical education in child psychiatry.

For the past 2½ years, Garfinkel has surveyed suicidal behavior among Minnesota adolescents, funded by grants from the Minnesota Medical Foundation, the James R. Thorpe Foundation, the Andersen Foundation, and Donald M. Jerpak. The resulting profile of suicide-prone junior and senior high school stu-

dents has provided the scientific basis for a screening and prevention program that will be pilot-tested in several Minnesota high schools this year.

Suicide is the second leading cause of death for American youth, behind accidents. Minnesota's teen suicide rate in 1986 was double what it was in 1985 and triple the 1984 rate. In 1986, 77 teenagers age 15 to 19 took their lives, a rate of 24 per 100,000. It is more than likely that many more teen suicides are recorded as accidents because depressed teens often combine alcohol, drugs, and reckless driving.

Teen deaths from suicide are only the tip of the iceberg of teen depression and self-destructive behavior, Garfinkel says. He and colleagues Dr. Paula Clayton, professor and head of the Department of Psychiatry, and Dr. Harry Hoberman, assistant professor of child and adolescent psychiatry, have surveyed approximately 12,000 Minnesota youth. They have found a startlingly high frequency of suicidal behavior. "At any point in time, 3 percent of any high school student body we have studied have attempted suicide in the past month." For every one youth suicide in Minnesota, there are 350 attempts, Garfinkel says. Statistics show that 10 percent of those who attempt suicide will eventually succeed.

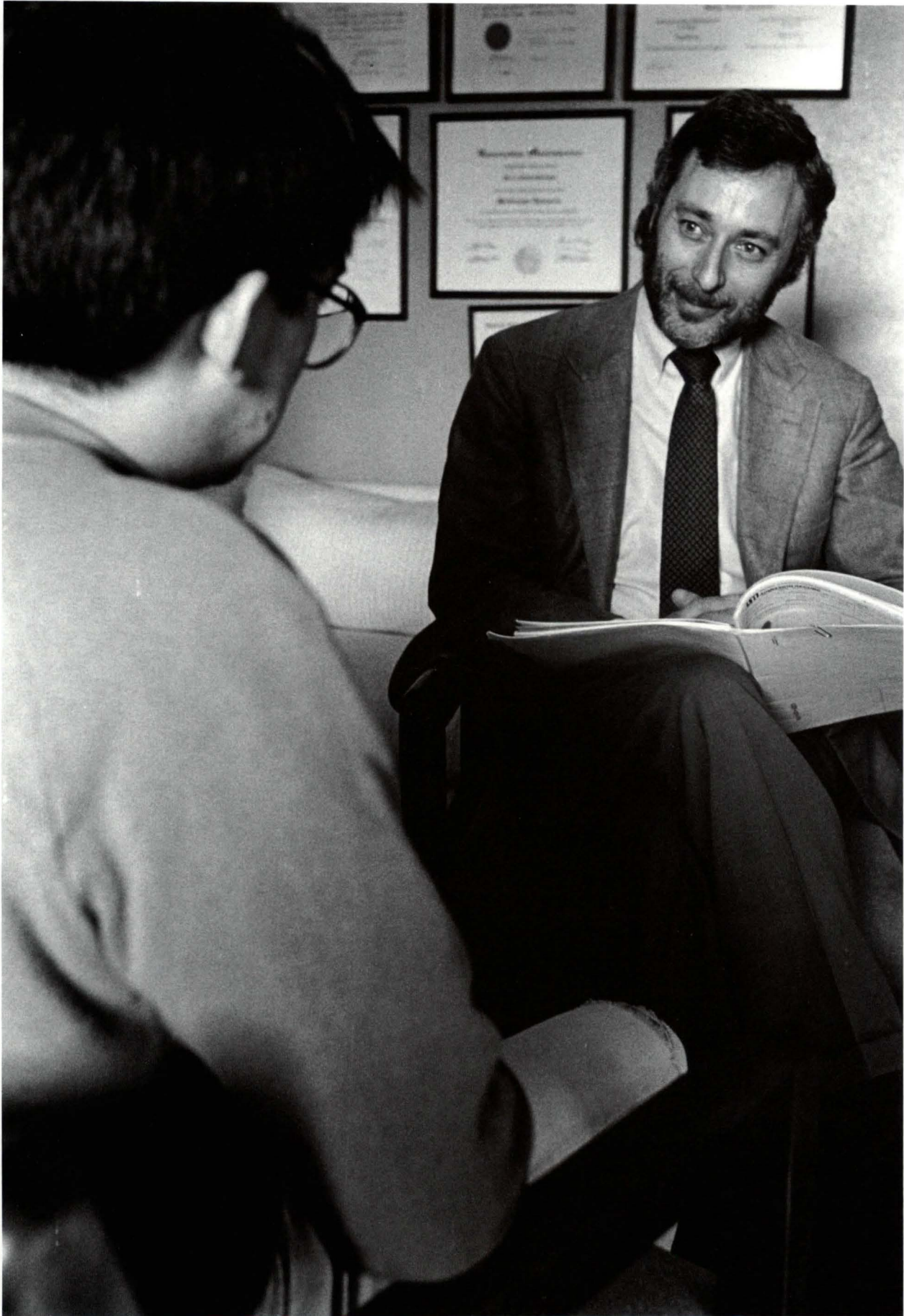
Garfinkel and colleagues first surveyed 3,600 teens in 52 nonmetropolitan Minnesota counties in 1985-86. They then surveyed 8,400 teens in the seven-county Twin Cities metropolitan area. The rural

teens, especially those living in northern Minnesota's economically depressed Iron Range, had a significantly higher rate of suicide. "We think this is related to financial concerns being an additional burden on a depressed teen, plus the effect of depressed parents who are not available emotionally to help with problems," Garfinkel says.

A closer look at adolescents who have attempted suicide reveals that far more girls than boys attempt suicide, but four times more boys die from suicide. Why the differences? "We're not sure why girls attempt suicide more often but succeed less often," Garfinkel says. Some of the difference is explained by statistics that show that girls who attempt suicide are more likely to take a drug overdose, while boys more often use a gun. "It could be that boys are much more impulsive and know exactly what will cause death, so they succeed the first time. We do know that the girl who attempts suicide is at much higher risk of repeated attempts the rest of her life."

The preponderance of boys committing suicide "tells us that boys don't go for help," Garfinkel says. "It's not macho to ask for help. During adolescence we're promoting independence and autonomy and learning to be self-sufficient. At the same time, we're saying 'When you need help, ask someone, go for help.' We're giving conflicting messages, especially for

**Dr. Barry Garfinkel has been studying youth suicide since 1972.**



Nancy Mellgren

boys, because it is not socially acceptable to say 'I have troubles, I need to talk my troubles out with another person.' "

Even when depressed teens do overcome the social stigma against asking for help, they are not very likely to find it. "They'll turn to their peers three out of four times, and to professionals infrequently. And they'll almost never turn to their parents," says Garfinkel. When the researchers asked depressed teens who they could most use help from, 75 percent said friends, 18 percent said parents, and 7 percent said professionals such as a teacher, counselor, psychologist, or psychiatrist.

The depressed teen's friends may be able to empathize with his or her problem, but they don't have the life experience to suggest solutions or coping strategies. Garfinkel says adults should "tell kids that when you hear someone talking about suicide or hear someone that is very troubled, take it on yourself to make sure they get help. Don't try to be the therapist or counselor."

This message is included in a suicide prevention curriculum that will be piloted in Minnesota high schools this spring. The program was developed in conjunction with the University Extension Services, with funding from the Minnesota Medical Foundation. It was designed to be given in junior and senior

high school health classes. "It will tell youngsters who are depressed what they can do so they don't have to turn to suicide as the only solution," Garfinkel says.

The program will also discuss the tragic — and often fatal — mistake of turning to alcohol and street drugs in an attempt to shake depression, Garfinkel says. "We find that there is a marked overlap with chemical abuse and antisocial patterns in the depressed and suicidal youngsters. The depression gets obscured by delinquent, antisocial, and chemical abusing patterns. In a third to half of the suicides in Hennepin and Ramsey counties, the actual suicide plan was made while the teenager was intoxicated. What this shows is that many kids will use drugs and alcohol to disinhibit themselves so they can act out their suicidal impulse."

The traditional image of the lonely, socially isolated, depressed teen still describes the majority of teen suicide attempters and victims. But Garfinkel and other researchers have identified additional factors that can improve screening of teens at risk for suicide.

Garfinkel's study of suicide clusters in Brainerd, Mankato, Stillwater, and most recently Forest Lake, have suggested that schools need to help students cope better with the death of a classmate. "We found

that the precipitant to the clustering of suicides doesn't originate with a suicide, but rather as a response to the accidental death of another young person known to the young people who ultimately commit suicide," Garfinkel says. "They grieve and mourn the loss of that person, who died through a hunting or automobile accident, and they respond through suicide.

"Imitation is clearly a significant factor in youth suicide. Our survey has shown that those who attempted suicide often knew of a friend who either attempted or committed suicide. Social learning can't be minimized. Having that role model makes it much more likely that suicide will be seen as an option or something to experiment with," Garfinkel says.

Is imitation also encouraged by media reports or dramatic portrayals of suicide? Two 1986 studies found that television coverage of suicide, either in news reports or movies, prompts more teen deaths. But a 1987 study found a slight drop in teen suicides in California and Pennsylvania after three televised movies on suicide. Garfinkel urges caution in media coverage: "With youth suicide, we have to be very careful in putting stories on television and into newspapers, because youngsters are very impressionable. There is some evidence that the more descriptive and graphic (the

Dr. Garfinkel and his colleagues surveyed 12,000 Minnesota teenagers over the past 2½ years. The following figures resulted from the studies.

### "Bad" Life Events Experienced in Last Six Months

	Suicide Attempters	Others
Breakup with boy/girlfriend	51%	25%
Trouble with brother/sister	42	17
Change in parents' financial status	38	17
Parents divorce	37	1
Losing close friend	33	11
Trouble with teacher	26	12
Change to new school	26	5
Personal illness/injury	25	7
Falling grades	23	6
Increase in arguments with parents	21	13

### Knowledge of Suicide

	Attempters	Others
Someone attempted suicide in school		
Within 1 mo.	56.0%	27.9%
6 mo.	72.4	51.1
Someone completed suicide in school		
1 mo.	33.3	7.5
6 mo.	28.5	19.2
Family member attempted		
1 mo.	8.5	0.8
6 mo.	11.7	2.3
Family member completed		
1 mo.	2.3	0.5
6 mo.	4.4	1.7

### Method

Overdose	37.5%
Laceration	34.4
Gun	12.5
Jump	4.7
Hanging	3.1
Carbon monoxide	1.6

### Suicidal Thoughts and Behavior

	Attempters	Others
Thought about committing suicide in last month	69.1%	14.1
6 months	87.3	23.0
Attempts in last month	47.6	
Wanted to die from injury	39.7	
Chance of being rescued	55.6	

account or story is), the more one can model after that other individual."

A family history of suicide is another factor schools should be aware of, Garfinkel says. A study conducted in Denmark and published in 1986 found that children reared apart from their biological parents had the same rates of depression and suicide as their biological parents, rather than their adoptive parents. "Our studies support that suicide clearly runs in families," Garfinkel says. "There appears to be both modeling or social learning going on as well as a genetic predisposition, with the genetic effect being somewhat more powerful than the learning factor."

An adolescent's family history can include other risk factors, such as loss of a parent or sibling through death or separation. But Garfinkel points out that there are also less obvious sources of loss that can trigger suicidal behavior. "We often look for the person who has lost a parent or sibling. We would all agree that these are profound losses, and this person should be watched.

"But with teenagers, the loss is entirely idiosyncratic. So maybe not making the varsity basketball team, or getting turned down by a girlfriend, or getting a less-than-perfect grade in a special subject, depending on how these events are perceived internally by the adolescent, can be as profoundly upsetting to the youngster as a very significant loss we would all agree on. Many of the upsetting experiences and stresses that youngsters are exposed to are in conjunction with an ongoing depression, so it's like a one-two punch that compounds their problems."

Teen pregnancy was a possible factor in 1.7 percent of the suicide attempts, and abortion was the overwhelming choice for resolving the problem. Contrary to previous studies of abortion, which noted that it seemed to reduce depression, the Minnesota survey found a significant increase in depression after abortion. "This clearly indicates a need for more counseling efforts after abortions," Garfinkel says.

But not even depression can account for all suicides. "One of the very surprising things we have found is that only about 85 percent of students who attempt suicide do so as a result of being depressed," Garfinkel says. "This points out that there are other factors besides depression involved in youth suicide. We're attempting to study through statis-

I Love you all  
good BY


**Few teens leave suicide notes, Garfinkel says, and the incidence of notes has decreased during the 16 years he has studied youth suicide. This may indicate an increasing impulsiveness in the act, he theorizes.**

tical and scientific means that one kid in ten who is not depressed yet still wants to commit suicide. We have to understand why that is."

Garfinkel believes that school counselors and teachers are getting better at spotting troubled teens. But schools need help screening students for early signs of depression, he says, and in assessing and treating those who are depressed and possibly suicidal. With funding from the Minnesota Medical Foundation, he and his colleagues are designing a brief screening device that can be applied directly by schools, without the help of a psychiatrist. "This will allow for the rapid identification of the youngster who is depressed and potentially suicidal," Garfinkel says.

Improvements are also needed in the way treatment is provided for depressed youth, Garfinkel says. "We're learning that we have to tailor our treatments. Most minor to moderate depression can be effectively treated with cognitive behavioral counseling. This doesn't deal with childhood experiences or early childhood development. It deals with here-and-now issues such as how to be more effective, how to cope, everything in the present tense. It's a very effective treatment for mild to moderate depression, equal to what is seen by treating the same types of depression with antidepressant medications.

"With the moderately to severely depressed youngster, we know that we have to give both the cognitive behavioral counseling and an antidepressant medicine. But we also have to be very careful in our use of antidepressants, because they are now the leading medication youngsters are using to overdose on and commit suicide, so we just don't want them to be indiscriminately used; they have to be very carefully prescribed."

Garfinkel is eager to implement the suicide prevention program and the screening instrument. But he is also apprehensive about the challenges that may result. "If we're really talking about 3 percent (of students in an average school) recently attempting suicide, I don't know if we have the resources to treat that many more individuals. We might be screening and identifying kids that our schools and our communities can't cope with. We're really in a dilemma." 

*Michael Moore is a science writer for the University of Minnesota Office of Health Sciences Public Relations.*

# THE FIRST DIAGNOSIS

## UMD's Clinical Pathologic Conference

By Patricia Miller

**Second-year medical students in Duluth put their diagnostic skills to work — with excellent results.**

It's 3 p.m. in one of the large lecture rooms at the University of Minnesota, Duluth (UMD), School of Medicine, and a team of second-year medical students is ready to put its diagnostic capabilities on the line in front of fellow classmates and faculty members at the monthly clinical pathologic conference (CPC).

About four weeks ago, the team of six students was given information on an actual patient including the results of a physical exam, selected lab tests, and history. Based on this data, their job is to construct a differential diagnosis for as many of the patient's medical problems as they can identify, and provide an ultimate diagnosis.

CPCs, usually performed by the staffs of teaching hospitals and residents-in-training, are a time-honored method used by physicians to educate themselves and each other. Although CPCs are not new or unique, it is highly unusual for this learning process to be used during the second year of medical school. In fact Dr. Gerald Cotton, head of clinical sciences at the School of Medicine, says UMD is probably the only school in the United States where CPCs are being conducted as part of the second-year curriculum.

"The first two years of medical school have traditionally emphasized basic science, but it has been changing in the last 10 years to include more clinical teaching earlier in the curriculum. Formerly, students just didn't have the know-how to do this," says Dr. Alan Peterson, clinical science associate professor at the School of Medicine and an internist at the Duluth Clinic.

It was Peterson who two years ago approached Cotton about participating in

the school's curriculum in a capacity other than lecturer. "He volunteered to do something special — something out of the ordinary — and we came up with the idea of CPCs," Cotton says.

Peterson and Cotton had initial reservations about the project and its chances of success, but agreed it would be a positive method with which to emphasize clinical medicine at the school and was worth trying.

"I was skeptical at first. CPCs are a valuable teaching and learning tool, but they hadn't been introduced into medical education this early before," Peterson says.

"We had no idea whatsoever if it would work. Our students have some clinical work, but they are taught mainly by basic scientists," says Cotton.

Two to five weeks before each CPC, Peterson provides the student team with a patient protocol and case report that includes a history, the results of a physical exam, and some lab results. Patients are chosen from those presented at weekly case conferences that Peterson conducts at the Duluth Clinic.

"We have a backlog of cases that physicians have presented, so I try to choose cases that correlate with the clinical class lectures at that time," Peterson says. "We give them all the vital information they need for the diagnosis, but hold back what is necessary to make it challenging."

During a traditional CPC, one physician will present the history, physical exam results, lab data, and x-rays prior to giving a differential diagnosis — listing the diagnostic possibilities and the reasoning behind them — to rule in or rule out a conclusive diagnosis. At the School of Medicine, students work in teams to



Photos by Ken Moran

research possible diagnoses and present the case and conclusion. Four members of the group act as clinicians, and two act as pathologists. The latter know the correct diagnosis and will reveal how closely the clinicians come to it — and they are usually right on the mark.

Today, the team of “clinicians” (second-year students Kent Johnson, Jeff Engelsgerd, Sylvia Sundberg, and Don Davis) present the following case:

The patient is a 65-year-old white male complaining of leg edema and shortness of breath. He says he was in good health until two weeks prior, at which time he began to notice shortness of breath after walking two blocks, which has slowly become worse. He denies chest pain. His



**Joe Kapla (right) and Bob Snook (left), second-year medical students, listen intently to the differential diagnoses made by their fellow team members. Kapla and Snook served as the team “pathologists.”**

usual weight is 175 pounds and has increased to 202 pounds. Also noted were abdominal swelling and anorexia. He has no known prior history of cardiovascular, pulmonary, or renal disease.

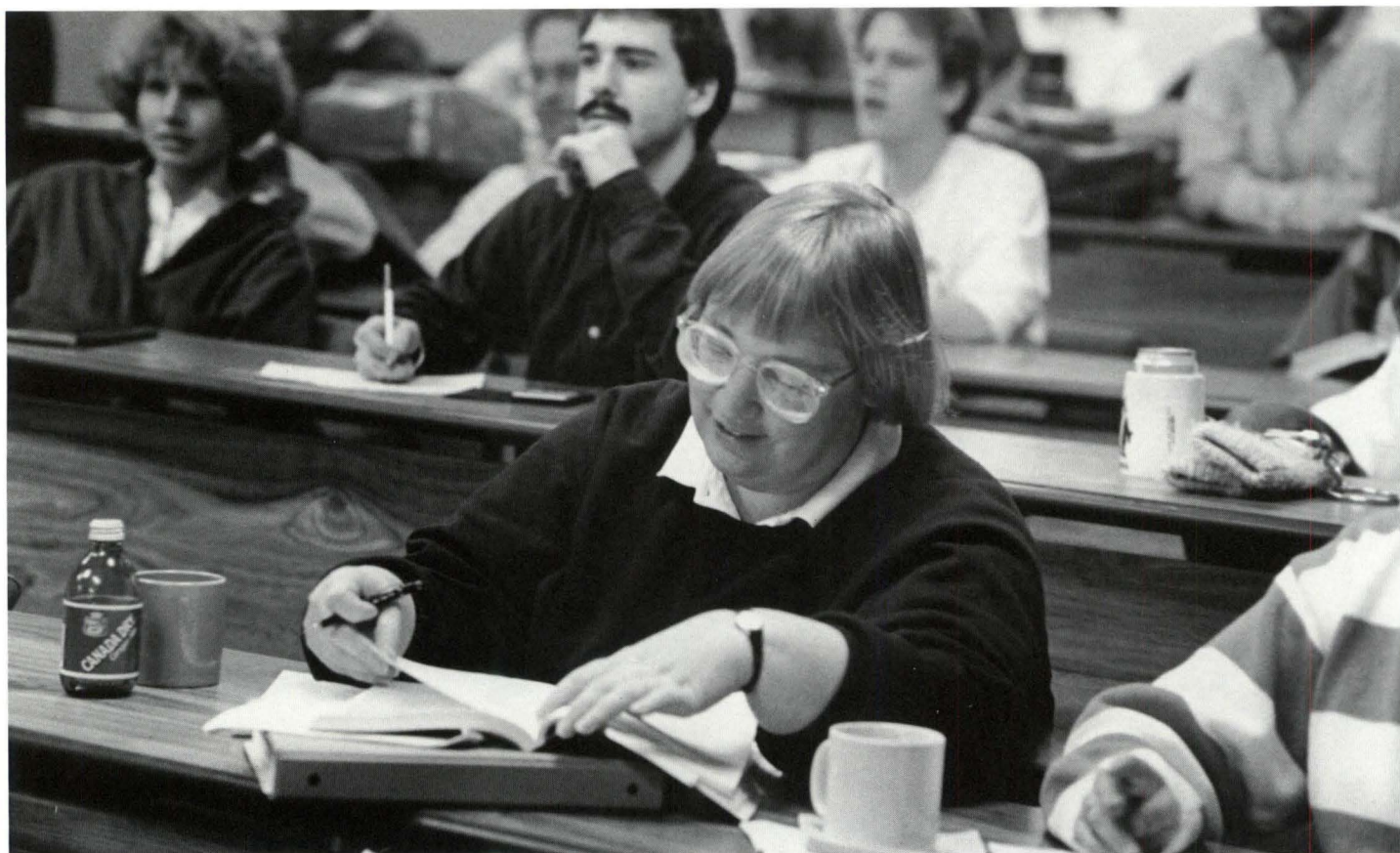
The students list a myriad of possible diagnoses including pulmonary embolism, infectious endocarditis, myocardial infarction, anemia, arrhythmias, and others. One by one, different diagnoses that could cause the patients symptoms are ruled out or discussed for further consideration.

The diagnosis:

Sub-acute bacterial endocarditis (which the students report will necessitate the

**Sylvia Sundberg, second-year medical student and a “clinician” on the CPC team, presents the patient’s history and results of the physical exam and laboratory tests.**

**"The students have done unexpectedly well . . . about 90 percent of the time the diagnosis is right on target."**



**Second-year medical student Roberta Edwards takes careful note of the diagnosis made by fellow students during a clinical pathologic conference (CPC) at the School of Medicine.**

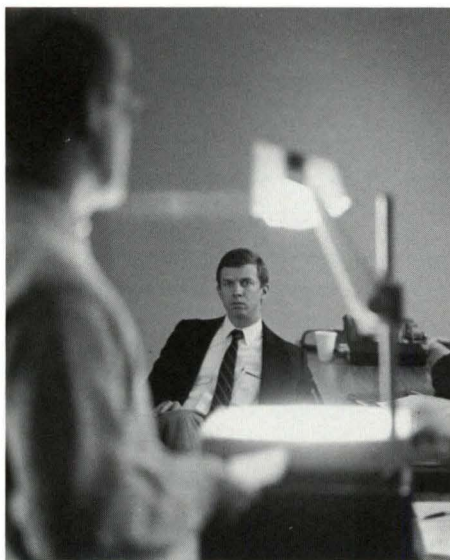
replacement of the patient's aortic heart valve).

And the "pathologists" report (given by second-year medical students Bob Snook and Joe Kapla)? The patient's condition has been correctly diagnosed.

"The students have done unexpectedly well," Peterson says. "With their lack of clinical experience I thought they would struggle, but about 90 percent of the time the diagnosis is right on target or is included in their list of possibilities."

Although most of the cases involve common clinical problems, Cotton emphasizes that nothing is spoon-fed to the students and they "have to dig it all out themselves." Diagnoses have included a wide variety of medical problems — from salmonella, pernicious anemia, and gastroenteritis, to appendicitis and thyroiditis.

"I am amazed at what second-year medical students have been able to do — coming from a limited background. Not only do they put things together reasonably well, but they are excelling at the



**Clinical science associate professor Alan Peterson listens as medical student and "clinician" Kent Johnson presents a differential diagnosis of a patient during the clinical pathologic conference (CPC).**

process of putting it together," Cotton says.

In addition to giving students their first experience in making a diagnosis, CPCs also provide other benefits.

"It's an exercise in logical thought and helps students develop clarity of thinking about the clinical process. It also gives them an idea of the kind of mental processes physicians go through when dealing with patients on a day-to-day basis," Peterson says.

CPCs also are a break from basic science courses, and give students an opportunity to work as a team with classmates and put the basic knowledge from the classroom to use.

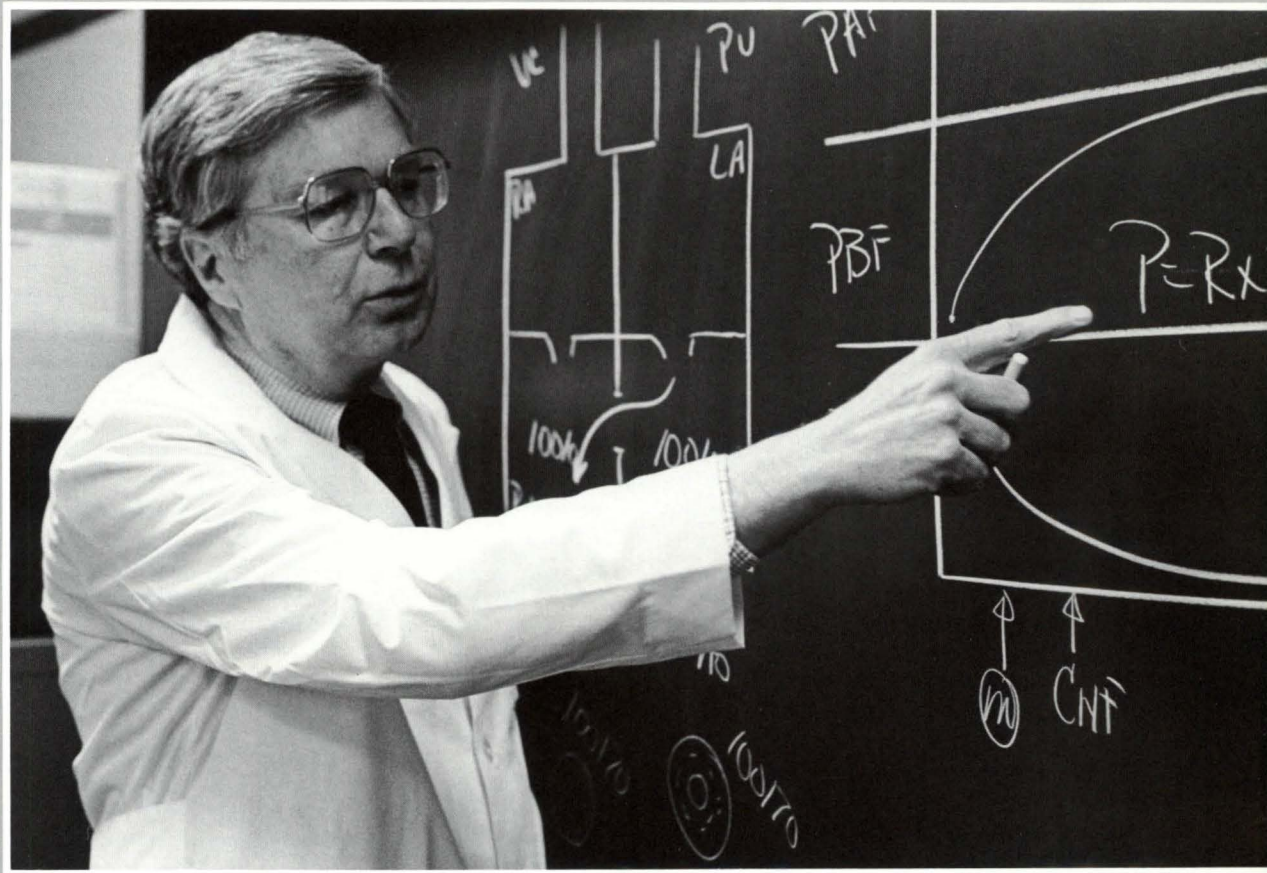
"They really seem to enjoy it," says Peterson. "They have a great deal of enthusiasm, take care in preparing display materials, and the way in which they present the cases is very, very thorough."

For the students, CPCs seem to bring out a mixture of the future physician and Sherlock Holmes.

"It's almost like solving a mystery," says Kent Johnson, second-year medical student, and one of the team "clinicians."

*Patricia Miller is senior information representative at the University of Minnesota, Duluth, School of Medicine.*





# *Dr. James H. Moller*

## **Outstanding Teacher of the Year**

MMF's Outstanding Teacher  
is also an author, researcher, volunteer,  
and mentor to many students.

*By Elaine Cunningham*

**F**or Dr. James H. Moller, professor of pediatrics at the University of Minnesota Medical School, education appears to be the thread that ties together the many facets of his career. Whether he is involved in a research project, serving in a professional organization, caring for patients, or actually meeting with medical students, he strives to impart knowledge and understanding.

This natural propensity toward teaching is undoubtedly why he has collected so many teaching honors throughout his career. He has received two Distinguished Teaching Awards from the Minnesota Medical Foundation, and a teaching commendation from the University of Minnesota Medical School. In 1978 he was named the Paul F. Dwan Professor in Education in Pediatric Cardiology.

His most recent award is the Outstanding Medical School Teacher Award for 1987. Sponsored by the Minnesota Medical Foundation, this \$1,500 award recognizes faculty members who demonstrate outstanding teaching and advising skills, innovative teaching methods, and leadership in the improvement of medical education. Moller is only the second faculty member to receive this award.

"Medicine," says Moller, "was my career plan since childhood. I never thought of anything else. The teaching came when I was a fellow in pediatric cardiology back in 1963. I enjoyed meeting with students regularly. Also, I was exposed to a lot of really good teachers in medical school."

Moller received his medical training at Stanford University School of Medicine and interned at Stanford University Hospital. He came to Minnesota in 1959 to serve his residency in the Department of Pediatrics. He joined the faculty as an instructor in pediatrics in 1965. Since then, he has progressed through the ranks to full professor. He served as interim head of pediatrics from 1976 to 1978, while concurrently serving as chief of pediatrics at the University of Minnesota Hospital. Currently he is completing a five-year term as chief of staff of University Hospital.

"What I like most about teaching," he says, "is the contact with students, helping them to understand or to work out problems. My philosophy is to try to make students use the principles they learn and apply them to a situation — make them think and apply logic, rather than rely on rote memorization."

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**"My philosophy is to try to make students use the principles they learn and apply them to a situation."**

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His philosophy of teaching made him a logical choice for the Dwan Professorship in education in pediatric cardiology.

"Dr. Dwan was very interested in teaching students," Moller recalls. "He tried to find new and different ways to express information to students. He believed people should be encouraged to teach, so he endowed the chair in education."

Being the Dwan professor has allowed Moller the opportunity to explore new methods of teaching. He has been looking at how students learn and at the effectiveness of different teaching aids.

"I think the way people learn the most is by applying their knowledge to solving problems and by having to answer questions. Various audiovisual techniques and computer-assisted instruction have been developed, but will not replace lectures, reading, and rounds as methods for clinical instruction."

Currently, Moller is exploring the use of computers in teaching students to make diagnoses. The computers are used for textual material, as well as for storing sounds. For example, to teach students to identify heart abnormalities, different heart sounds and murmurs are programmed into the computer. As the text describes a particular murmur, the student needs only to press a certain key to hear the sound.

"We used to use a tape for this type of learning," Moller says. "The computer has better sound reproduction and makes searching for a particular sound a lot easier. We will also be building test material into the computer program so we can play sets of sounds and ask students to identify the abnormalities. Once we've done this, we will analyze whether students learn better or faster with the computer."

Teaching and his duties as chief of staff take up most of Moller's day, allowing little time for actual patient care. "I used to do a lot of heart catheterizations," Moller says, "but now there just isn't time." As a result, Moller's contact with patients is limited to his clinics with

students, which once again involve teaching.

His work with students, however, is not the only way Moller teaches. Most of his research projects are geared toward the gathering and dispersing of information.

He serves as principal investigator for a research grant that has created a registry of data on patients with congenital heart disease. Eighteen hospitals around the country submit information to the registry about their patients. Moller and his research team analyze the data and develop statistical methods to determine treatment results.

"We now have data on 8,000 heart patients," Moller explains, "making us the largest data base in the country."

Each year, reports are sent to the participating hospitals, allowing them to compare their results with other hospitals. "They can see where their mortality rates are higher than what is expected. The major use is to allow the centers to determine how they are doing in cardiac surgery."

Representatives of the hospitals then meet once a year to discuss the implications of the data. Moller also makes site visits to any of the hospitals that request it.

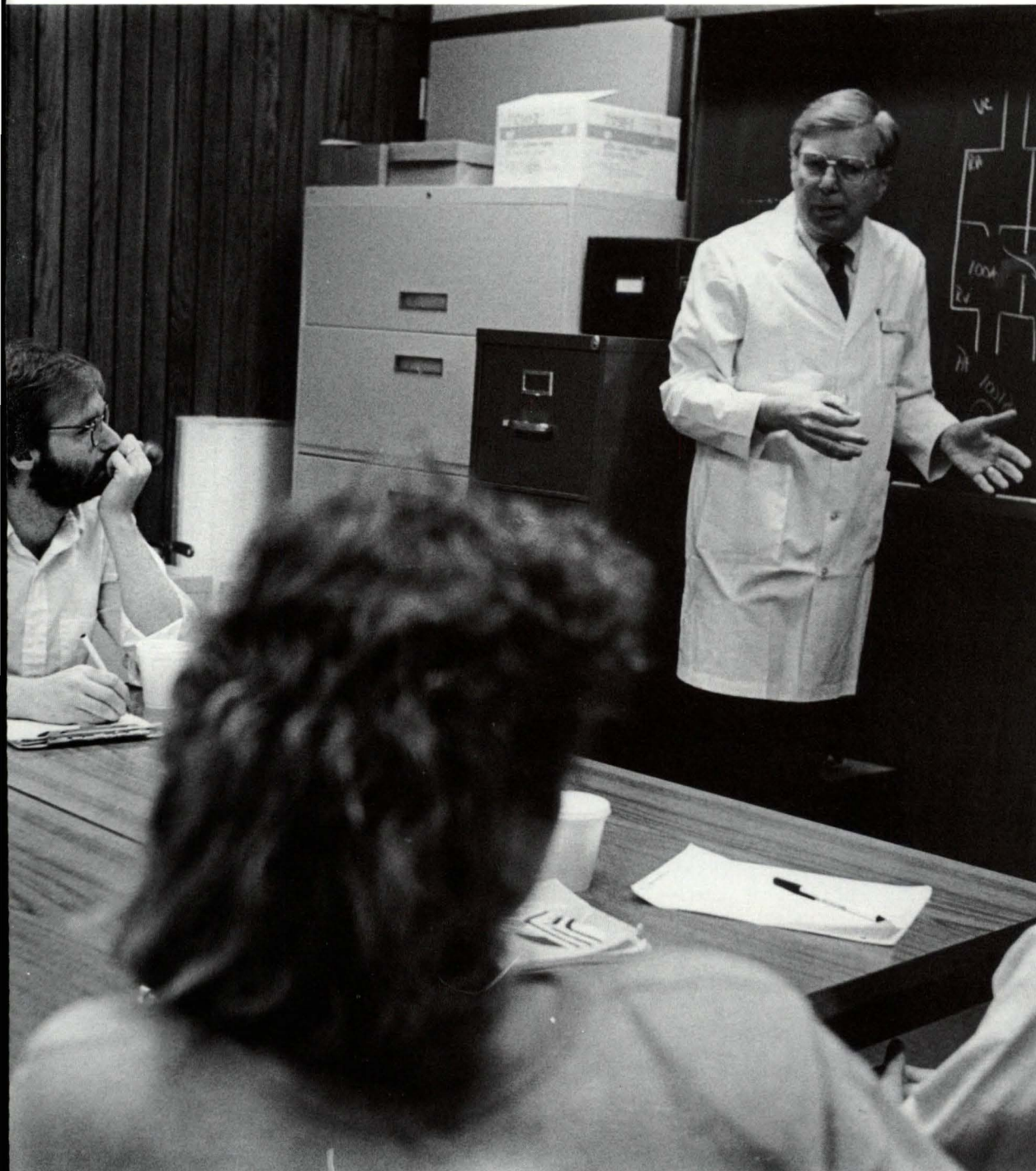
A second research project demanding Moller's attention involves long-term follow-up of patients with congenital heart disease who have undergone heart surgery at the University of Minnesota Hospital since the mid-1960s. Moller works on the project with Dr. C. Walton Lillehei, a Minnesota surgeon who pioneered open-heart surgery.

"This study looks at patients 27 to 33 years after surgery," Moller explains. "The major problem has been finding the patients after so many years and then maintaining contact."

The results have been encouraging. More than 99 percent of the patients have been contacted, according to Moller, allowing for a fairly complete set of data. Patients are asked for information about employment, education, family, and recreational activities, as well as information about their health.

"This is one of the few studies that follows patients for such a long period of time, with such complete information," Moller says.

A couple of papers analyzing this data have been published and more will undoubtedly follow — but only after Moller completes two books he is writing.



**Dr. Moller has served on the faculty in the Department of Pediatrics since 1965, specializing in pediatric cardiology.**

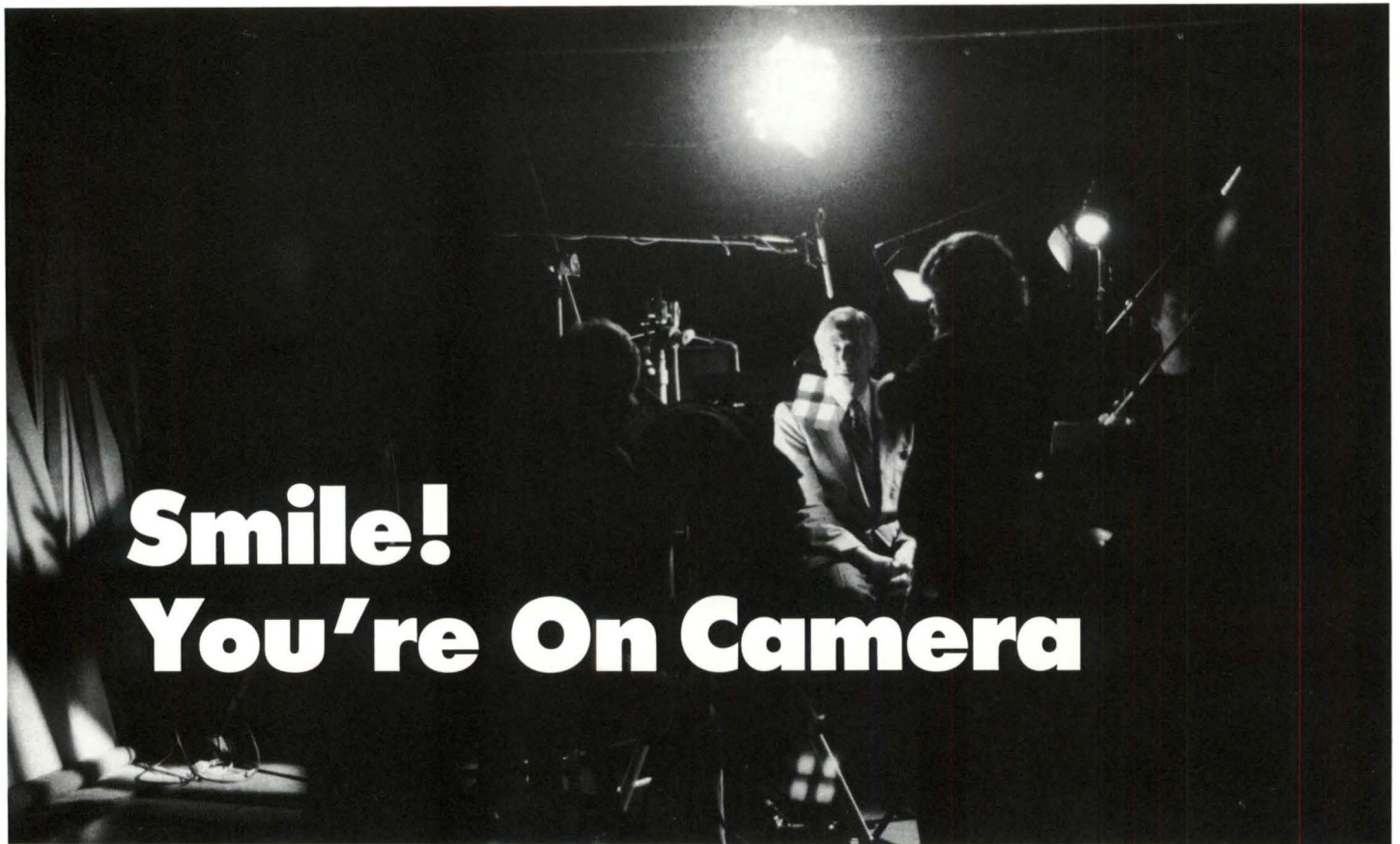
Moller has also become increasingly active in a number of professional organizations. Not surprisingly, education is the focus of his committee work. He currently chairs a national committee of the American Heart Association, which directs a project to develop educational materials for grade school children to teach them about cardiac risk factors.

Moller finds he enjoys this type of committee work more and more. "It's

fun," he says, "and I hope to do more of it as long as things can be accomplished."

As an author, teacher, researcher, volunteer, and doctor, Moller moves at a hectic pace, making one wonder how he gets it all done. He credits an excellent office staff and concludes by saying, "I have found that if you keep doing a little bit each day, eventually it all gets done."





# Smile! You're On Camera

Dr. B.J. Kennedy on-camera for the MMF TV commercial.



Dr. Norma K.C. Ramsay in the make-up room.



Dr. Ashley Haase is prepared for the camera.

University of Minnesota Medical School researchers are becoming stars of TV, radio, and print, as the Minnesota Medical Foundation public service ad campaign reaches full strength.

The researchers are part of a campaign promoting the Minnesota Medical Foundation and its role as benefactor for medical research at the University of Minnesota Medical Schools. Carmichael-Lynch Advertising Agency developed the campaign, donating their time and creative talent.

The high-impact TV ads feature seven doctors on-camera, each speaking to their specific area of research. "I've been living with incurable cancer for 39 years," featuring Dr. B.J. Kennedy, leads off the thought-provoking spot. Other researchers include Dr. Boyd Hartman, depression, Dr. Norma K.C. Ramsay, children's cancer, Dr. Leonard Heston, Alzheimer's disease; Dr. Ashley Haase, AIDS; Dr. Mark Nesbit, leukemia; and Dr. Robert Elde, schizophrenia.

The radio spot is taken from the sound track of the TV commercial, and like the latter, incorporates a voice-over explaining the role of the Minnesota Medical Foundation in enabling these researchers to seek solutions in their disease areas.

The print ads repeat the same message. They feature Drs. Kennedy and Heston,

and in addition, Dr. Gail Summers. The conditions represented are cancer, Alzheimer's, and blindness. They read in part:

"I've been living with incurable cancer for 39 years."

"Dr. Kennedy isn't sick. He and his colleagues at the University of Minnesota are searching for a cure for those who have cancer.

"To these doctors, the Minnesota Medical Foundation is a source of essential financial support. To those suffering from these dreaded diseases, it is a source of hope."

Outdoor billboards are also part of the campaign. The attention-getting ads feature the disease areas cancer, Alzheimer's, diabetes, leukemia, arthritis, epilepsy, and emphysema. Naegele Outdoor Advertising has generously donated space on its boards in the metro area.

The long-range impact of the public service ad campaign is yet to be seen, but there is little doubt it will put the name "Minnesota Medical Foundation" in front of a large audience both in the metro area and outstate. A greater understanding of the foundation's relationship to the Medical Schools should result, as well as increased knowledge about the wide variety of research being conducted at the University.



# MEDICAL SCHOOL NEWSBRIEFS

## Dr. Levitan named officer of American Society of Clinical Hypnosis

Dr. Alexander A. Levitan, clinical associate professor in the Department of Family Practice and Community Health, has been named president elect of the American Society of Clinical Hypnosis. He will take office at the society's 1988 annual meeting.

The American Society of Clinical Hypnosis consists of 4,500 advanced degree holders from throughout the United States and several foreign countries, principally M.D.s, Ph.D.s, and D.D.S.s, who have an interest in the practice of clinical hypnosis. □



Dr. Alexander A. Levitan

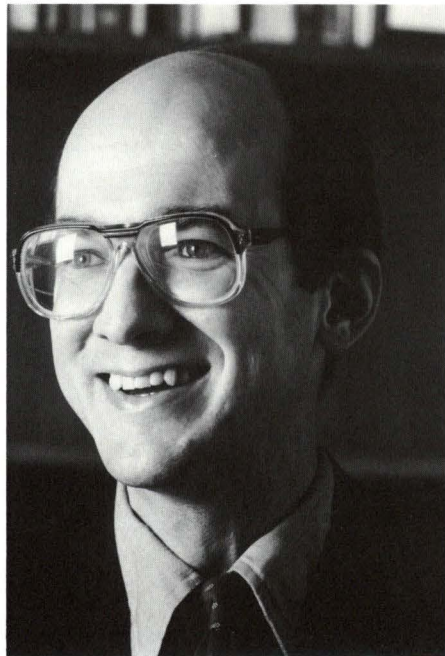
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## Center will study health care issues

A new Health Care Finance Administration Research Center, which will study ways of improving the nation's health care financing and delivery, has opened at the School of Public Health. The center will address issues such as rural health care access and quality, prepaid health care plans for the elderly, and home health care.

The center is a joint effort of the University of Pennsylvania's Leonard Davis Institute of Health Economics, a Princeton, N.J., health policy analysis and research firm called Mathematica Policy Research, and the University's Division of Health Services Research and Policy. It will be financed by a five-year, \$3.5-million federal grant from HCFA, the Federal Department of Health and Human Services agency that directs Medicaid and Medicare programs.

Roger Feldman, professor of health services research and economics at the University, will be the director of the center. He was health policy senior staff economist for the President's Council of Economic Advisors (1984-85) and is recognized as one of the country's leading health economists. The center's associate directors will be Mark Pauly, executive



Roger Feldman

director of the Leonard Davis Institute, and Thomas Grannemann, senior economist at Mathematica Policy Research. □

## Dr. Soechting receives prestigious award

Dr. John F. Soechting, professor in the Department of Physiology, has been chosen to receive a Senator Jacob Javits Neuroscience Investigator Award by the National Institute of Neurological and Communicative Disorders and Stroke (NINCDS) for his project, "Organization and Control of Movements." The award will continue for the next seven years.

The Javits Neuroscience Awards were established by NINCDS in 1983 in honor of Senator Javits, who suffered from amyotrophic lateral sclerosis (ALS). The purpose of the award is to provide a unique opportunity for research and research training aimed at understanding the biology of neurological and communicative disorders and the functioning of the brain and nervous system.

Awardees, who are selected by the Institute, are provided grant support for up to seven years and must be scientists who have demonstrated scientific excellence and exceptional productivity and who are pursuing research of strategic scientific importance, with a high probability of continued accomplishment. □

## AIDS advisory task force formed

A new AIDS advisory task force has been established by Minnesota Health Commissioner Sister Mary Madonna Ashton.

Two months ago she disbanded the previous task force, organized in 1985 to advise her on policies related to containing the spread of the AIDS virus in Minnesota. She said the new body will have more expertise in developing behavioral change strategies.

The task force includes the following University of Minnesota faculty members: John Finnegan, assistant professor of epidemiology; Cheryl Perry, associate professor of epidemiology; Gary Remafedi, assistant professor, adolescent health; James Rothenberger, professor of health education; and Frank Rhame, assistant professor of medicine. □

## University surgeons perform first lung transplant

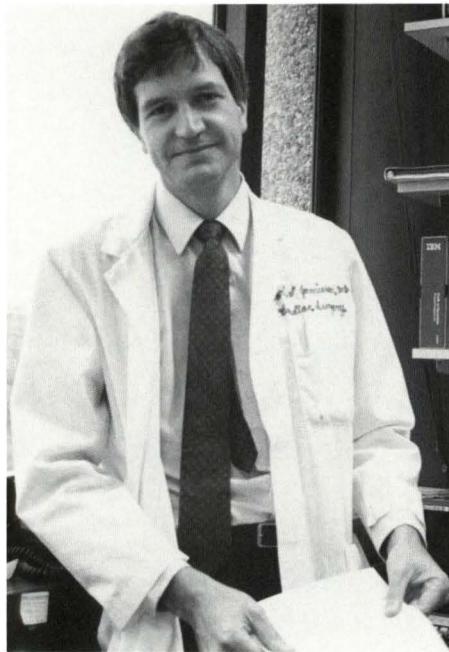
University surgeons performed their first transplant of a pair of lungs without a heart attached in January, only the third such operation ever in the United States.

The 44-year-old recipient, Keith Papachek, suffered from emphysema caused by an inherited enzyme deficiency. Without the operation, he was expected to live only a couple of months.

Papachek's new lungs, flown more than 1,000 miles, were preserved outside a human body for five hours, setting a new record, according to Dr. Stuart Jamieson, who headed the transplant team. Jamieson is head of cardiovascular surgery and director of the University's Minnesota Heart and Lung Institute.

Since May 1986, University surgeons have performed five heart-and-lung transplants on patients whose ailments were destroying both their hearts and lungs. The lung-only transplant surgery is complicated because doctors must stop the patient's heart in order to sew the pulmonary veins to the back of the heart, according to Jamieson.

Papachek's operation was possible because of recent advances in the insti-



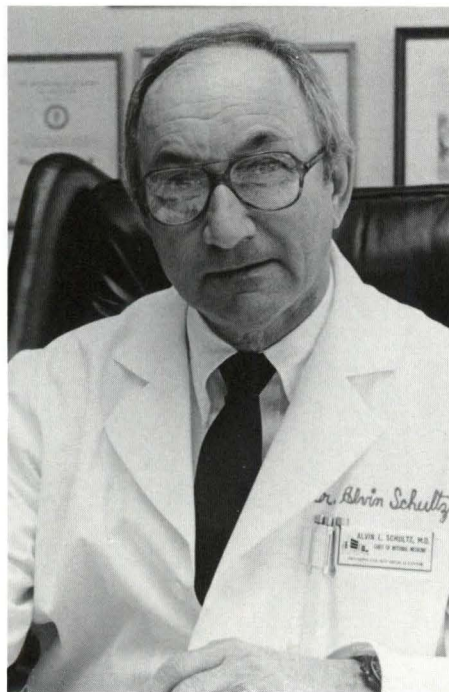
**Dr. Stuart Jamieson**

tute's laboratory research, which have solved the technical problems of lung preservation. □

## Dr. Schultz to head Health One medical division

Dr. Alvin L. Schultz, professor of medicine at the University of Minnesota Medical School, has joined Health One as senior vice president for Medical Affairs. Dr. Schultz has been chief of medicine at Hennepin County Medical Center since 1965.

As head of Medical Affairs for Health One, Dr. Schultz will lead the corporation's efforts to involve the 2,100 physicians affiliated with its hospitals in setting policy direction of the health care organization. Headquartered in suburban Minneapolis, Health One is the second largest secular, non-profit multi-hospital system in the United States. □



**Dr. Alvin L. Schultz**

## Seminar on ethical issues in reproductive techniques scheduled

In cooperation with the Center for Biomedical Ethics, University of Minnesota Continuing Medical Education (CME) has scheduled a conference for April 15 titled "Beyond Baby M: Ethical Issues in New Reproductive Techniques."

The description of the seminar reads: "New techniques for creating babies have created ethical, legal, and policy issues not previously addressed in our society. Traditional definitions of concepts such as 'parent,' 'family,' and 'mother' are all called into question by advances in the area of reproductive medicine. The implications of the new methods for making babies go far beyond those most directly affected. They challenge societal attitudes about the importance of children, the importance of biology in rearing children, and the medical status of infertility.

"The workshop will address the many ramifications of the new reproductive technologies: medical, ethical, social, and legal. It will include a diversity of perspectives drawing on those with expertise in history, philosophy, law, theology, public affairs, and medicine."

For further information, call the Office of Continuing Medical Education at (612) 626-5525. □

## Diabetes Association research grants awarded

Research grants from the American Diabetes Association-Minnesota Research Program for 1987-88 were awarded recently. Seven of the nine recipients are affiliated with the University: Jose Barbosa, professor, internal medicine; Linda Brady, assistant professor, food science and nutrition; Earl Dunham, associate professor, pharmacology; Ronald Edstrom, associate professor, biochemistry; Daniel Gilboe, assistant professor, biochemistry; Victoria Iwanij, assistant professor, genetics and cell biology; and David LaPorte, assistant professor, biochemistry. □

## Eye damage in diabetics continues after transplants

University researchers have completed a study which reveals that a successful pancreas transplant neither stops nor reverses the eye damage associated with diabetes, at least during the first two years after surgery. The study, recently reported in the *New England Journal of Medicine*, was authored by ophthalmologist Dr. Robert Ramsay.

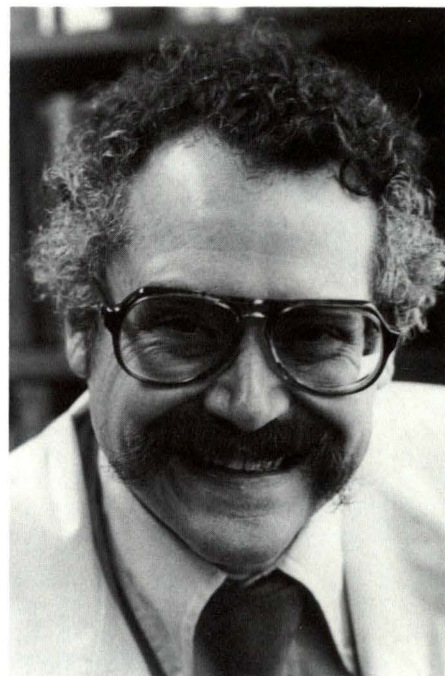
The study is the first to test whether providing a diabetic with normal control of blood sugar can prevent the progressive damage to the retina that has made diabetes the nation's leading cause of blindness. It is estimated that 5,000 diabetics in the United States lose their sight each year.

Ramsay's study tracks 38 pancreas transplant patients with diabetic retinopathy, a progressive disorder that breaks

blood vessels in the retina, a fragile membrane around the eye. One of diabetes' major side effects is a long-term weakening of the retinal blood vessels, leading to blindness.

Other efforts at strict control of blood sugar fluctuations in recent years, such as insulin injection pumps, close monitoring, and multiple insulin injections, have had similar results with respect to retinopathy.

The diabetics in Ramsay's study had been suffering from the disease for an average of 21 years. He noted that blindness from diabetic retinopathy is largely preventable if the disease is detected early enough and monitored closely so treatments such as laser surgery can be used at the most advantageous time. □



Dr. Henry Balfour

## Ordways fund chair in developmental biology

John G. Ordway Jr. and Margaret Ordway, long-time supporters of the University of Minnesota, have pledged \$1 million to endow a chair in developmental biology on the Twin Cities campus.

Developmental biology, housed within the Department of Genetics and Cell Biology, is administered jointly with the Medical School's Department of Cell Biology and Neuroanatomy. "Developmental biology explores the mysteries of how a multi-cellular organism develops from a single precursor cell," says Paul Magee, dean of the College of Biological Sciences. "It's not only a very important area but is also a good example of collaborative interaction between scientists across the University." The program includes faculty from biological sciences, medicine, dentistry, veterinary medicine, agriculture, home economics, and forestry.

John Ordway, chair of the executive committee of MacArthur Company, is the grandson of Lucius D. Ordway, a founder of the 3M Company. John Ordway serves on the board of directors of several companies, including 3M, First Trust Company, and Northwestern States Portland Cement Company. His



Jeffrey Grosscup

John G. Ordway Jr. and Margaret Ordway

mother, the late Charlotte Partridge Ordway, was a founding trustee of the University of Minnesota Foundation, and John Ordway also serves on that board.

He was elected to the University of Minnesota Foundation's board of trustees in 1973 and went on to serve as president in 1975 and 1976 and chair in 1977 and 1978. In recognition of his many contributions to the University, John Ordway has been the recipient of the University of Minnesota Regents' Award. □

## Herpes drug may help AIDS patients

A herpes-fighting drug which has helped bone marrow transplant patients may help some AIDS patients as well, according to University researchers Dr. Henry Balfour and Dr. John Kersey.

Their report, published in a recent issue of the *New England Journal of Medicine*, stated that the drug acyclovir, available by prescription to treat genital herpes, cut in half the number of life-threatening cytomegalo-virus (CMV) infections in a group of recent marrow transplant recipients.

According to Balfour, the drug can't cure AIDS, but may be able to suppress CMV infections which can cause intestinal bleeding, pneumonia, and blindness in some AIDS patients.

In the study, conducted at the University of Minnesota and the University of Washington in Seattle, acyclovir suppressed the cytomegalo-virus in many of the 86 marrow transplant patients who received the drug, preventing the virus from causing serious illness. □

# MMF REPORT

## Student talent show raises scholarship money

"Operation 88: Medical School Fun and Follies," held February 27, was a great success for the third year in a row, grossing nearly \$14,000. Proceeds from the benefit are used to establish scholarships for students with unusually high debt levels. Four students received \$1,200 each from last year's benefit.

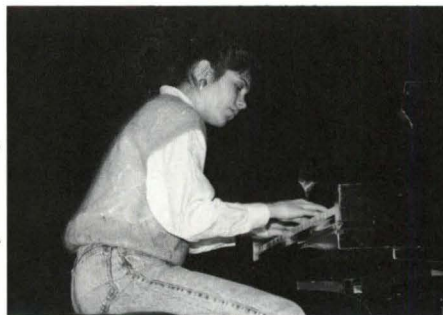
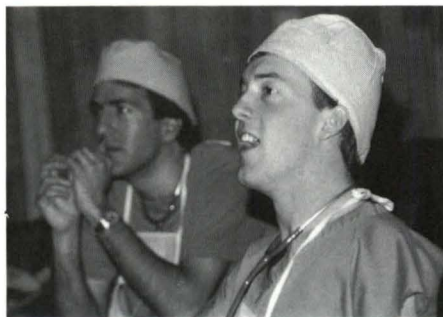
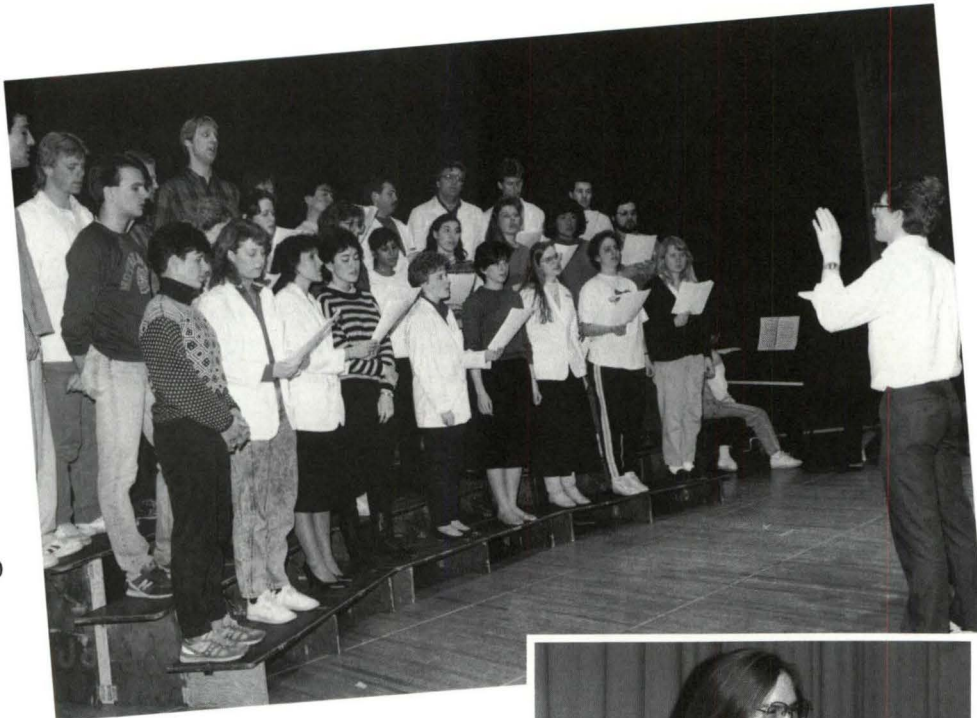
University of Minnesota medical students displayed an abundance of talent, entertaining the audience with songs, skits, and dances. From the opening act by the Androgen Sisters, "Boogie Woogie Bugle Boy," to the Medical School Choir's closing rendition of "The Career of the Medical Student," the evening was memorable for participants and guests alike.

Medical School Fun and Follies is sponsored by the Medical Student Parents Committee, the Medical Student Council, and the Minnesota Medical Foundation. The University of Minnesota Medical Alumni Society also actively supports the show.

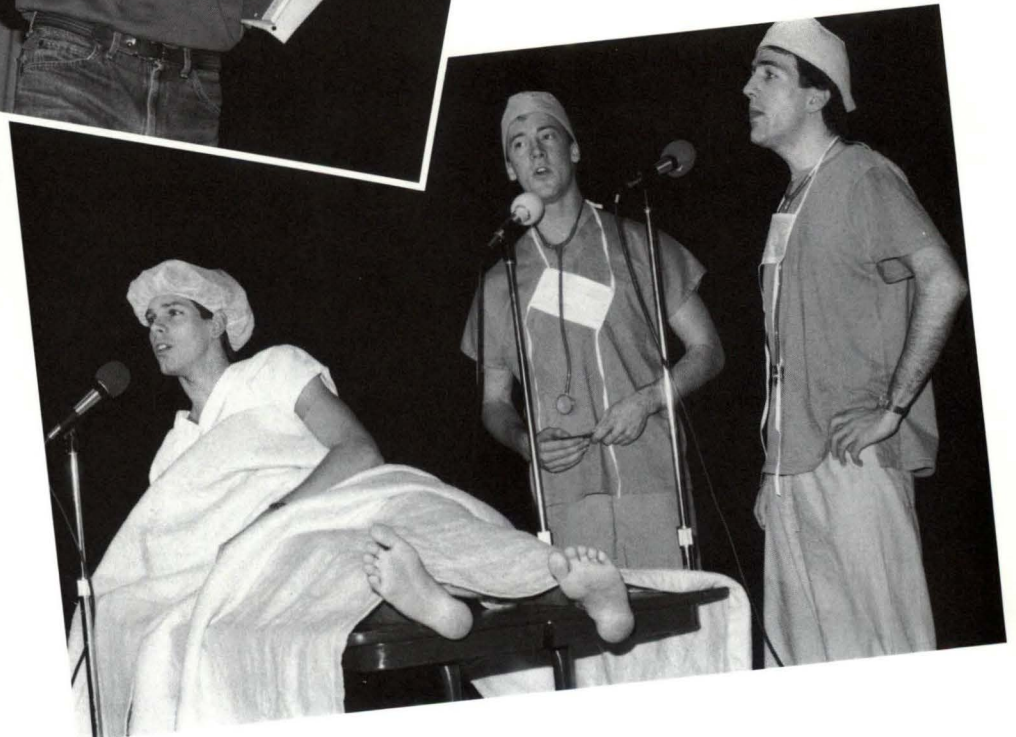
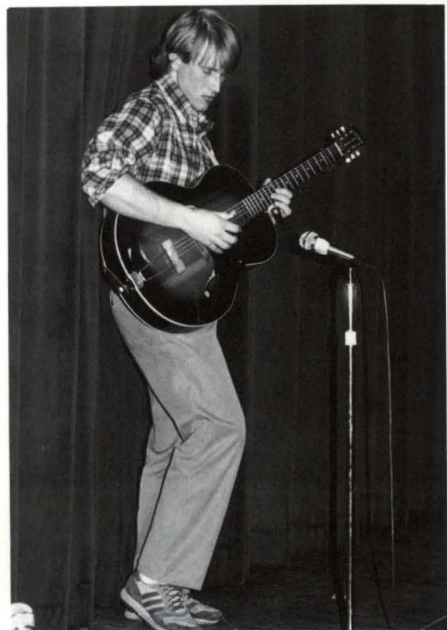
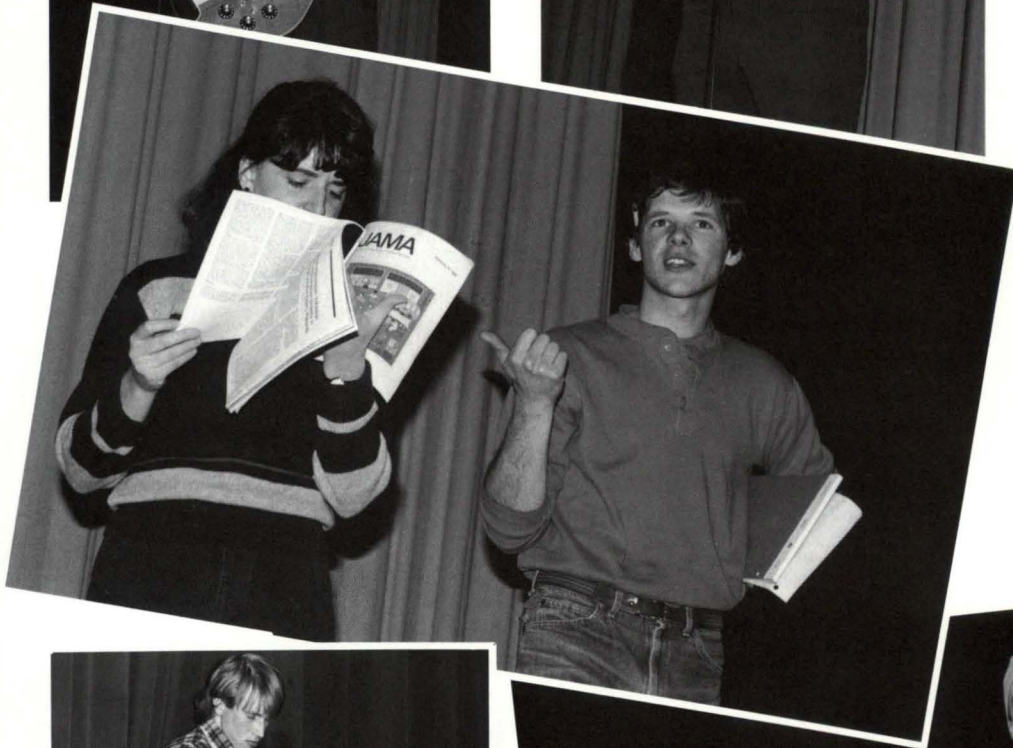
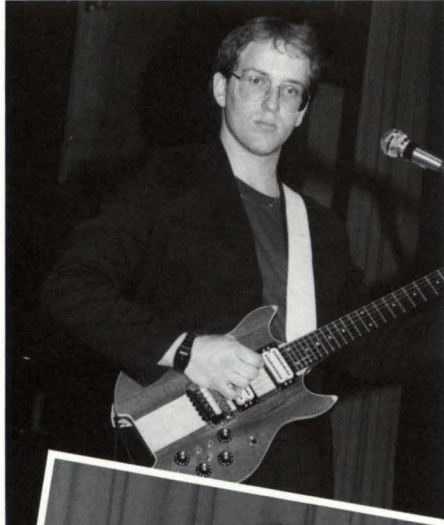
Held at the Northstar Ballroom of the St. Paul Student Center, the evening included a dinner catered by Lee Ann Chin. Desserts were prepared by the Medical Student Partners.

Special thanks go to: student co-chairs, Kent Menzel and Kerry Sheehy; Parents Committee chair Merle Kane and president Inge Schwochau; Parents Committee members Pat Bringgold, Nina Bunik, Jean Conroy, Bob and Ruth Delorey, Myrna Erickson, Toni Goldstein, Patsy Huberty, Jim and Margie Johnson, Polly Malley, Eugene Menzel, Gail Miller, Virginia Newcome, Kristy Peterson, Brenna Quebbemann, Marian Reid, Suzanne Reinartz, Marion Votel, Roger and Peggy Wald, and Janis Wesa; and to President Linda Schenck and other officers of the Minnesota Women Physicians. □

Photos by Gene Sung







## MMF approves \$187,185 in research grants

The Minnesota Medical Foundation board of trustees approved \$187,185 in research grants at its winter quarterly meeting. The amount includes \$81,095 in faculty research grants, \$3,600 in student research grants, and \$102,490 in special grants for research equipment and salary support.

Faculty grants include: **C. Carlyle Clawson**, pediatrics, \$6,500 to study the adherence of bacterial pathogens to respiratory epithelium; **Deborah Freese**, pediatrics, \$4,500 to research control of the development of 7alpha-hydroxylase activity in the neonatal rat; **Dwenda Gjerdingen**, family practice, \$5,000 to probe the health of first-time biological and adoptive mothers six weeks after acquiring a baby; **Mary Ann Goldstein**, pediatrics, \$3,000 to analyze dose dependent cellular electrophysiologic effects of adenosine on neonatal, young, and adult rabbit atria; **Jesse Goodman**, medicine, \$7,000 for characterization of a newly identified HSV virulence gene; **Harry Hoberman**, psychiatry, \$5,000 to examine psychosocial characteristics of children of eating disordered mothers; **David Hunter**, radiology, \$2,000 for an evaluation of wire-mesh biliary endoprotheses; **J. Daniel Nelson**, ophthalmology, \$4,695 to purchase a micropipet puller for studies on gap junctions; **Theodore Oegema Jr.**, orthopaedic surgery, \$7,600 for an ultra-sensitive analysis of glycosaminoglycans in disease states; **Mary Ella Pierpont**, pediatrics, \$3,000 to probe energy metabolism in congestive cardiomyopathy of turkeys; **Wilmar Salo**, biochemistry at UMD, \$7,000 to investigate intermediate filament and mucous proteins of the hagfish slime gland: characterization using recombinant DNA techniques; **Michael Silberbach**, pediatrics, \$7,500 to clarify the role of atrial natriuretic factor in the development of fluid balance in the fetus and the newborn; **Arne Slungaard**, medicine, \$4,500 to study the role of oxidant and non-oxidant effector mechanisms in eosinophil toxicity; **Patricia Tam**, medicine, \$2,800 to research rheumatoid factor activity of beta2-microglobulin antibodies; **Brian Van Ness**, biochemistry, \$6,000 to consider the rearrangement of human kappa immuno-

## Dwenda K. Gjerdingen: MMF Grant Recipient



Dr. Dwenda K. Gjerdingen

Dr. Dwenda K. Gjerdingen, an assistant professor of family practice and community health, was one of 16 faculty members to receive a research grant at the Minnesota Medical Foundation's winter meeting of the board of trustees. In all, the MMF board approved more than \$187,000 in faculty research grants, student research grants, and special grants (see adjacent article).

Gjerdingen received \$5,000 for a project investigating the mental and physical postpartum health of women six weeks after they give birth to or adopt their first child. This project is the first phase of a larger study on postpartum health entitled "The Effects of Changing Gender Roles on Women's Postpartum Health."

"Postpartum women are at risk for a number of mental and physical problems," writes Gjerdingen. "Contrary to popular thought, this risk may persist for months or even years. Health problems which may continue for more than a few weeks after delivery include: depression, psychosis, endocrine disturbances, sexual changes, fatigue, hemorrhoids, constipation, sleep disturbances, varicose veins, and urinary stress incontinence." Incidences of respiratory infections, headaches, and low back pain are also likely to increase during this period. According to Gjerdingen, very little documentation exists about how these disorders interact

globulin genes; and **Carol Weitz**, medicine, \$5,000 for evaluation of the immunosuppressive molecules released by CLL malignant B cells.

Student grants include: **Patrice LaBerge**, \$1,200 to examine hair proteins and sweating abnormalities in various ectodermal dysplasias; **Judith**

and how this interaction affects overall function.

Gjerdingen's study will try to answer three primary questions: How does the prevalence of problems in postpartum women compare with new adoptive mothers and with women who have no children (control group)? How do new biological mothers, adoptive mothers, and the control group compare in work, social functions, and free-time activities? What is the relationship between postpartum health problems and daily activities?

The postpartum and control groups will be selected from the population of six family practice clinics affiliated with the Department of Family Practice and Community Health at the University of Minnesota. The adoptive mothers' group will consist of married women adopting a first child less than 12 months old through two Minnesota adoption services. A six-week interval was selected because this has traditionally marked the end of the postpartum period, and supposedly the return to normal physical function.

"By studying both adoptive mothers and biological mothers," says Gjerdingen, "we hope to determine which health changes are related to the new parenting role, and which are a result of physiologic changes related to childbirth. We believe that the results of this study, along with those of the larger study, will be useful to health professionals who provide care for new mothers. In addition, it is anticipated that the findings will be useful and timely to legislators and employers who are now developing parental leave policies."

Gjerdingen has been a faculty member at the University of Minnesota Department of Family Practice and Community Health since 1981. Prior to that, she was in group family practice in Shoreview, Minnesota. She received her medical degree from the University of Minnesota in 1976, after graduating with a biology degree from the University of Minnesota, Morris. She is originally from Paullina, Iowa.

**Levitan**, \$1,200 to explore the role of ester- and amide-modified C3 in the inflammatory response of the human neutrophil; and **Mark Wilkowske**, \$1,200 to study the role of platelet activating factor in experimental hemolytic uremic syndrome. □

## MMF receives grant from St. Paul Red Cross

The Minnesota Medical Foundation has received a major grant from St. Paul Regional Red Cross Blood Services. The \$465,000 grant, which represents part of the proceeds of a large bequest left to St. Paul Red Cross, will support blood-related research.

The fund will have three purposes: to enrich and expand research, development, and education in transfusion medicine in the Department of Laboratory Medicine and Pathology at the University of Minnesota; to provide funding for transfusion medicine research at the University; and to enrich, expand, and support research, development, and education in health issues.

"St. Paul Red Cross has a great interest in supporting important blood-related research," says Jeffrey McCullough, M.D., director of St. Paul Regional Red Cross Blood Services. "By creating this fund through the Minnesota Medical Foundation, we now have the opportunity to direct research support to the University of Minnesota, with its tremendous research capabilities and reputation. Ultimately the work that will be supported by the fund will benefit hospital patients greatly."

The grant for this fund was part of a larger gift of \$930,000 from the estate of a long-time friend and benefactor of St. Paul Red Cross.

St. Paul Regional Red Cross Blood Services provides blood and medical products and services to 160 hospitals throughout parts of five states. □



Presenting check to Roger Larson, treasurer of the Minnesota Medical Foundation, is Fred Hirsekorn, chairman, St. Paul Red Cross. Also pictured are Dr. Ellis Benson, chairman of the Department of Laboratory Medicine and Pathology, and Dr. Jeffrey McCullough, director, St. Paul Regional Red Cross Blood Services.

## Herz Faculty Teaching Development Awards announced

The 1988 recipients of the Herz Faculty Teaching Development Awards are Dr. T.M. Julian, director of medical education in the Department of Obstetrics and Gynecology, and Dr. John Van Pilsum, Department of Biochemistry.

Established with an endowment fund donated by the late Malvin E. Herz and his wife, Josephine, the Herz Faculty Teaching Awards are presented to encourage the faculty of the University of Minnesota Medical Schools to pursue projects which will improve their methods and skills in teaching medical students.

Julian's project will involve developing a computer-assisted instructional system for medical students enrolled in the obstetrics/gynecology clerkship. It will receive \$4,000 in funding. Van Pilsum's project, which will receive \$6,000 in funding, will seek to enhance first-year biochemistry demonstration and discussion sessions.

The Honors and Awards Committee of the Minnesota Medical Foundation selected Drs. Julian and Van Pilsum from proposals submitted by the faculty. Preference is given to faculty members who have demonstrated interest in teaching, leadership, creativity, and innovation in education. □

## Kitsis Cancer Research Fund established

Through the Minnesota Medical Foundation, Louis and Florence Kitsis have recently established the Louis and Florence Kitsis Cancer Research Fund as part of the proposed University of Minnesota cancer center at the Medical School.

A University of Minnesota cancer center is one of the top priorities of the Medical School, and the research funds set up by the Kitsis family will aid in this vital effort.

Currently residing in Palm Springs, California, Louis Kitsis is chairman of the board of Shari Candies, Inc. in Mankato,

## Campaign Update

*The Minnesota Campaign has topped its \$300 million goal, it was announced in January. The total now stands near \$305 million with approximately three months remaining. The campaign officially concludes June 30, 1988.*

*One of the primary goals of the Minnesota Campaign is to increase the number of endowed academic positions throughout the University. When the campaign began nearly three years ago, the University of Minnesota had a total of 17 academic endowed positions. The campaign has brought that total to 110, which includes named chairs (gifts of \$1 million or more), land grant chairs (gifts of \$500,000 to \$999,000), and professorships (gifts of \$250,000 to \$490,000).*

*Endowed academic positions attract top scholars and professors. As a result of the success of the Minnesota Campaign in so drastically increasing the number of these positions, the University is well on its way to being recognized as one of the country's top public institutions.*

*Succeeding at its part of the Minnesota Campaign, the Medical School will soon top its goal of \$40 million. Contributing to this success was the overwhelming response from Medical School faculty members, who have thus far pledged \$6.3 million to the campaign.*

*In the months remaining, more than 200 volunteers representing specific colleges and units will be making contacts as part of a major gifts solicitation. Their success will send the Minnesota Campaign even further beyond its goal.*

Minnesota. The family has a broad background in a wide variety of charitable entities, including the City of Hope, and their efforts to bring the cancer center to reality will be greatly appreciated.

For more information about the Louis and Florence Kitsis Cancer Research Fund, contact the Minnesota Medical Foundation at (612) 625-1440. □

# ALUMNI UPDATE

Dear Colleagues:

I am happy to report that the planning for Medical Alumni sponsored events continues to go smoothly. Six Medical School faculty members are scheduled to make presentations at the New Horizons in Minnesota Medicine seminar in June, and as you can see by the story on page 29, the seminar promises to be interesting and enlightening. (Note: CME credits are available for this seminar.)

“Reunion Weekend” is June 3 and 4. Last year over 500 alumni and guests returned to the “U” to renew friendships and share stories with classmates. Several announcements have been sent already and registration materials are going out soon. Reunion chairpersons are looking for another record-setting reunion. **If you graduated in 1938, 1948, 1958, 1963, 1968, or 1978, come to your class reunion on June 3.** You will have a good time!

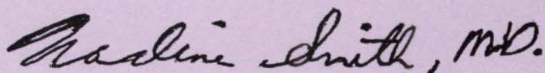
The alumni phonathon ended in early November with excellent results. Telephone pledges totalled approximately \$130,000 in support of our Medical Schools. Along with other alumni fundraising efforts, over \$162,000 in annual giving gifts (\$0 - \$999) have been pledged or given to the Medical Schools by alumni since July 1, 1987. This is truly outstanding and indicates a strong sense of pride in the research and education taking place at our alma mater.

The Medical Alumni Society's Annual Meeting and Luncheon is June 4 at the Medical School (Minneapolis). Please mark your calendar and plan to attend. The Harold S. Diehl Award for outstanding achievement is given and new Medical Alumni Society board members are elected. The cost for the luncheon is approximately \$15/person, and this provides yet another opportunity to meet with your fellow Minnesota alums. (Tours of University Hospital are also available following the Luncheon.)

For more information about any of the MAS activities, please don't hesitate to contact myself or Robert Burgett/Mark Holman at MMF: (612) 625-1440. Box 193 UMHC, University of Minnesota, Minneapolis, Minnesota 55455.

I look forward to seeing many of you at these events!

Sincerely,



Nadine G. Smith, M.D. '52  
President  
Medical Alumni Society

P.S. What's new with you? Let us know where you are and what you're doing — by filling out the “What's New With You” form on page 30.

# Alumni Profile

**Name:** M. Elizabeth "Peggy" Craig, M.D.

**Class Year:** 1945

**Specialty:** Pediatrics

**Hometown:** Minnetonka, Minnesota

**Family:** Husband, Howard Lincoln, a retired food scientist; children, Craig, 1972 bronze medal winner in Olympic diving and now living in California; Elizabeth (Libby), an attorney in Minneapolis.

**Practice/Position:** Private practice of pediatrics, South Lake-Pediatrics West, St. Louis Park and Eden Prairie, Minnesota; staff, Methodist Hospital and Minneapolis Children's Hospital; clinical assistant professor, University of Minnesota Medical School; medical director, Institute for Eating Disorders, Methodist Hospital.

**Special Appointments:** Board of Regents, University of Minnesota; Board of Directors, Smoke Free Coalition and Smoke Free Generation; Board of Trustees, Methodist Hospital; Board of Directors, Minneapolis Foundation.

**Hobbies:** Foreign travel (specifically the Orient) and study of foreign culture, civic work, athletics.

**Medical School Memories:** The effects of World War II, e.g., medical school students (as soldiers) marching to class, daylight savings time (classes actually beginning at 5:00 a.m.), rationing, the accelerated medical program. The difficult, yet enjoyable, work in anatomy lab. The rigid and demanding structured education and Professors Watson, Wangenstein, Rigler, and McQuarrie.

**Working On:** Advocacy of a smoke-free society.



**Dr. Peggy Craig at the Great Wall of China.**

**Looking Ahead:** Having entered medicine on the crest of the antibiotic era, the focus was on diseases such as measles, mumps, diphtheria, and pneumonia. Now we face the great challenge of finding answers to much more complicated diseases such as AIDS or toxic shock syndrome — as well as many behavioral conditions. It is also important to try to maintain the patient-doctor relationship which has become more impersonal over time.

**Advice:** Medicine is still a beloved profession and highly respected. As physicians we must respect our own profession in order to keep the respect of others.

## MAS BOARD NEWS

### Special elections held

A special election at the January 26 meeting of the Medical Alumni Society (MAS) filled two vacant positions on the board.

Dr. Richard Student, '54, was elected to the position of MAS secretary/treasurer, following the death of Dr. Kris Hagen, '28. Dr. Student, an ophthalmologist in the Twin Cities, will serve in the office through June.

Dr. Dorothy Horns, '76, joins the MAS board in the director position vacated by Dr. Student. Dr. Horns, also an ophthalmologist, lives and works in the Minneapolis area. She will serve through June 1991.

(Note: See following story for information on annual nominations.)

### Board nominations requested

Nominations for the Medical Alumni Society (MAS) board of directors are being accepted until the annual meeting on June 4, 1988. As stated in the society's constitution, a nominee should follow the MAS purpose:

*" . . . to foster the continuance of the fellowship development during the undergraduate life, to promote the welfare of the Medical School, to aid post-graduate medical education, and facilitate communication between the practicing physician and the Medical School faculty and administration."*

MAS board terms are for three years and nominations should be sent to:

George Tani, M.D.  
Medical Alumni Society  
Box 193 UMHC  
University of Minnesota  
Minneapolis, Minnesota 55455

# Fifty Plus (50+) Reunion

Plans are underway for a reunion luncheon for all Minneapolis/St. Paul area medical alumni who graduated more than 50 years ago (1937 or earlier). Held in conjunction with other medical class reunions on June 3, 1988, the 50+ reunion is designed to honor older alumni and to provide ongoing contact with their alma mater, the University of Minnesota Medical School.

In June of 1989 (as part of the Medical School's Centennial Anniversary celebration), plans call for the 50+ reunion to become an annual event for all 50+ alumni. This year, Twin Cities area alumni are receiving invitations in April, although other 50+ alumni planning to be in the area on June 3 are welcome to attend and are encouraged to contact the

Medical Alumni Society office for more information.

Details for the event are:

Fifty-Plus (50+) Reunion  
June 3, 1988  
12:00 (noon) - 1:30 p.m.  
Radisson University Hotel  
Minneapolis  
Speaker: David Brown, M.D.,  
Dean of the Medical School  
Cost: Approximately \$15.00

A 50+ reunion is an answer to requests from older alums to continue with the same sort of fellowship that comes along with class reunions. Other events for the 50+ group may also be

organized throughout the year.

The 1988 reunion luncheon is planned as part of the Minnesota Medical Foundation's annual luncheon honoring the 50th reunion class (1938). A ceremony to induct the 1938 class into the 50+ ranks will be held as well as presentation of other awards and recognition activities. David Brown, M.D., dean of the Medical School, will speak and answer questions.

For additional information about the 50+ reunion, contact Robert Burgett or Mark Holman at (612) 625-1440. This event is sponsored by the Medical Alumni Society with assistance from the Minnesota Alumni Association and the Minnesota Medical Foundation.



**The class of 1937 entered the ranks of the 50+ Club last June when they celebrated their 50th reunion. This year's 50+ reunion/luncheon is being held along with the reunions for the classes of 1938, 1948, 1958, 1963, 1968 and 1978.**

# New Horizons in Minnesota Medicine - 1988

Saturday, June 4, 1988  
University of Minnesota Medical School  
Malcolm Moos Health Sciences Tower - Room 2-690  
9:00 a.m. — 12:30 p.m.

Registration is \$50.00 for Medical Alumni Society members (\$65.00 for non-members), which includes the annual Medical Alumni Society Luncheon following the seminar. Presentation of the Diehl Award is one of the highlights of the luncheon program.

## FACULTY PRESENTATIONS:

Frank S. Rhame, M.D.  
Louis Tobian Jr., M.D.

Norma K.C. Ramsay, M.D.  
John P. Delaney, M.D., Ph.D.  
Donald J. Doughman, M.D.  
Robert L. Kane, M.D.

"AIDS Research in Minnesota"  
"Protection by dietary potassium against hypertensive stroke deaths, kidney disease endothelial cell injury: A Legacy from Prehistoric Times."  
"Improved Survival for Children with Cancer"  
"Treatment of Cancer with Breast Conservation"  
"Ophthalmology 1988: An Update"  
"Caring for Older Patients: Facing Tough Decisions"

### Frank Rhame, M.D.



*Assistant Professor Infectious Diseases Section, Department of Medicine*

Before his appointment at Minnesota in January of 1979, Dr. Rhame was a clinical assistant professor of medicine at Stanford University. Actively involved in AIDS research, Dr. Rhame currently directs the University of Minnesota Hospital and Clinics' HIV Clinic. Since August 1984 he has also served on the faculty of the School of Public Health in the Division of Epidemiology.

### Louis Tobian Jr., M.D.



*Professor of Medicine*

A graduate of Harvard Medical School, Dr. Tobian has been in the Department of Medicine since his appointment in 1954. He was appointed chief of the Hypertension Section in 1964 and has been recognized as a leading researcher in this area. In May he will receive the Franz Volhard Award and Lectureship from the International Society of Hypertension.

### Norma Ramsay, M.D.



*Professor of Pediatrics and Director, Pediatric Bone Marrow Transplantation Unit*

Dr. Ramsay has directed the Pediatric Bone Marrow Transplantation Unit since 1979. A graduate of the University of Manitoba, Dr. Ramsay has published many papers on the topic of bone marrow transplantation. She was also recently an invited speaker at the American Cancer Society Symposium "Cancer Care: New Trends in Treatment."

### John Delaney, M.D., Ph.D.



*Professor of Surgery*

Dr. Delaney, a highly recognized leader in breast cancer surgery, has been on the faculty at Minnesota since July 1965. A Minnesota graduate, Dr. Delaney has authored or co-authored over 200 scientific publications. The most recent, "Treatment of Breast Cancer with Breast Conservation" (Feb. 1988), is also the title of his presentation. Dr. Delaney also holds a Doctor of Physiology degree from the University.

### Donald Doughman, M.D.



*Professor and Chairman Department of Ophthalmology*

A graduate of the University of Iowa College of Medicine, Dr. Doughman came to Minnesota in 1972 and was appointed chairman of the Department of Ophthalmology in 1979. He has received the Honor Award by the American Academy of Ophthalmology and serves as an associate editor for *Ophthalmic Surgery and Cornea*. In 1987, Dr. Doughman co-authored "Acanthamoeba Keratitis: A Growing Problem in Soft and Hard Contact Lens Wearers."

### Robert Kane, M.D.



*Dean and Professor, School of Public Health*

Appointed dean in 1985, Dr. Kane also serves as a professor for the University's Medical School. He is a graduate of Harvard Medical School and serves on the Department of Health and Human Services Advisory Panel on Alzheimer's Disease. Dr. Kane is also a recognized author in the area of gerontology and in 1987 received the Edward B. Henderson Memorial Lectureship Award.

NEW HORIZONS IN MINNESOTA MEDICINE is an annual presentation to showcase six faculty members of the University of Minnesota Medical School. Scheduled in conjunction with Medical School graduation ceremonies and class reunion activities, NEW HORIZONS offers an opportunity to both local and visiting alumni to see the exciting and innovative work taking place at the Medical School — as well as earn C.M.E. credits.

NEW HORIZONS IN MINNESOTA MEDICINE is sponsored by the Medical Alumni Society, with assistance from the Minnesota Medical Foundation and the Minnesota Alumni Association. For more information, contact Robert Burgett or Mark Holman, MMF (612) 625-1440.

# CLASS NOTES

## 1932

**Dr. Reuben Berman**, Minneapolis, has been honored with the Laureate Award from the Minnesota Chapter of the American College of Physicians. Dr. Berman has been a well-known internist/cardiologist in Minneapolis for many years. He had his first appointment in the University of Minnesota Department of Medicine in 1934, and has been an emeritus professor since 1963. Dr. Berman was president of the board of trustees of the Minnesota Medical Foundation from 1978 to 1980.

## 1938

**Dr. Hanns Schwyzer**, Raton, New Mexico, has retired from his surgical practice and is enjoying his 45,000-acre ranch where he raises Texas Longhorns. He also participates in studies and a lecture circuit on science and politics.

## 1956

**Dr. H. Jerome Stulberg**, Beverly Hills, California, was elected the Cedars-Sinai Alumnus of the Year for 1987 by his colleagues. He has been in private practice in radiology for the past 15 years. Dr. Stulberg is a clinical professor of radiology at the Martin Luther King Hospital-Charles Drew Medical School in Los Angeles.

## 1958

**Dr. Edward John Bardon**, St. Paul, private-practice psychiatrist and president of the University Boynton Health Service medical staff, has an exhibit of his photographs at Lakewood College in White

Bear Lake in April. Dr. Bardon has won numerous awards for his photography.

**Dr. Gene G. Hunder**, Rochester, Minnesota, has been appointed chairman of the Rheumatology Division, Mayo Clinic. He is president of the Central Region of the American Rheumatism Association, and is finishing a 6-year term on the American Board of Internal Medicine subspecialty rheumatology.

## 1963

**Dr. Robert D. Hanek**, Anchorage, Alaska, has been a family practice physician in Fairbanks and Anchorage since 1968. He is presently working with a three-physician corporation in Humana, Alaska. Dr. Hanek has been involved in flying for 20 years, the last 10 years specifically with floatplanes in the bush outside of Fairbanks.

**Dr. Larry Poston**, Bloomington, Minnesota, was elected president of the Minnesota Medical Association in 1987. Dr. Poston had a solo family practice in Caledonia, Minnesota, from 1964 to 1986, was involved in the Minneapolis Home Care Project in 1986-87, and is on the faculty of the University of Minnesota Department of Family Practice and Community Health.

## 1970

**Dr. William H. Reid**, San Antonio, Texas, was recently elected president of the American Academy of Psychiatry and the Law. He is currently medical director of Colonial Hills Hospital and clinical associate professor of psychiatry at the University of Texas Health Science Center, San Antonio.

## What's New With You?

Name	Specialty/Degree	Year
Address		Telephone
City, State, Zip		

News of relocations, new positions, honors and awards, community activities, personal activities, etc.

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Send to: Editor, Minnesota Medical Foundation, Box 193 UMHC, University of Minnesota, Minneapolis, MN 55455.

## IN MEMORIAM

### A.B. Baker, M.D.,

Class of 1931, died January 18 at age 79. A University of Minnesota regents professor emeritus, Dr. Baker was considered the father of modern neurology, and was a brilliant teacher, writer, and researcher. By the age of 23 he had earned four degrees from the University of Minnesota, and in 1946 was named head of the Department of Neurology at the Medical School, a position he held until 1976. In 1945 Dr. Baker helped organize one of the first programs for rehabilitation of disabled patients at the Veterans Administration Hospital in Minneapolis; in the late 1940s, he developed a treatment for a form of polio that resulted in reducing the death rate by about 80 percent; and in 1948 he was a founder and first president of the American Academy of Neurology. He also compiled the multi-volume "Clinical Neurology," considered the definitive reference work on neurology. Dr. Baker is survived by his wife, Rose, three daughters, and 13 grandchildren.

### Lester H. Bendix, M.D.,

Class of 1929, died January 27 at age 85. Dr. Bendix was a general practitioner in Annandale, Minnesota, from 1930 to 1982, and was Wright County coroner from 1935 to 1987. He was chairman of the Annandale School Board for 25 years, and in 1978 was awarded the Harold S. Diehl Award by the University of Minnesota Medical Alumni Society. Dr. Bendix is survived by a son and daughter, two sisters and a brother, and six grandchildren.

### Charles D. Freeman Jr., M.D.,

Class of 1942, died November 6, 1987, at age 75. Dr. Freeman was a retired dermatologist who practiced in St. Paul for 30 years. Upon completion of his internship, he joined the Army, serving as a medical captain in the 20th Armored Division in Europe in World War II. Dr. Freeman is survived by his wife, Alice, a step-daughter, a sister, and two grandchildren.

### Raymond L. Gregory, M.D.,

Class of 1929, died January 30 at age 87. Dr. Gregory was associated with the University of Texas Medical Branch in Galveston from 1940 until 1968, where he was professor of medicine and chair-



man of the Department of Internal Medicine. He was associated with the Diagnostic Clinic of Houston from 1968 until his retirement in 1986. Dr. Gregory's wife, Lois Null Gregory, died on January 31, one day after her husband's death. She held a degree from the University of Minnesota School of Nursing. The couple is survived by two sons, a daughter, and seven grandchildren.

#### **Wilson B. Hall, M.D.,**

Class of 1943, died January 20 at age 75. A resident of Quincy, Illinois, Dr. Hall was formerly a physician at the St. Cloud, Minnesota, Veterans Hospital, and served in the Army Medical Corps in World War II. He is survived by his wife, Mary Frances, a step-son, a brother, two sisters, and two grandchildren.

#### **Otto A. Lenz, M.D.,**

Class of 1929, died January 23 at age 88. A retired Minneapolis physician and surgeon, Dr. Lenz practiced in the Minneapolis metropolitan area for more than 40 years. He joined the staff of St. Barnabas Hospital in Minneapolis early in his career, and in 1947, he and other staff members formed the first organized and incorporated group of general practitioners in the United States, the American College of Physicians and Surgeons. Dr. Lenz is survived by his wife, Winnifred, two daughters, a sister and brother, 16 grandchildren, and nine great-grandchildren.

#### **Stanley R. Maxeiner, M.D.,**

Class of 1909, died March 2 at age 102. Dr. Maxeiner was a Minneapolis surgeon who taught for more than 30 years at the Veterans Hospital and the University Medical School. A native of Chippewa Falls, Wis., he interned at the former Minneapolis General Hospital. He served in the U.S. Army Medical Corps in France during World War I, then returned to Minneapolis to practice until he retired in the 1960s. Dr. Maxeiner was past president of the Hennepin County Medical Society and a president and founder of both the Minneapolis Surgical Society and the Minneapolis Academy of Medicine. He is survived by two sons, seven grandchildren, and 16 great-grandchildren.

#### **Gerald Nudell, M.D.,**

Class of 1947, died in December 1987. Dr. Nudell was past president of the

California Society of Anesthesiologists and vice speaker of the American Society of Anesthesiologists. He is survived by his wife, Dorothy, his mother, two daughters, a son, a sister, and four grandchildren.

#### **John H. O'Leary, M.D.,**

Class of 1938, died December 21, 1987. Dr. O'Leary was a resident of Havre, Montana.

#### **Hulda E. Thelander, M.D.,**

Class of 1924, died February 15 at age 92. A native of Little Falls, Minnesota, Dr. (Jo) Thelander began a nursing program at the Swedish Hospital in Minneapolis during World War I, before deciding to become a doctor. With the help of a scholarship from the Missionary Society, she graduated from Minnesota with her medical degree, one of three degrees she received from the University.

After spending a year as a medical missionary in China, Dr. Thelander returned to the United States and established a pediatrics practice in San Francisco. She became affiliated with the Children's Hospital in San Francisco, where she served as head of the Department of Pediatrics from 1951 to 1962. She also held academic appointments at the University of California at San Francisco and at Stanford Medical School.

Dr. Thelander is best known as founder of San Francisco's Child Development Center, one of the first such centers in the nation. It continues to provide diagnosis and treatment services for handicapped children of northern California. Dr. Thelander also pioneered studies of brain-damaged children which led to improved management of neurological defects in the early years of life.

In 1983, Dr. Thelander was recognized for her many contributions to medicine with the University of Minnesota Outstanding Achievement Award, the highest honor given to alumni by the University. Dr. Thelander was living in northern California at the time of her death. She is survived by a brother and numerous nieces and nephews.

#### **Jeffrey G. Weingarten, M.D.**

Class of 1984, died February 25 at age 31. He had battled Hodgkin's Disease during his years at the University, but was one of the top 10 Medical School graduates of the Class of 1984. Dr. Weingarten was a St. Paul native who was the senior resident in internal medicine at the University of California-San

Francisco hospital. He is survived by his parents and a brother. The "Weingarten Emergency Medical Aid Fund" for medical students who become ill while in medical school has been established through the Minnesota Medical Foundation.

#### **Edwin O. Wicks, M.D.**

Class of 1949, died December 20, 1987. He practiced most recently with the University of Kansas Medical Center's Department of Psychiatry. Dr. Wicks was formerly director of the Clay County (Kansas) Health Department, director of the Kansas City Health Department, director of the New Mexico Department of Health and the Alaska Division of Public Health. He was a fellow of the American Public Health Association and a diplomate of the American College of Preventive Medicine. Dr. Wicks is survived by his wife, Milly, a son, three daughters, a brother, and eight grandchildren.

*We have also received notice of the following deaths:*

#### **Bruce E. Linderholm, M.D.,**

Clinical assistant professor in the Department of Urology at the University of Minnesota Medical School, died February 15 at age 64. Dr. Linderholm had practiced in the Minneapolis area since 1956. He was formerly chairman of the Hennepin County Medical Society, past president of the Methodist Hospital medical staff and the Minneapolis Academy of Medicine, and on staff at Abbott Northwestern, Methodist, and Fairview-Southdale hospitals and Hennepin County Medical Center. In 1964 he served as a volunteer for Project Hope in Sri Lanka. Dr. Linderholm is survived by his wife, Muriel, five daughters, his mother, a sister, and six grandchildren.

#### **Edwin F. Robb Sr., M.D.,**

Former faculty member at the University of Minnesota Medical School, died November 28, 1987, at age 93. Dr. Robb was a pediatrician in Minneapolis for 40 years. He graduated from medical school at Washington University in St. Louis, and served as a doctor in the U.S. Navy. Dr. Robb is survived by two sons, 10 grandchildren, and three great-grandchildren.

# Minnesota Medical Foundation Endowments

## "A Personal Legacy for the Future"

**Named endowments:**

Although life is temporal, our influence can live in perpetuity. One of the best ways to extend our influence is to establish a permanent, named endowment fund, for example: The John and Mary Doe Endowed Scholarship Fund.

**How much does it take?**

Minimum: \$10,000 Maximum: None

**Designation:**

The fund may be undesignated, broadly designated (student aid, cancer, heart research, etc.), or specifically designated (scholarships, glaucoma research, etc.) for medical research, education, or student aid at the University of Minnesota Medical Schools.

**Investment:**

A committee of experienced investors uses a solid, long-term investment policy. The last five years have averaged a total annual return of 18 percent. The earnings, dividends, and interest average 5 percent to 6 percent and are paid annually to support the donor's interest. The capital appreciation, average of 12 percent, is added to the endowment fund principal.

**Funding:**

A person may make an outright gift of cash, stocks, bonds, or property, or may plan a future gift such as a bequest by will or life income gift that first returns a lifetime income to the donor and/or others.

**Benefit:**

The result is a predictable, long-term benefit to accomplish the donor's objective for medical research, education, or students.

**Endowment statement:**

The statement is carefully prepared by the donor in cooperation with a staff member. This guides the use of the endowment fund.

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I am interested in considering the possibility of establishing an endowment fund.  
Please send me additional information.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY, STATE, ZIP \_\_\_\_\_

PHONE \_\_\_\_\_

Return to: Minnesota Medical Foundation  
Attention: Gary Hargroves  
Box 193 UMHC  
University of Minnesota  
Minneapolis, Minnesota 55455  
612-625-5463

# HISTORICAL PERSPECTIVE

## The Third Dean: Frank Fairchild Wesbrook (1868-1918)

When Frank Wesbrook became dean of the College of Medicine and Surgery in 1906 at the age of 38, he was already well-known throughout the state for his work in bacteriology and public health. In the spring of 1896, within six months of his arrival at Minnesota as professor of pathology and bacteriology, Wesbrook was appointed bacteriologist and director of laboratories for the State Board of Health. The State Board of Health laboratory was established in the laboratory of medical sciences on the University campus, where Wesbrook organized an efficient staff that included Drs. Orianna McDaniel and Louis B. Wilson.

In 1897 Wesbrook and Wilson isolated typhoid bacilli from Minneapolis tapwater, thereby identifying the source of the typhoid fever epidemic then raging in the city. Wesbrook and his colleagues also revealed the widespread extent of rabies in Minnesota. In 1896 rabies was responsible for the deaths of six persons in St. Paul alone, and caused serious losses among cattle and horses attacked by rabid dogs or wolves in a broad area across the state.

Perhaps Wesbrook's most valuable contribution to medical bacteriology was his classification of the forms of diphtheria bacilli, which enabled him to identify those most likely to cause clinical diphtheria. Armed with knowledge of the particularly dangerous forms of diphtheria bacilli found in throat cultures, Wesbrook and his colleagues in 1902 succeeded in stopping a diphtheria epidemic in Park Rapids.

The value of Wesbrook's work was not lost upon Minnesota legislators, who in 1904 voted the funds to build an Institute of Public Health and Pathology

at the University, just completed as Wesbrook became dean.

A native of Canada, Wesbrook grew up in Winnipeg. After graduating in medicine from the University of Manitoba in 1890, he went to England for further study. In 1892 Wesbrook received a scholarship at Cambridge University, where he spent the next three years doing bacteriological research in the Department of Pathology.

At Cambridge Wesbrook began to teach bacteriology, experience that proved useful when he introduced laboratory classes in bacteriology for medical students at Minnesota. As a teacher, Wesbrook's innate sympathy and high standards brought out the best in his students.

As dean, Wesbrook worked to convert the Elliot bequest, received in 1905, into the reality of a University hospital. Realizing that the small and confined University campus must be expanded, Wesbrook succeeded in raising \$42,000 from Minneapolis citizens to buy a site for the Elliot Hospital, and helped to persuade the Legislature to provide an additional \$450,000 for the expansion of the campus.

Wesbrook also obtained appropriations from the Legislature to build Millard Hall and the Institute of Anatomy (now Jackson Hall) south of Washington Avenue. Both were completed in 1912. For more than 40 years these two buildings served to house the teaching and research of the Medical School. In 1908 Wesbrook reorganized the medical college into departments, and negotiated the incorporation into it of both the University's homeopathic college and the Hamline University Medical School, thereby creating in the state one medical school



Frank Fairchild Wesbrook



Institute of Public Health and Pathology

upon which the resources needed to develop scientific medicine might be concentrated.

In 1912 Wesbrook planned to ask the Legislature for funds to expand the small 120-bed Elliot Hospital to more than 500 beds — the minimum needed for effective clinical teaching — and to build additional buildings for the medical sciences. All his plans were cancelled by President Vincent, who instead launched upon a brutal reorganization of the Medical School. It would be almost 20 years before the University hospital was expanded to the size that Wesbrook knew was needed. Frank Wesbrook left Minnesota in 1913 to become president of the new University of British Columbia.

Wesbrook died in Vancouver at the age of 50 from kidney disease.

*Leonard G. Wilson, Ph.D., is chairman of the History of Medicine Department at the University of Minnesota.*



# Minnesota Medical Foundation

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(612) 625-1440

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## CALENDAR OF EVENTS

### Beyond Baby M: Ethical Issues in New Reproductive Techniques

Radisson University Hotel, Minneapolis  
CME (612) 626-5525

### Emergency Management of Poisonings - 10th Midwest

**Clinical Toxicology Update**  
St. Paul-Ramsey Medical Center  
CME (612) 221-3992

### Family Practice Review: Update 88

Radisson South Hotel, Minneapolis  
CME (612) 626-5525

### Human Aging

Mayo Memorial Auditorium, University of Minnesota, Minneapolis  
CME (612) 626-5525

### Laser Surgery in Dermatology

3-110 Moos Tower, University of Minnesota, Minneapolis  
CME (612) 626-5525

### 5th Annual Symposium on Gynecologic Oncology

Radisson University Hotel, Minneapolis  
CME (612) 626-5525

### Current Concepts in Radiation Therapy

Mayo Auditorium, University of Minnesota, Minneapolis  
CME (612) 626-5525

### International Mucopolysaccharidosis Congress

Radisson University Hotel, Minneapolis  
CME (612) 626-5525

### Maxillofacial Trauma

Health Sciences Center, University of Minnesota, Minneapolis  
CME (612) 626-5525

### World Med '88

Hyatt Regency Hotel, Minneapolis  
CME (612) 626-5525

### Computer Based Medical Systems

Hyatt Regency Hotel, Minneapolis  
CME (612) 626-5525

### Orthopaedic Surgery Review

Radisson Plaza Hotel, Minneapolis  
CME (612) 626-5525

### 52nd Annual Surgery Course: Progress in Gastrointestinal Surgery

Wiley Hall, University of Minnesota, Minneapolis  
CME (612) 626-5525

### Topics and Advances in Pediatrics

Radisson University Hotel, Minneapolis  
CME (612) 626-5525

### PanAm Pigment Cell Society

3-110 Moos Tower, University of Minnesota, Minneapolis  
CME (612) 626-5525

## REUNION UPDATE

April 15

April 28-29

May 2-6

May 11-12

May 14-15

May 17

May 18-20

May 20-22

June 3-5

June 8-10

June 8-10

June 8-11

June 15-18

June 20-22

June 24-26

Attention Classes of 1938, 1948, 1958, 1963, 1968, 1978!

### June 2

- Class of 1938 arrival/Hospitality Suite reception
- Tour of University Hospital — Class of 1938

### June 3

- Class of 1938 and 50+ Luncheon
- Tour of University Hospital — 50+ Alumni
- Graduation Ceremony (Special guests: Class of 1938)
- All-alumni reception
- Individual Class Dinners/Programs (1938, 1948, 1958, 1963, 1968, 1978)

### June 4

- New Horizons in Minnesota Medicine (CME Seminar)
- Medical Alumni Society Annual Meeting and Luncheon
- Diehl Award presentation
- Tour of University Hospital — OPEN

Registration materials are mailed in mid-April. Questions may be directed to Robert Burgett or Mark Holman at the following address:

REUNIONS/MMF  
Box 193 UMHC  
University of Minnesota  
Minneapolis, Minnesota 55455