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University of Minnesota

Medical Bulletin

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Vision for the Future

Winter 1996

**The Minnesota Medical Foundation
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**MINNESOTA
MEDICAL
FOUNDATION**

at the University of Minnesota

ON THE COVER:

Ophthalmologist Dr. Edward Holland with Christina Granquist, who was born with Peters' anomaly.

Photo by Tim Rummelhoff

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Out of Darkness



by Jodi Ohlsen Read
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A mother looks into the eyes of her newborn baby and sees ... something wrong. The eyes look gray, cloudy, unseeing.

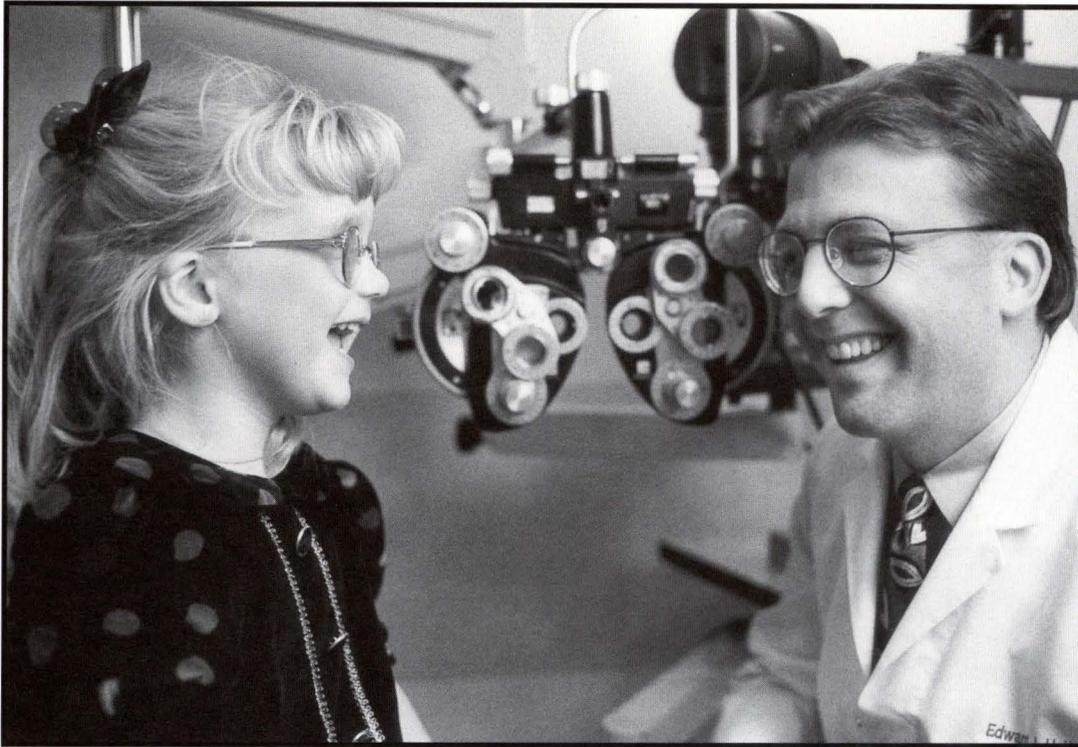
“I could tell something was wrong right away,” says Marie Granquist. “I knew she couldn’t see me.”

Her daughter, Christina, was born with Peters’ anomaly, a condition in which the eye doesn’t fully develop before the baby is born. In most cases, the child is totally blind and in some, an eye may not even have developed beyond a rudimentary cyst.

The doctor who examined Christina shortly after her birth couldn’t diagnose the problem. He sent her to another doctor, a chief ophthalmologist at a large hospital, who then referred the Granquists to the University of Minnesota Department of Ophthalmology.

Christina was only 14 hours old when Edward Holland, M.D., associate professor of ophthalmology and holder of the Elias Potter Lyon Land Grant Chair for Neuroscience Research in Ophthalmology, examined her for the first time. The Granquists could not have predicted how important this doctor would become to their daughter and to them.

“I wouldn’t stop until I got the answer I wanted,” says Granquist. “Dr. Holland diagnosed it as Peters’ anomaly right away. She was admitted and exploratory surgery was done the next day.” Christina then spent her first year of life dealing with multiple surgeries (two cornea transplants, five retina reattachments, and three glaucoma procedures), and many daily visits to the University. Today, Christina has 20/25 vision — the best recorded vision for someone with Peters’ anomaly.



Improving the prognosis

"It's important that the babies are diagnosed right away, because the brain needs visual input immediately to develop the visual cortex," says Holland. "These children need a cornea transplant as soon as possible. Usually it's done within the first three or four weeks of life." If the transplant isn't done early enough, and the brain doesn't receive clear, sharp images, then that part of the brain doesn't develop and the child will never have clear vision.

Dr. Edward Holland plays an important role in Christina's life.

Ten years ago, the prognosis for children with Peters' anomaly was quite poor. Complicating factors, such as transplant rejection, glaucoma, or retina problems lowered the success rate. In addition, such young children can be hard to examine because they can't tell adults when they are having trouble. "Over the last several years, we've taken a multidisciplinary approach in which specialists in cornea, pediatric ophthalmology, glaucoma, and retina all aggressively examine and treat these children," says Holland. "We've had some outstanding success.

"The cooperation of all the services is something unique that we can offer over a lot of other places. We have a good cornea service with lots of experience with cornea transplants in children; we have an excellent pediatric ophthalmology service which is willing to see the children whenever needed — each child may have 60 to 80 visits or more in the first year; we have a very good glaucoma service that will operate on infants; and we have experienced nurses and technicians who are used to working with small children. It's the large team effort and commitment that gives these children a chance," says Holland.

The care and commitment of the caregivers is clear to the patients, says Granquist. Christina developed a close relationship with her doctor, Holland, during her many visits to the clinic. "She just loves him," says Granquist, "She's not afraid to come in at all, even after all she's gone through. Seeing Dr. Holland is a special thing to her.

"The doctors and nurses pulled us through emotionally — they kept us on an even keel. One thing I can do in return is give people insight into what is being done, where the money goes. In Christina's case, we had access to research, surgical instruments, and so much else because somebody cared and gave."

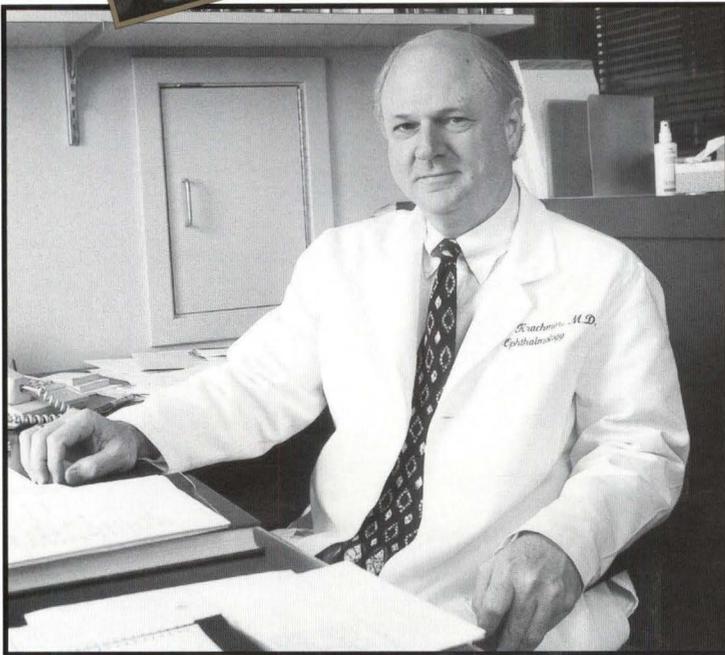
If the transplant isn't done early enough... that part of the brain doesn't develop and the child will never have clear vision.



Committed to a vision

Commitment to the team is echoed by Jay Krachmer, M.D., head of the department and holder of the Harold G. Scheie Research Land Grant Chair in Ophthalmology. "It's a real team of people — we have the M.D.s, the Ph.D.s, but we also have a strong and committed department of administrators, secretaries, and technicians. And we have the support of the Vision Foundation board and donors. Additionally, we are especially fortunate to have wonderful support from the Minnesota Lions. It takes all of these individuals to make the work we do possible," says Krachmer.

The Minnesota Lions Eye Bank board of directors was formed by the Lions and Lioness Clubs of Minnesota. Since their inception in the early 1960s, they have provided enough funding to establish and maintain one of the largest eye banks in the country and have provided financial support for the Minnesota Lions Children's Eye Clinic, equipment, and for the construction of research facilities.



Dr. Jay Krachmer heads the Department of Ophthalmology.

To involve supporters who could not always participate through Lions Clubs, such as patients and alumni of the Department of Ophthalmology, the Vision Foundation was formed. The Vision Foundation, a non-profit organization dedicated to improving visual health, works closely with the Department of Ophthalmology. The foundation was established to build support and raise funds to preserve, enhance, and restore eyesight for everyone. All funds raised are given to the Department of Ophthalmology through the Minnesota Medical Foundation, for education, research, and tertiary eye care. With the help of the Vision Foundation, the department has received additional funds to conduct research, purchase equipment, and staff laboratories — all of which allow them to teach and practice more advanced ophthalmology.

"We strive to find ways to achieve a higher and higher quality of medicine," says Krachmer. The department works to bring expertise, creativity, and commitment to expanding ophthalmic knowledge through research, education, and clinical practice. "The whole idea of our research is to make a difference in the way we practice medicine," explains Krachmer. "The whole thrust of education is to teach doctors to use the most recent advancements and the highest levels of ophthalmology practice."

Advancing technology

Each advancement in technology, each change in treatment, can dramatically affect many patients' chances for better vision. The prognosis for children with Peters' anomaly was improved by many factors, including exams tailored specifically for children.

To examine a child's eyes, doctors must be able look at them through a slit lamp, a bi-microscope that allows doctors to examine the cornea closely. Positioning a four-day-old baby in front of this large machine would be extremely difficult. Thanks to the Vision Foundation, which funded the purchase of a special hand-held slitlamp, doctors can now bring the instrument directly to the baby. This is just one example of many ways services are adapted for patients.

Researchers also continue to minimize complicating factors, such as rejection of a newly transplanted cornea, by developing new drug therapies. "We've used a new antirejection drug, cyclosporin, that's been studied through funding from the Vision Foundation.

Cyclosporin is an immunosuppressive drug that's taken orally by organ transplantation patients — lung, kidney, heart, and liver transplantation patients are usually given cyclosporin. It's dramatically increased the success rate of organ transplantation because of its beneficial effects," explains Holland.

"What we've done is taken that same drug and adapted it to a drop form that we can give our cornea transplant patients. We're now studying its affect on children. We've used cyclosporin on several children at risk of rejecting the cornea and have been able to prevent rejection. My clinical impression is that it has made a very big difference in the success rate of transplants in children." If it can be shown that there is a significant benefit, the drug could be used to help patients nationwide.

Improving therapies

Jonathan Wirtschafter, M.D., professor in the Departments of Ophthalmology and Neurology and holder of the Frank E. Burch Research Chair in Ophthalmology, is also researching new drug therapies, as well as treating patients clinically. "What we try to do is start with a clinical problem, take it to the lab, and come back to the clinic with a solution to help patients," says Wirtschafter.

Wirtschafter and colleague Linda McLoon, Ph.D., associate professor in ophthalmology, have been developing a drug treatment to eliminate eyelid spasms, or blepharospasm. Blepharospasm, a type of eyelid disorder, can be debilitating because it can cause the eyelid to clamp shut, without warning.

Rosanna Michaud, who suffers from blepharospasm, had to stop driving a car because she could not control her eyelids. They would suddenly close, and stay closed, leaving her in darkness for up to several minutes. Treatments available at the time were ineffective.

"There are many reasons patients aren't able to get their eyes open. And if they can't open their eyes, they are functionally blind. They can't see to drive, read, or anything else. It is socially and economically disabling," says Wirtschafter.

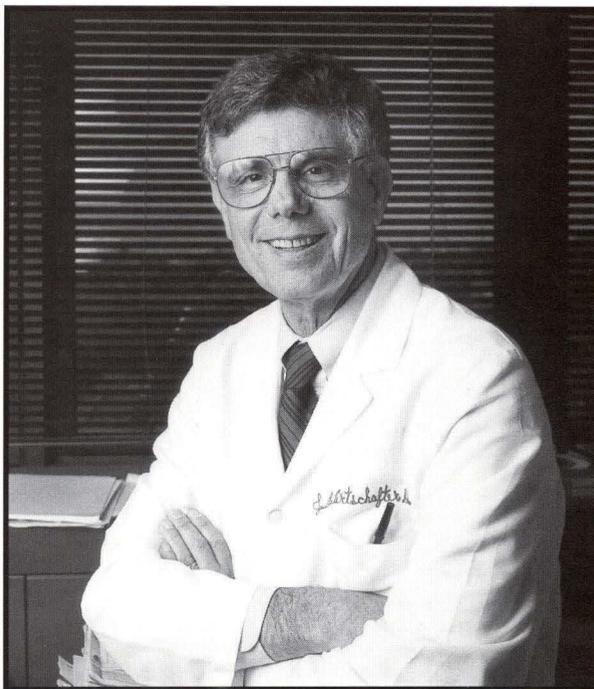
"Two primary kinds of disorders cause eyelid spasms," he explains. "One includes disorders like Parkinson's disease, when there is something wrong with the chemistry of the brain that causes the eyelids to be closed a lot of the time. Our most common diagnosis of this type is blepharospasm. A second type of disorder is the hemifacial, or half-face, spasms. These are due to a vessel compressing a nerve at the base of the brain. Those patients may have spasms that involve the whole face or just the eye."

Treatments for these disorders include surgical techniques and medical approaches. The medical approach currently used to treat eye spasms is the injection of botulinum toxin, which is obtained from a bacteria that causes paralytic "food poisoning." This therapy, developed by University alumnus Alan Scott, M.D., paralyzes the muscle, allowing the patients to open and shut their eyes more easily.

After meeting with Wirtschafter, Michaud began the botulinum treatment, which gave her some relief. But, the effect is temporary and the patient has to return regularly for the injections, which are somewhat costly and painful.

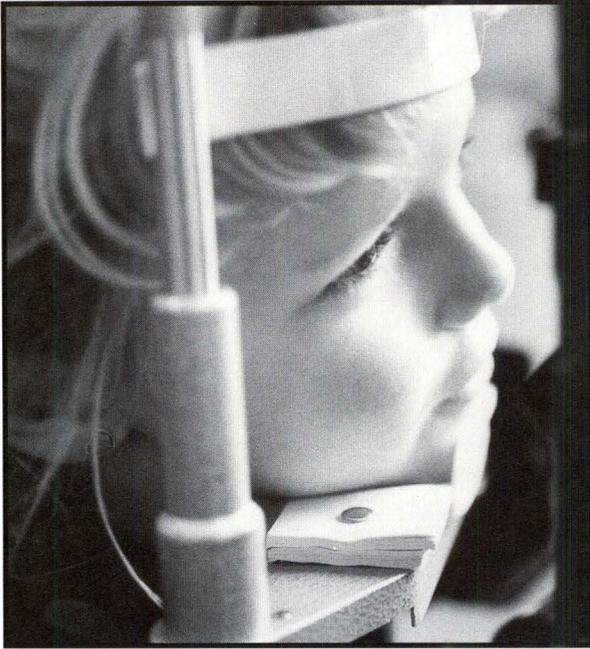
"We began to search for another treatment that would be nonsurgical but permanent," says Wirtschafter. They've found that doxorubicin, commonly used in cancer therapy, may be a permanent, cost-effective treatment for eye spasms. Doxorubicin is injected into the eyelid muscle, where it destroys some muscle in the eyelid at doses that avoid damaging the

Each advancement in technology, each change in treatment, can dramatically affect many patients' chances for better vision.



Dr. Jonathan Wirtschafter searches for solutions to clinical eyelid disorders.

Out of Darkness



Some children, like Christina, may have 60 to 80 clinic visits in their first year.

skin. The somewhat weakened muscle then allows the patient to open and close the eye more normally.

Wirtschafter and McLoon are conducting a study designed to assess the effectiveness of this drug. "We have 27 patients enrolled in the study and the FDA has indicated what is required to get this approved as a standard therapy. We're also applying for funding of a multi-center trial that would involve people across the nation. The University would be the headquarters for this study," he says.

Contributing to the future

The Vision Foundation, the Minnesota Medical Foundation (MMF), and the Minnesota Lions and Lioness Clubs all play a role in this work. "The Vision Foundation was involved in soliciting some private donors who gave us a large start-up sum initially; the Minnesota Lions Eye Bank continuously provides funding for equipment in our lab; and MMF has funded a number of students and equipment grants," says Wirtschafter.

MMF, a non-profit organization that raises and disburses funds for medical education and research at the University of Minnesota Medical Schools, provides fund-raising and management support for a number of organizations, including the Vision Foundation. "Without the help of MMF, we couldn't continue our research to the point where it qualifies for federal funding. This project is now federally funded," Wirtschafter says. "We also have three other projects on the 'back burner' that need support until they might qualify for funding by federal grants."

The support that allows doctors like Wirtschafter, Holland, and others in the department to continue to expand the field of ophthalmology comes from many people, through the Vision Foundation and the Minnesota Lions Eye Bank. To date, over 3,500 people have financially supported eye research and education through the Vision Foundation. Private donors have funded the endowed chairs, which provide secure support. Additionally, the Minnesota Lions Eye Bank has been one of the foundation's most generous supporters, contributing over \$10 million for ophthalmic research and education.

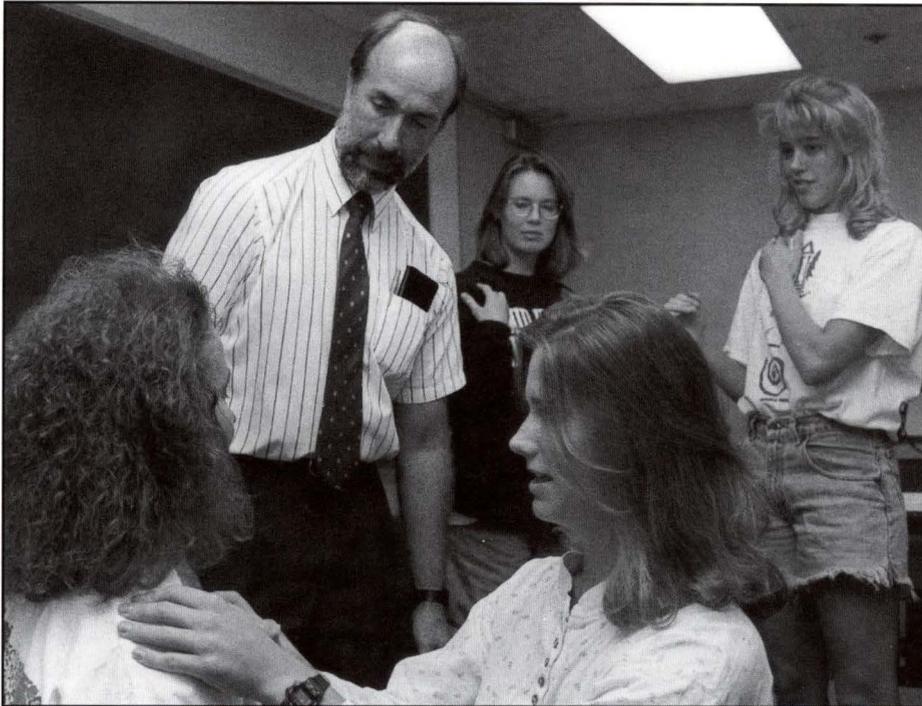
In 1987, the Minnesota Lions Eye Bank made a commitment to provide additional space for the University of Minnesota eye research laboratories. The \$3 million they raised represented a large portion of the total funding for the Lions Research Building, completed in 1993. The building now provides research space for work on the retina, optic nerve, cataracts, glaucoma, children's eye diseases, and neuralgic eye problems.

"The basic difference about being in an academic institution is that it's more possible to achieve advances," says Krachmer. "In order to do this research and this teaching, we need support from private donors. Less than 5 percent of our entire departmental budget comes from the state. To continue to do the work we do, we must have other sources of income. Fortunately, donors recognize that need and generously contribute to the Vision Foundation."

A committed and active board of directors and enthusiastic volunteers and donors have contributed time, energy, and funds to help the department and the foundation achieve the goal of improving and restoring sight.. "The success of the foundation is due to the dedicated volunteers and donors who have been essential in helping the Department of Ophthalmology accomplish its goals," says James Bradshaw, president of the Vision Foundation.

"Cures and improvements to the ability to see are also made possible by the commitment of professional caregivers and researchers," says Krachmer. "Their creativity, expertise, and understanding is what makes a better future of visual health possible." ■

Family Medicine and Duluth:



Dr. Byron Crouse observes as medical students practice on each other.

A Community Partnership

UMD's Department of Family Medicine is meeting today's needs while planning for tomorrow. by Jean Murray

Although the University of Minnesota, Duluth's Department of Family Medicine is less than two years old, it is not only training future family physicians using unique educational methods but is spearheading a number of innovative projects designed to meet the needs of area residents.

In its nearly 25-year history, the School of Medicine at Duluth has always had a mission of training physicians who will enter family medicine and practice in rural and non-urban settings. The number of students entering family medicine — 60 percent last year — is far above the national average.

Until November 1993, the Department of Clinical Sciences provided all clinical education for first- and second-year medical students at UMD. But with the receipt of a U.S. Department of Health and Human Services training grant

for the development of a Department of Family Medicine, the Department of Clinical Sciences was reorganized and reestablished as the Department of Family Medicine.

Heading up the department is Byron Crouse, M.D. He explains that when the School of Medicine was first established, there was a more

UMD Department of Family Medicine Faculty and Staff

Byron Crouse, M.D., Department Head
Jeff Adams, M.D., Director, Year 1 and 2 Curriculum
Dan Benzie, M.D., Director, Year 3 and 4 Clerkships
Malcolm McCutcheon, M.D., Director, Physical Diagnosis Course
James Anderson, M.D., Director, Preventive Medicine/Community Health
James Boulger, Ph.D., Director, Preceptorship Program
Barbara Elliott, Ph.D., Director, Research Program
Tom Day, M.D., Director, Affiliated Residency Training Program
Jan DeRoche, Program Coordinator
Susan Frericks, Evaluation Specialist
Kate Beattie, Research Assistant
Brad Ingersoll, Computer Specialist
Laurie Rosborough, Program Associate
Linda Liskiewicz, Principal Secretary

traditional approach to medical education that focused on the basic sciences in the first two years and the clinical sciences in years three and four.

"Although even then I think UMD was more innovative than some schools and tried to get more of the clinical sciences into the first two years," Crouse says. "That innovation just continued over the years, and we got to the point where we decided that the best way for medical education to take place today is an integration of basic and clinical sciences from the beginning of the first year.

"The students we select already have a predisposition toward family medicine," says Crouse. "Then we provide them with role models, starting as early as the first month of the first year. We have family physicians lecturing, the students spending time in the family physician's office — it's a very early introduction into the real field of

family medicine.

"The family physicians who work with our students show them that practicing in a small rural community can be just as satisfying, just as comfortable, and just as fulfilling as practicing in the shadows of the Mayo Clinic," says Crouse.

James Boulger, Ph.D., a long-time faculty member at the School of Medicine, heads the preceptorship program, where second-year medical students are matched with family practitioners in rural communities. The students shadow their preceptors' every move, and even live with their families as members of the rural community.

"It's almost always a positive experience," says Boulger, "and shows students how good family practice can be in a small community."

The School of Medicine and the community of Duluth have a very strong partnership which is an integral part of the family medicine program. "We have tremendous community and regional support," says Crouse. "The family medicine physicians work with us as teachers, mentors, preceptors — and the specialists also are so supportive and embracing of the concept of family medicine.

"As the coordinators, we have the joy of spending a lot of time with the students, but our success and the richness of our program is due largely to the tradition of the student spending time with our extended clinical faculty — more than 300 area physicians."

Crouse is looking to the future when he thinks about family medicine, and knows how important it is to be responsive to change. "We need to be always envisioning what is coming," he says. "We need to be preparing students to meet the needs of the state in 2005 and beyond, because that is when they will begin practicing, not in 1995."

Jim Boulger is excited about a grant received recently for a student research program, which will also help prepare students for the future. Students spend their summer break between years 1 and 2 conducting research in family medicine, covering a wide range of subjects.

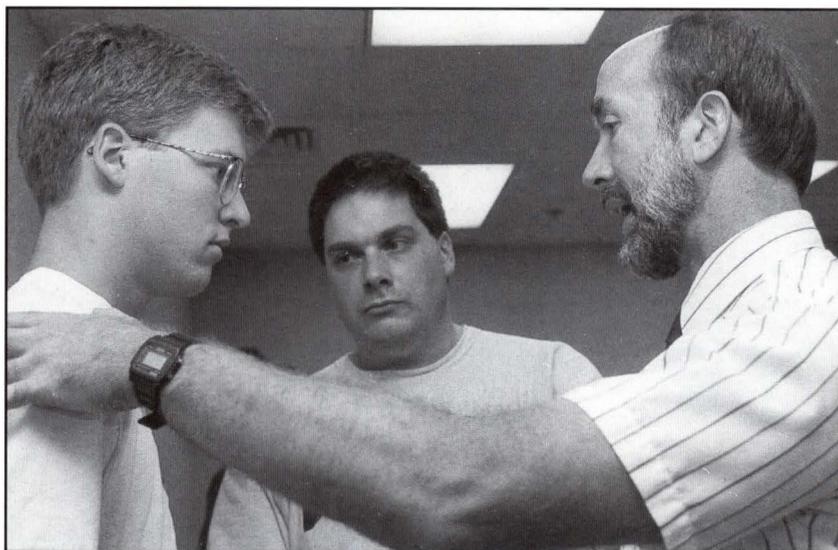
"They learn so much about research methodology, how to get supporting information," says Boulger, "then on student research day at the Minnesota Academy of Family Physicians they present their findings. It's a wonderful experience

for them.”

Coordinating the Family Medicine Department is challenging and very rewarding for Crouse. “I work to make sure the various parts come together,” he says. “It’s sort of like taking all these brushstrokes and putting them into a well-defined masterpiece. Each year at graduation, we see a lot of masterpieces walking across the stage.”

The Department of Family Medicine is made up of four major divisions: Undergraduate Clinical Education (which includes the sections of internal medicine, family medicine, pediatrics, obstetrics/gynecology, and surgery); Graduate Education in Family Medicine; Preventive Medicine, Public Health and Minority Health; and Family Medicine Research.

The research division is working closely with the Duluth community and with the region to meet people’s needs and to confront many issues in our society. According to Ron Franks, M.D., dean of the UMD School of Medicine, “The Department of Family Medicine has placed special emphasis on studying the best methods for delivering rural health care.” A number of innovative projects have been designed and are being carried out, to the benefit of both the researchers and those who are receiving services.



Domestic violence project

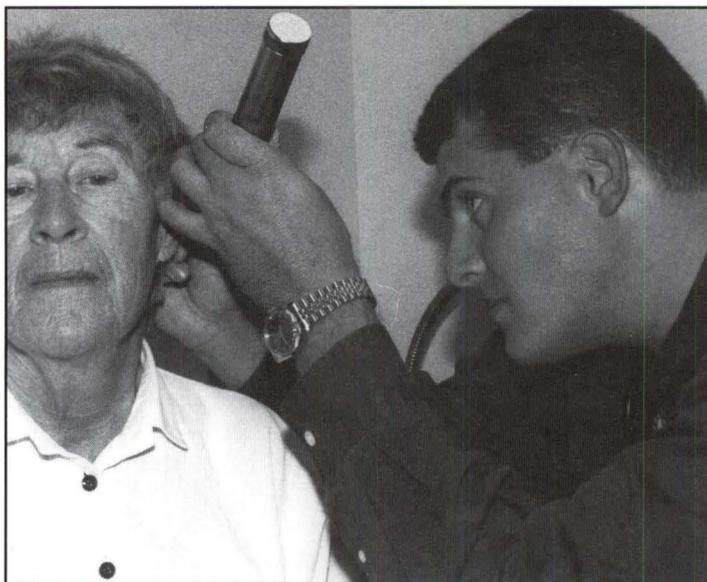
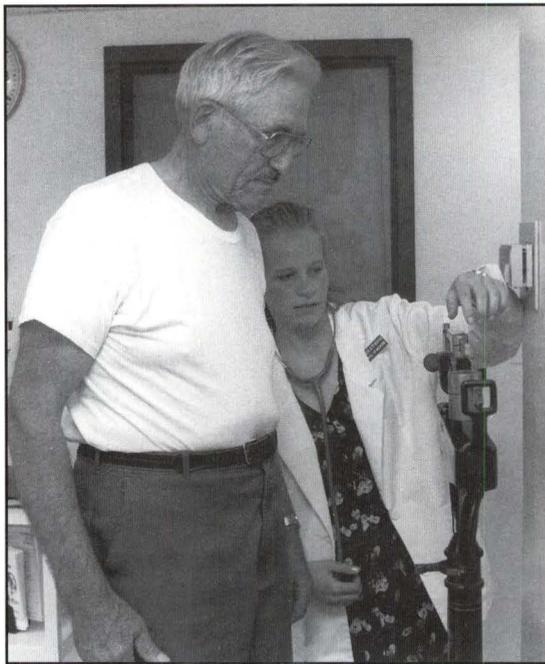
The 5-year domestic violence project has been underway for just over a year. The subject of domestic violence, however, is not new to UMD or to the Duluth area.

Barbara Elliott, Ph.D., director of the Department of Family Medicine’s research program, explains. “Duluth has been a leader in the country and the world in response to issues of domestic violence. We were the first community in the country to have mandatory arrest, which means that when police are called because of a domestic disturbance, the abuser is arrested, not because the victim says to arrest him, but because Duluth says as a community it is against the law to attack anyone including your partner. It is a crime against the community, not only against the victim, and no matter what the victim or the

assailant say, you can’t reduce the charges.

“We then have an inter-agency effort serving both the offender and the victim. For the victim, we have a shelter, which provides both shelter and a variety of educational support groups, and we have a coalition which provides services to anyone who needs court protection. The abuser — following his arrest and court hearing, where 80 percent are found guilty — is mandated to attend group sessions through the Domestic Abuse Intervention Project. Those with chemical dependency problems must first go through court ordered evaluation and treatment before beginning the group sessions.”

Top: Dr. Barbara Elliott is director of the Department of Family Medicine’s Research Program. Below: Dr. Crouse, head of the Department of Family Medicine at UMD, shows students how to conduct patient physicals.



UMD medical students learn the art of giving physicals.

A coordinated interdisciplinary, interagency effort makes the process work. It includes the agencies that provide rehabilitation for the offenders, the police, civil and criminal courts, probation departments, the shelter, the hospitals that provide care to the victims, and now, the Department of Family Medicine at UMD.

Funded by the Centers for Disease Control and Prevention, the Duluth Domestic Violence Prevention Project has a goal of reducing violence against women. The university is working with area agencies as a partner, and will evaluate the effort at the community level. The innovative way the Duluth community was already working

together to address the problem was instrumental in receiving the funding.

“There are communities all over the country and the world following what’s called the Duluth model of responding to domestic violence,” says Elliott.

Why Duluth? Elliott explains the parallel efforts that made the Duluth model happen.

“In the mid-70s, when shelters for victims of domestic abuse first became available — and when every shelter bed was full within two weeks of opening — three visionary women in the Twin Cities recognized the need to make abusers accountable and came up with the idea of mandatory arrest. They felt, however, that they wouldn’t be able to make a real difference in the Twin Cities, so they came to Duluth. They were able to make it a reality here, with help from remarkable individuals such as the chief of police and the judges on the bench. At this point, the health aspect wasn’t a part of it.”

At the same time, Elliott was teaching a course on family violence at the UMD School of Medicine. The purpose was to help medical students recognize the role of the physician in cases of family violence — understanding the law, understanding what being a victim means, both emotionally and physically, learning how to do exams and collect evidence — all the things they would need to know in their practice.

“In time we became aware of each other,” says Elliott, “those who were working in the criminal justice system and those of us at UMD. We worked together to prepare the proposal to CDC, and we were successful in being funded.”

The project is truly interdisciplinary and interagency. On “the hill” at UMD, it involves not only Elliott and the School of Medicine but individuals from the social work department, statistics, and the computer department, working with the people “downtown” who are coordinating the criminal justice system efforts. “There is a great deal of coordinated effort here,” says Elliott.

Specifically, the project is observing situations where there is domestic violence and the community agencies’ response when they pay attention to how dangerous a situation is. Everyone is involved — the police, the dispatch, the probation officers, the courts — and stays focused on the amount of risk for the victim while they help

determine a course of action.

The other portion is primarily prevention. "We're working in two settings," says Elliott, "with the public health nurses and with the employee assistance programs. In both settings we're screening for violence and when it is recognized, doing assessment and referral."

Elliott says that with their ability to track public records, they will be able to find out how many of the referrals end up back in court, or in shelters, and if this enhanced effort has an enhanced outcome — specifically in the areas of recidivism in the abusers and improved quality of life for the abused.

"It is a coordinated, collaborative, community effort that involves public health, the police and justice system, the social agencies, and the university all working together to meet a critical need," says Elliott.

Cancer pain on reservations project

Another research project underway through the Department of Family Medicine has to do with recognizing and attending the symptoms of cancer, specifically cancer pain, on Indian reservations. Elliott and her colleagues from the Center for American Indian Health and the Duluth Clinic are working with four reservations in an attempt to reach the Indian people and let them know there are medicines and interventions to take care of cancer pain — treatments they have traditionally not been participating in or receiving services for.

Funded by the National Cancer Institute (NCI), the project coordinators have been working with the tribal councils and health clinics at Fond du Lac, White Earth, Red Lake, and Leech Lake reservations. They have held focus groups with Indian elders and learned about their attitudes and knowledge about cancer and cancer pain.

As a result, culturally appropriate pamphlets have been developed for use at the reservation health centers, and in-service training will be done at each site with health care providers.

Rural cancer care project

The rural cancer care project is a multi-institutional project focusing on the quality of cancer

care that people in rural areas are receiving. Initiated by Tom Elliott, M.D., director of research and education at the Duluth Clinic, it draws on the expertise of individuals at the UMD School of Medicine, the College of St. Scholastica nursing department, the UMD statistics department, as well as the Duluth Clinic.

Also funded by NCI, the 5-year project involves 21 communities in northeastern Minnesota, northwestern Wisconsin, and the Upper Peninsula of Michigan.

"We're looking at what centers like the Duluth Clinic, through its Department of Hematology and Oncology Center, can do to facilitate patients receiving the highest quality of care in their local community," says Crouse. "Instead of the university saying send us your patients, we're looking at it the other way around, that is, how can we provide patients with the same quality of care without them driving all that distance."

Crouse says that the disciplines of medicine, nursing, and pharmacy are all involved, as well as community leaders.

"We can provide support and information to rural communities to optimize the care there. A cancer patient often has to drive 200 miles to see the oncologist, come back again for radiation, stay in a hotel, etc. It's hard on the patient and the family," says Crouse.

In the project design, seven communities are intervention sites, where a great variety of methods are being tried, which will be measured to determine their effectiveness. The remaining 14 communities are control sites. The plan is to eventually provide the most effective interventions to all the communities.

"Community cooperation is excellent," says Crouse. "We had more communities wanting to participate than we could use in the study."

"This kind of project represents for me a vision of where I see the future of family medicine heading," says Crouse. "It's interdisciplinary, inter-institutional, regional and inter-regional, and has a goal of the patient receiving the best quality care possible." ■

Shine Little Glow Worm:

Firefly Enzyme Sheds Light on Kidney Disease

**MMF equipment grant supports
interdepartmental research.**
by Jane Gfrerer

Imagine it's late summer. You're hiking along a prairie path cut through tall buffalo grass. The sun has just dropped below the horizon, and in the falling darkness you spot tiny lights blinking so briefly they seem like afterimages. Fireflies! If you're a romantic, you'd probably stop and admire them. If you're a scientist, you'd probably wonder, "Can that be recreated in the lab?"

Scientists *have* found a way to light up the lab with lightning bugs, and have taken the technique a step further: they are using it to learn more about diseases such as malaria, coronary heart disease, and tuberculosis. And thanks to a Minnesota Medical Foundation (MMF) grant, that technology has been brought to the Departments of Pediatrics and Medicine to help bring to light the myster-

ies of kidney disease, renal injuries, and rheumatoid arthritis.

During the past year, MMF invested \$321,014 in basic and clinical faculty research projects, \$356,602 in special grants to faculty for equipment purchases, and \$18,900 in student research projects. MMF grants not only allow researchers to purchase equipment and supplies, but often enable them to secure further funding.

Dr. Clifford E. Kashtan, associate professor, Department of Pediatrics, is interested in how two diseases — diabetes and a kidney disorder called Alport syndrome — progressively destroy the kidneys. “Diabetes is the number one cause of kidney failure in the U.S.; 30 percent of diabetics develop kidney failure,” says Kashtan.

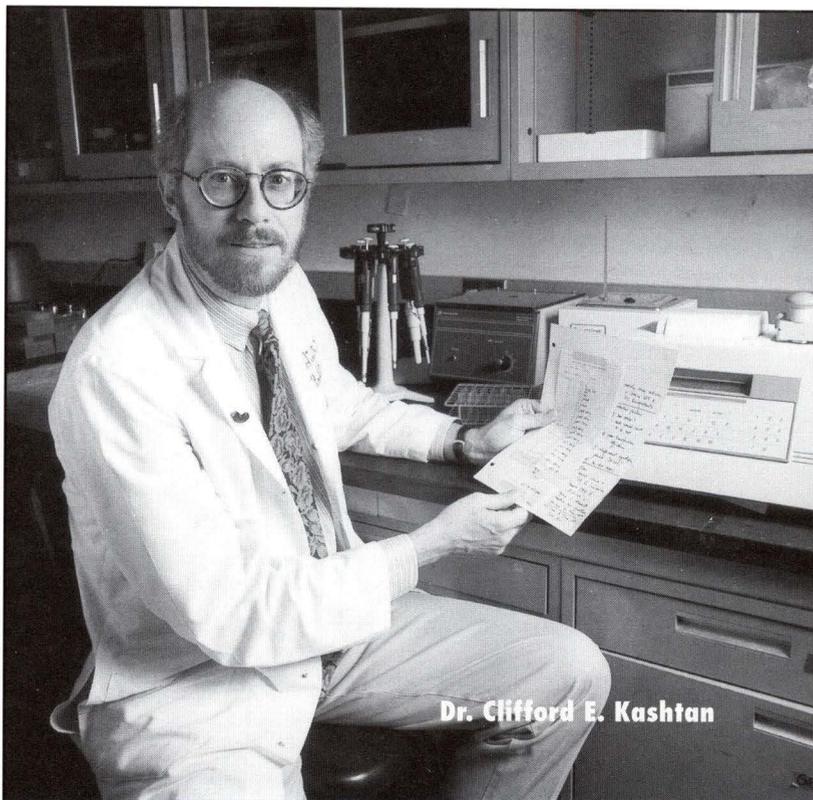
For boys born with Alport syndrome the outlook is worse: eventual kidney failure is guaranteed. Kashtan suspects that the mechanism responsible for the destruction of the kidneys takes place on the molecular level, and involves gene regulation. To “see” what is going on at that level, one must enlist molecular genetics techniques. Enter fireflies.

Fireflies produce light in a process called bioluminescence, or “living light,” by combining an enzyme known as “luciferase” (“lucifer” means “light-bearing”), another substance called luciferin, and oxygen, causing an oxidation reaction which emits visible light.

In the early '80s, researchers studying luciferase were looking for an easier way to acquire it than actually collecting the bugs. They decided to try to isolate and clone the gene responsible for the enzyme. Luckily, luciferase production within the firefly was controlled by a single gene, and the scientists were able to hook it up to that laboratory workhorse, *E. coli*, to produce mass quantities. With this success, it became apparent that the luciferase gene could be useful as a marker, or “reporter” gene in the study of gene expression.

“Within the DNA, each gene has a region that codes for a protein and a region that regulates the activity of the gene, acting not only as an on-off switch, but also like a rheostat,” controlling the volume of production, says Kashtan. “If you know the DNA sequence of the gene and its regulatory region, you can isolate this regulatory region and hook it up to a different gene, such as luciferase.”

When the gene is turned on, it produces luciferase. Add it to a solution of luciferin and oxygen, and you get light. The amount of light given off can be measured quite accurately by a luminometer, a no-bigger-than-a-bread box-sized



Scientists are using lightning bugs to learn more about kidney disease, renal injuries, and rheumatoid arthritis.



Other Researchers using the Luminometer

Dr. Mark Rosenberg, associate professor in the Department of Medicine, is studying the gene regulation of clusterin, a glycoprotein which is induced in a variety of renal and other tissue injuries.

Dr. Richard K. Vehe, assistant professor in the Department of Pediatrics, is studying the mechanisms controlling the transcription of the human leukocyte antigen DR beta gene (HLA-DRB). HLA-DRB is known to play a central role in the development of severe rheumatoid arthritis.

machine which can count individual photons or measure direct current created by the photon flow. Since human cells don't normally give off light, this unique gene construct guarantees the researcher that there is no "background noise" in the experiment. The MMF grant enabled Kashtan and colleagues in the Departments of Pediatrics and Medicine to purchase a luminometer.

So, how does the luminometer help illuminate wayward genes within the kidney?

The kidney is an engineering marvel: though only 11 centimeters long by 6 centimeters wide by 2 centimeters thick, it contains 1 million filtering units, called nephrons. The body's entire volume of blood passes through the kidneys up to 20 times an hour; and not only does the kidney remove waste products and produce urine, it also can control blood pressure and stimulate the bone marrow to produce red blood cells.

However, all this can be threatened by one thing: scar tissue. The same process which can ignore the original contours of a face and cause disfigurement can also disrupt an intricate filtering system.

Too much scar tissue can shut down the entire kidney.

Each of the tiny filters within the kidney contains a tuft or knot of capillaries called a glomerulus. Blood flows through the glomerulus, and waste products pass through the capillary walls. Supporting the glomerulus is a stalk called the mesangium. The mesangium also produces proteins called extracellular matrix, which help kidney cells in a variety of ways.

In diabetes, however, extracellular matrix production goes into overdrive, causing the mesangium to expand. "Over time it obliterates the capillaries," says Kashtan, "and the glomerulus eventually ceases functioning. If enough glomeruli are affected, eventually you will have kidney failure.

"We would like to understand why the cells that make up the mesangium are making too much matrix in diabetics," says Kashtan. "What signals the cells to make more matrix? How do the cells process that signal and actually make more matrix?"

Though once the obsession of the cosmetic industry until it was abandoned for trendier things, collagen remains a very serious concern for patients with kidney disease, especially children born with Alport syndrome. Alport syndrome is an X-linked genetic disorder of type IV (basement membrane; skin cells are type I) collagen that usually results in kidney failure for male patients.

"Type IV collagen is a very complicated protein," says Kashtan. "What we call type IV collagen is actually a family of six distinct proteins that are synthesized by six different genes."

While Kashtan's diabetes research focuses on the alpha 1 and alpha 2 protein activity in the type IV collagen family, his Alport syndrome research is attempting to uncover the role of the alpha 5 protein. And what he learns from alpha 5 might just yield answers to the diabetes research.

"Most people with Alport syndrome have a mutation in the gene that makes



the alpha 5 chain of type IV collagen," he says. "The alpha 5 chain of type IV collagen is an important component of the walls of the capillaries that make up the glomerulus. In people with Alport syndrome, not only is the alpha 5 chain missing, but also alpha 3 and 4; in addition, there is too much alpha 1 and 2."

Early in life the capillary walls in the kidney of an Alport syndrome patient are weak. Over time they thicken, and the glomeruli scar and stop filtering blood, resulting in kidney failure. At one year of age, the Alport patient, despite missing the alpha 3, 4, and 5 chains, has normal kidney function. But by age 20 his kidneys will fail. "Something happens in those 20 years that causes kidney failure," says Kashtan, "but we don't know what it is. If we did, we might understand something that's helpful to people with Alport syndrome, and we might know more about the critical features of the capillary wall."

Why perform molecular studies? "The basic paradigm is that cells have receptors which send signals to the nucleus. These signals in the nucleus activate or depress the activity of the regulator of the gene," says Kashtan. In Alport syndrome and diabetic nephropathy, too much or too little of a particular protein is produced.

"Sometimes disease will cause a gene that is already active in a cell to become more active," Kashtan explains. "Sometimes disease stimulates a cell to turn on a gene that normally isn't active." In the lab, the regulatory gene that is suspect can be hooked up to the luciferase gene and exposed to any series of stimuli. If it lights up, you know the regulatory gene has been turned on.

Doing molecular studies can help Kashtan address some basic questions about how collagen genes work: "Why are these genes active in some cells and not in others? What controls the activity of these genes in diseased kidneys?"

The luminometer and the luciferase gene construct offer a lot of advantages over other methods. With this system, says Kashtan, "You don't need very many cells, you don't need as much DNA, and the assay for luciferase activity is very fast. Some assays for different reporter genes will take two or three days; luciferase assays take a couple of hours. In addition, the test is very sensitive while it utilizes a small number of cells. It saves a lot of money and lot of time.

"The work being performed with this instrument would not have been possible without the generosity of the Minnesota Medical Foundation," says Kashtan. And, you might add, not quite as much fun. ■

Jane Gfrerer is a freelance writer specializing in the health sciences.



"The work being performed with this instrument would not have been possible without the generosity of the Minnesota Medical Foundation."



The Sarah J. Gault Scholarship for Women Medical Students

by Jean Murray



Dr. Sarah J. Gault

For Drs. Sarah and N.L. (Neal) Gault, Jr., giving of your time, talent, and resources has always been a way of life. Sarah Gault died in March of 1994, and Neal Gault established the Sarah J. Gault Scholarship for Women Medical Students in her honor.

"Sarah and I were always so grateful to the University of Minnesota for the opportunity that was offered to us — as immigrants from Texas — to complete our medical educations here at the Medical School," says Neal Gault.

Sarah Gault was born in Dallas, and graduated from the University of Texas in 1942. She trained as a medical technologist before serving in the U.S. Marine Corps in 1944-45, where she was a motion picture technician.

Following her Marine Corps service, she decided to pursue a career as a physician. She attended Baylor Medical School for two years, where she met Neal, and in 1948 they transferred to the University of Minnesota Medical School, graduating in 1950.

"Sarah was one of only four women in our class," says Neal Gault. "She was always active in AEI (Alpha Epsilon Iota, a women's medical fraternity), and was supportive of more women in medicine. It was natural to establish a scholarship in her memory to support funding of more women medical students."

Both Neal and Sarah Gault have had strong commitments to international medical education. From 1959-61 the Gaults and their children lived in Seoul, Korea, where they helped establish medical education programs at Seoul National University. During the 1960s, Neal Gault was director of the residency program at Okinawa Central Hospital and Sarah Gault developed a Physical Medicine & Rehabilitation (PMR) program at the same hospital.

Sarah Gault specialized in PMR, and served on the University of Minnesota faculty as an assistant professor, working at both the University Hospital and the VA Medical Center. She is recognized for her research in the area of rehabilitation of patients with rheumatoid arthritis.

Neal Gault was associate dean and professor at the University of Minnesota Medical School in the early 1960s, then served the University of Hawaii School of Medicine in the same positions from 1967 to 1972. He returned to Minnesota to serve as professor of medicine and dean of the Medical School from 1972 to 1984.

He has held international positions throughout his career, including chief medical advisor at the Seoul National University in Korea and Agency for International Development consultant in South Vietnam, Turkey, and Lebanon. He also served in Minnesota as Honorary Consul General of Japan.

“Students should be able to select their specialties based on what area they really want to serve in, not on what will help them pay back their loans.”

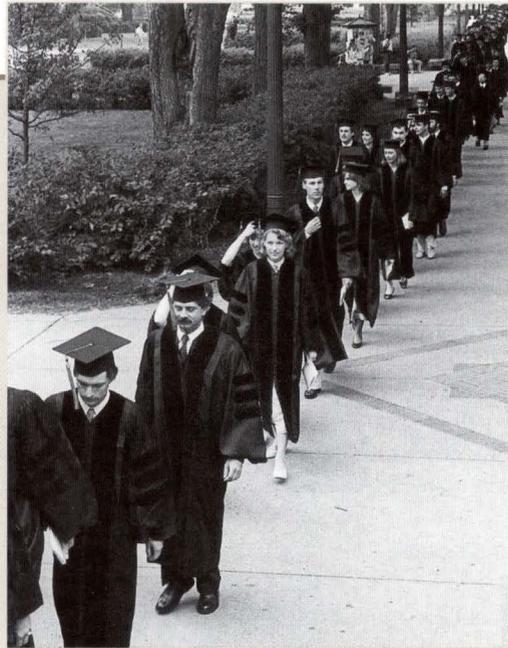
As an outgrowth of their interest in international medical education, Drs. Sarah and Neal Gault established the Medical Student International Study Fellowships, which enable medical students to enrich their education through international clinical experiences.

“Sarah and I always enjoyed sharing our assets with others — particularly with students,” says Neal Gault. “Sharing, helping others, makes us feel good too. It comes full circle.”

“There is such a critical need for financial assistance in the form of scholarships,” says Gault. “When we went to medical school tuition was \$485 per year, and we were non-residents! Now it is more than \$30,000 for non-residents. Students should be able to select their specialties based on what area they really want to serve in, not on what will help them pay back their loans.”

Elizabeth Anderson is the first recipient of the Sarah J. Gault Scholarship for Women Medical Students. A fourth-year student, specializing in Ob/Gyn, Anderson went into medicine because “it is one of the few fields where I could combine human contact with my interest in science.”

She says, “It is such a privilege to receive the Sarah Gault Scholarship. She was such a great lady. I never was able to meet her, but it sounds like she was involved in such a wide range of activities and was so interested in helping students. Getting any money is terrific, but a scholarship means so much more, especially when it’s in honor of someone like Dr. Sarah Gault. It motivates me to do something in the future for medical students, too.” ■



A Critical Need

There is a critical need for scholarships for medical students. Tuition and fees for first-year, Minnesota-resident students now exceed \$16,000 with total annual budgets of approximately \$27,000. Tuition and fees for non-residents are more than \$31,000, with total budgets reaching \$42,000.

In order to maintain the high quality of physicians graduating from the University of Minnesota Medical Schools, the Minnesota Medical Foundation has made scholarship support a top priority. The MMF board of trustees is committed to increasing scholarship support to medical students by 20 percent annually by raising a minimum of \$3 million to add to scholarship endowments by the end of fiscal year 1998.

In the past year, MMF presented 235 individual scholarships totaling \$290,550. In each issue of the *Medical Bulletin* we profile a scholarship currently given through the Minnesota Medical Foundation. ■

UMD receives training grant

The School of Medicine in Duluth has received \$600,000 from the National Institutes of Health for two new programs to recruit and train American Indians and Alaskan natives as biomedical researchers. The Bridges programs will allow students to earn M.S. degrees at UMD, then transfer to the Twin Cities campus for Ph.D. work.

The goal is to work with the Twin Cities campus to prepare the students in Duluth, providing them with the necessary academic and cultural tools to compete in the sciences. **Dr. Benjamin L. Clarke**, assistant professor of biochemistry and molecular biology, is program director. "These programs will expand our reputation for offering what we believe to be the best medical education for American Indians in the nation," says Dean Ron Franks. ■

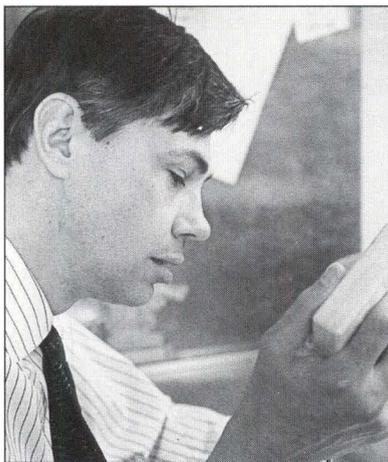
Bone Marrow Transplant Program receives \$5 million

The University of Minnesota's Bone Marrow Transplant Program received a \$5 million National Institutes of Health (NIH) grant in October for research to help answer basic biological questions about stem cells. Information from the research may lead to new cancer

treatments, according to researchers.

Stem cells are the material in bone marrow that produces blood cells. With new information, it may be possible to tailor new treatments for several fatal cancers, such as multiple myeloma, and for other genetic diseases. Researchers also hope to develop ways to increase the number of stem cells available from umbilical cord blood, which will allow doctors to perform more unrelated donor implants.

The NIH grant was awarded to the entire program, rather than to a specific researcher. According to **Dr. Philip McGlave**, principal investigator and professor of medicine and director of the Adult Bone Marrow Transplant Program, this shows that NIH recognizes the University and the program as a strong, viable center for stem cell biology. ■



Dr. Philip McGlave

New transplant drug looks promising

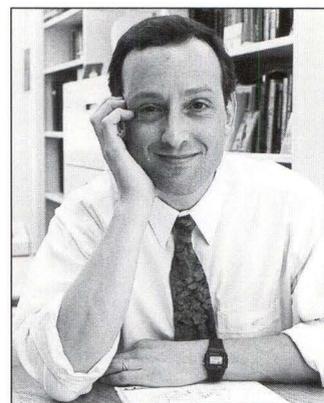
A new antirejection drug has enabled researchers to successfully transplant insulin-producing cells from one species into another, say University of Minnesota researchers. With rapamycin, a powerful antirejection drug, researchers were able to increase survival in rats who received cells from dog pancreases.

The success in transplanting so-called islet cells from one animal to another is a first step toward transplanting cells from animals into humans in an effort to cure insulin-dependent diabetes. Because there aren't enough human pancreases for a widespread transplant program to cure diabetes, according to **Dr. Rainer Gruessner**, a University of Minnesota transplant surgeon, the animal pancreases or the insulin-producing cells may be the most promising option. ■

Adolescent violence to be studied

A \$770,000 grant from the Centers for Disease Control has been received by University researchers to study adolescent violence. **Dr. Michael Resnick**, of the School of Public Health and Department of Pediatrics, and his colleagues will review two studies that examined a cross-section of American youth. The group will also seek information from people who work with young adults such as social service workers, legislators, and law enforcement officers.

The researchers will look at adolescent behavior to determine what this age group is doing and what is going on around them. They hope to discover the types of activities and habits that contribute to violence. Once risk factors are identified, the researchers hope to devise preventive methods that can be taught to people who live and work with adolescents. ■



Dr. Michael Resnick

Advances made in lab on neurological disease

University researchers report that for the first time they have successfully transplanted the defective human gene for spinocerebellar ataxia type 1 (SCA1) — a fatal, hereditary neurological disease — into laboratory mice. It is hoped the technique may eventually lead to the first treatment or cure for hereditary ataxias, diseases that destroy the individuals' ability to control their muscles, often including those used to breathe and swallow.

The progress against SCA1 is the result of collaboration between **Dr. Harry Orr**, professor of laboratory medicine and pathology who directs the research project, and **Dr. Huda Zoghbi** of Baylor College of Medicine in Houston. **Dr. Eric Burright** is the researcher who accomplished the gene transfer.

Orr says that the mouse research should make it possible for scientists to find out exactly how the defective gene weakens, damages, and kills brain cells in the cerebellum, and can also help determine when the damage begins and what chemicals or other therapies might delay or prevent the onset of symptoms. ■

Pain relief for kidney patients

Dr. John Hulbert, professor of urologic surgery, has developed the first effective low-risk procedure for the treatment of severely painful cases of polycystic kidney disease (PKD), a potentially lethal hereditary disorder that threatens the kidneys of approximately 600,000 individuals in the United States.

Operating by remote control, Hulbert inserts a laparoscope through a narrow opening near the navel and removes hundreds of small cysts that have grown into the kidney tissue. In PKD, cysts increase in size until most of the normal kidney tissue is destroyed. Hulbert says he has established that the operation can relieve the pain and leave the kidney functioning, and he hopes it will extend the useful life of the kidney, although the procedure is too new to have data on long-term results. ■

Heart drug may slow cancer

University researchers report that the most commonly prescribed cholesterol-lowering drug, lovastatin, may offer a new, safe, and effective approach to treating cancer. Under laboratory conditions, the drug, in combination with a conventional anticancer drug, mitomycin-C, nearly eliminated the spread of tumor cells. The results of the study were recently reported in the journal *Annals of Surgical Oncology*.

Lovastatin blocks the production in cancer cells of an enzyme needed to produce the cholesterol they need to thrive and stay healthy, according to the researchers. In the study of tissue culture, lovastatin increased the effectiveness of mitomycin-C by as much as 63 percent.

Dr. Henry Buchwald, professor of surgery and senior author of the study, says it appears that lovastatin's ultimate role may be to enhance the effect of other anti-cancer agents against liver, lung, breast, and brain cancer. He emphasized that it is too early to know if lovastatin will itself be useful in the treatment of human cancers, or if it might instead point the way to new, improved treatments. ■

Vascular Center receives \$1 million grant

The Minnesota Vascular Diseases Center at the University of Minnesota was awarded a five-year, \$1 million grant from the National Institutes of Health (NIH) and was named one of 15 Centers of Excellence. This designation recognizes the center's unique diagnostic capabilities, its noninvasive vascular ultrasound system, and its coagulation laboratory, according to **Dr. Alan Hirsch**, assistant professor of medicine and the center's director. In addition, the grant and designation will permit the continued growth in clinical research at a time when funds for research are scarce. It will also help the center attract additional research money and will give the center more opportunities to lead and initiate new studies regionally and nationally.

The NIH grant was matched by a one-year, \$100,000 award from the University of Minnesota Clinical Associates, a group that represents administrators and doctors at the university. ■

DEPARTMENTAL UPDATES

Anesthesiology

Department members presented five papers at the American Society of Anesthesiologists Meeting in Atlanta, Georgia, in October.

Biochemistry

Dr. Leonard J. Banaszak, professor and holder of the William F. Dietrich Chair in Fundamental Molecular Biology in the Basic Sciences, received a National Institutes of Health (NIH) \$1,045,973 grant for a project titled "Structural studies of lipid protein systems."

Dr. David D. Thomas, professor, received an NIH \$1,036,355 grant for a project titled "Biophysical studies of membrane molecular dynamics." **Satinder Singh**, a first-year graduate student, received a "predoctoral fellowship in biological sciences" of \$85,000 from the Howard Hughes Institute.

Cell Biology & Neuroanatomy

Dr. Jean Magney, assistant professor, is working on New Technologies for the Dissemination of Research on a Clinical Procedure funded by Cardiac Pacemakers, Inc. She is developing computer hardware and software to deliver interactive computer-based instruction about new approaches to subclavian venipuncture.

Center for Biomedical Ethics

Dr. Steven Miles, associate professor, has been named one of the 13 Soros Faculty Scholars who will share approximately \$3 million over the next three years to improve care of the dying in North America.

Community-University Health Care Center

Dr. Amos Deinard, associate professor, has received four years of funding from the State of Minnesota, Department of Human Services, to continue the STEEP (Steps Toward Effective Educational Parenting) project, an intervention program for substance abusing new mothers and their newborns (\$200,000 a year for four years).

Dr. Nina Bacaner has received a one-year \$32,000 grant from the Emma B. Howe Memorial Foundation in support of the development and implementation of a domestic violence screening protocol and to provide advocacy and parenting services to battered women who use Community-University Health Care Center for medical and obstetric care.

Laboratory Medicine & Pathology

Dr. Linda Hansen, assistant professor, was awarded a National Science Foundation Research Planning Grant (RPG) in June for her research project "Hepatocyte growth on fibronectin versus RGS." In June, **Dr. Kristin Hogquist**, assistant professor, was selected by the Arthritis Foundation for the J.V. Satterfield Arthritis Investigator Award, given to the highest ranked Arthritis Foundation investigator in memory of J.V. Satterfield, founder of the Arkansas Chapter of the foundation. She was also awarded an American Society Junior Faculty Research Award effective July 1, 1995.

Dr. Aris Charonis, associate professor, was awarded a two-year Juvenile Diabetes Foundation grant entitled "Prevention of advanced glycosylation end products and diabetic nephropathy in rats." Baxter Healthcare will fund a one-year grant to develop a comprehensive quality assurance program for hematopoietic stem cell collection, processing, and storage. **Dr. Jeffrey McCullough**, professor, is principal investigator and has been named a trustee-designate of the American Board of Pathology, effective January 1, 1996.

Dr. Yoji Shimizu, associate professor and holder of the Harry Kay Chair in Biomedical Research, is listed among the top 10 authors of immunology research from 1990-94 according to the September 4 issue of *The Scientist*. **Dr. Harry Orr**, professor and holder of the Minnesota Medical Foundation Stone Professorship in Heart Disease, was awarded the NIH MERIT (Method to Extend Research in Time) Award from the National Institute of Allergy and Infectious Diseases. Orr was nominated by the director and staff of the Division of Allergy, Immunology, and Transplantation. **Dr. William Gleason**, assistant professor, received a Cray Research, Inc.-Minnesota Super-computer Institute 1995 Research and Development Program grant of \$30,000 to develop a new course, "Applications of high-performance computing in biomedical engineering."

Dr. Lee Wattenberg, professor, received a \$25,000 grant from the Minnesota Soybean Research and Promotion Council for research on preventing lung can-

cer by soybean phytoestrogens and inositols. **Dr. Amy Skubitz**, assistant professor, was named director of the Cancer Center Tumor Bank, effective August 1. **Dr. Karen Karni**, associate professor and director of the medical technology program, was elected secretary/treasurer of the American Society for Clinical Laboratory Science at its annual meeting in July. **Kathy Hansen**, clinical laboratory group administrator, is the current president. **Dr. Carol Wells**, professor, presented "Mechanisms of invasion of intestinal enterococci" at the III Symposium on the Antimicrobial Agent Resistances: Origin, Treatment, and Control, held in Monte Carlo in October.

Medicine

Dr. Catherine Verfaillie, associate professor, received a \$200,000 Leukemia Society of America Scholarship to support her research into the regulation of blood cell production in the bone marrow cavity. **Dr. Jonathan Ravidin** will replace the retiring University head of medicine, **Dr. Thomas Ferris**, on January 1.

The Minnesota Vascular Diseases Center, an integration of staff from the Medical School, School of Public Health, School of Nursing, and the University of Minnesota Health System, has been named one of 15 National Institutes of Health Centers of Excellence for studying, detecting, and treating vascular diseases. The designation carries a five-year, \$1 million grant. The center is directed by **Dr. Alan Hirsch**, assistant professor, cardiovascular medicine (see Newsbriefs, page 19).

Dr. Jay Cohn, professor and head of the cardiovascular division, has been named president-elect of the International Society for Biomedical Ethics.

Neurology

Dr. Kenneth Swaiman, professor and interim head, presented the keynote address "The general approach to neurometabolic diseases in children" at the Inauguration Ceremony of the First Annual Meeting of the Hong Kong Society of Child Neurology and Developmental Pediatrics, held November 25 in Hong Kong.

Dr. Costantino Iadecola, associate professor of neurology and head of the Laboratory of Cerebrovascular Biology and Stroke, has been awarded a \$100,569 grant from the Searle/Monsanto Company entitled "Effects of isoform-specific nitric oxide synthase inhibition on focal cerebral ischemic damage." One objective of the grant is

to investigate a novel class of compounds that may reduce the brain damage resulting from cerebral ischemia and stroke.

Neurosurgery

Dr. Stephen J. Haines, professor, became president of the Congress of Neurological Surgeons. **Dr. Walter C. Low**, professor, has been appointed to the Clinical Practice Committee of the American Society for Neural Transplantation. **Dr. Robert E. Maxwell**, professor, is the immediate past president of the Society of University Neurosurgeons. Maxwell was appointed interim head of the Department of Neurosurgery.

Dr. Walter A. Hall, assistant professor, was appointed chair of the neurosurgical subcommittee of the National Cancer Institute-funded Radiation Therapy Oncology Group. Hall was also promoted to associate professor of neurosurgery and radiation oncology, with specialization in neuro-oncology and stereotactic radiosurgery. **Dr. Timothy J. Ebner**, professor, became director of the Graduate Program in Neurosurgery. Ebner is the principal investigator for a five-year NIH grant, "Role of the cerebellum in visually guided arm movements."

Dr. William F. Ganz, assistant professor, was involved in a head and spinal cord injury prevention program, the Think-First Project, for the East Metro area, which involved over 20 high schools and reached 2,000 high school students who are learning to drive automobiles and beginning to experiment with alcohol use. Ganz is also involved in two acute head injury studies — a study of PEG-superoxide dismutase, an antioxidant for treatment, with results published in fall 1995, and a study of an NMDA antagonist in treatment of acute closed head injuries. **Dr. Gaylan L. Rockswold**, associate professor, Hennepin County Medical Center, is currently involved in two studies — a selfotel study and microdialysis study.

Obstetrics & Gynecology

Dr. Joseph Hamel, associate professor, was appointed undergraduate director for medical education. Hamel, a long-time practitioner, has joined the department part time to help coordinate undergraduate site activity. **Dr. Ted Nagel**, associate professor, has begun seeing patients in reproductive health and providing educational and research leadership for the division.

The 26th Annual University of Minnesota Autumn

Departmental Updates, continued

Seminar was held October 26 and 27 at the Radisson Hotel Metrodome. Over 200 attendees participated in the conference focusing on current treatment methods and advancements in obstetrics and gynecology.

Ophthalmology

Dr. **Agnes S. Huang** joined Glaucoma Services September 11 as assistant professor. She completed a glaucoma fellowship at the Wilmar Eye Institute, Johns Hopkins University, and did her residency at the University of California in San Francisco. **Dr. Kimberly A. Neely** joined Retina Services September 5 as assistant professor. She completed fellowships at the Retinal Vascular Center, the Wilmar Ophthalmological Institute in Baltimore, and a vitreoretinal (clinical) fellowship at Duke University Eye Center in Durham, North Carolina. She did her residency at the University of Chicago Hospitals and Clinics.

A graduation ceremony and reception were held on June 16 in the department conference room. Completing residencies were **Drs. Barry P. Welch, Ann E. Melick,** and **Robert S. Wolff.** The Harry Plotke Award, given to the second-year ophthalmology resident who best exemplifies clinical skills, compassion, and concern for the patient, was presented to **Dr. James George.** The 1995 Harry S. Friedman Resident Research Award was presented to **Drs. David E. Puk** and **Jeffrey M. Ketcham** to recognize the residents who presented the outstanding research projects of the year. The Richard T. Olson Best Teaching Award, determined by a vote of medical students after their rotations, was given to **Dr. David I. Sabir.**

The manuscript "Increased duration of retinal slip velocities," co-authored by **Drs. James E. Egbert** and **C. Gail Summers,** has been accepted for publication in the *Journal of Pediatric Ophthalmology and Strabismus.* "A prospective study of ocular hypertension and glaucoma after pediatric cataract surgery," co-authored by **Drs. James E. Egbert, Martha M. Wright, Keith F. Dahlhauser, Mari A. Z. Keithahn, Robert Letson,** and **C. Gail Summers,** was published in the April 25 issue of *Ophthalmology.* The annual Continuing Medical Education Course for Ophthalmology has been scheduled for April 12-13. This course will be multispecialty and will be held at the Radisson Hotel Metrodome in conjunction with the Minnesota Academy of Ophthalmology.

Orthopaedic Surgery

Dr. **James Ogilvie** is interim head of orthopaedic surgery, replacing **Dr. Roby Thompson,** who stepped down to assume his new duties with the University of Minnesota Health System. Thompson was also re-elected the head of University of Minnesota Clinical Associates.

Pediatrics

The department has received a \$33,870 grant from the Emma B. Howe Memorial Foundation to support **Dr. Sixto Guiang,** instructor, Division of Neonatology, for research on myocardial energetics in infants with congenital cyanotic heart disease. **Dr. Michael Resnick,** professor, Division of Health Management and Policy, received a three-year, \$770,000 grant from the Centers for Disease Control to study violence among adolescents (see Newsbriefs, page 18). **Dr. Theodore Thompson,** professor and director of UMHC medical outreach, has been chosen as one of the top 25 health care administrators in Minnesota by the *Minnesota Physician.*

Dr. Brian Youth received the Susan Vincent Outstanding Resident Educator Award. **Drs. Richard Andersen, Marjorie Hogan, Youngki Kim,** and **Judith Zier** received Outstanding Faculty Educator Awards. **Dr. Valerie Panzarino** was presented the Outstanding Fellow Educator Award (Snelling). **Robert N. Schulenberg** received the Venters Clinical Teaching Award. **Drs. Cheryl Gale, Smita Bhatia,** and **Martin Tristani-Firouzi** received Fellow Research Awards. **Dr. Warren Regelmann** received the Alexander Charles Jundt Research Award. **Drs. Robert O. Bergan** and **Albert J. Schroeder** were presented the Gold-Headed Cane Award. **Dr. Catherine Bendel** received the UCF Scholar Award.

Pharmacology

Dr. **Louise Nutter,** assistant professor, was appointed to study section for the U.S. Army Breast Cancer Research Program for November 1995. **Dr. Frank Burton,** assistant professor, received the Jeff Sutton Memorial NARSAD (National Alliance for Research on Schizophrenia and Depression) Young Investigators Award for 1995-1996. He presented a lecture, "Transgenic pharmacology," to RAAMI (Rochester Area Alliance for the Mentally Ill) to support research into altering the genes of mice to determine how dopamine affects the brain.

Physical Medicine & Rehabilitation

Dr. Erica Stern, assistant professor, was named to the Association of Rheumatology Health Professionals' 1996 Conference Program Committee. She also served on the American Heart Association, Minnesota chapter, "Stroke — It Could Be You" evaluation task force. **Dr. Deb Roman**, director of the neuropsychology lab, became board certified in clinical neuropsychology. **Dr. Murale Krishnamurthy** joined the department in October. He is a pediatric psychiatrist and a specialist in adult neuromuscular diseases.

Dr. LeAnn Snow, instructor, participated as speaker at the Amputee Health and Fitness Clinic on October 14. The clinic was sponsored by the North Plains Chapter of the American Academy of Orthotists and Prosthetists. **Dr. Bonnie L. Warhol** recently returned from a three week visit in Qingdao, China, where she was a consulting physician at the Second People's Hospital. She lectured on rehabilitation medicine and consulted with the hospital staff on patients with cerebral palsy, hemiparesis, and post-polio. **Dr. Dennis Dykstra** spoke at a workshop at St. Joseph's Hospital Scheffer Center on botulinum toxin use in the treatment of pain associated with muscle dysfunction. The Bone Marrow Transplant Program has received a five-year, \$5 million NIH grant to study stem cell biology and cancer treatment applications (see Newsbriefs, page 18).

Radiology

Dr. Robert Boudreau, professor, has received two grants from 3M to study the lung deposition of Tc99m labelled beclomethasone delivered from metered dose inhalers (MDI) that use non-CFC propellants, and to compare 3M's new Autohaler with a standard press-and-breath MDI in patients with mild asthma. He also received a Supercomputer Institute grant of 150 Cray CPU hours to study the application of density functional quantum theory to technetium-containing compounds. He is also past president and chair of the nominating committee of the central chapter of the Society of Nuclear Medicine.

Dr. James Walsh, professor, has received a research grant from Siemens Medical Systems, Incorporated, to study a prospective blind comparison of spiral CT and MRI in the preoperative evaluation of cervical cancer. He has also been elected to the medical advisory board of Siemens Medical Systems. **Dr. Charles Travit**, associate professor, has become director of neuroradiology. He has

also been visiting professor at Beth Israel Hospital in Boston and at Yale University. **Dr. Russ Ritenour**, associate professor, is president of the North Central Chapter of the American Association of Physicists in Medicine. He is also involved in the science education project of the Radiology Centennial and co-authored a book on radiation science aimed at middle and high school science teaching. **Dr. Harry Griffiths**, professor, was visiting professor to four out of five Finnish medical schools in August.

Surgery

Dr. R. Morton Bolman III, professor and holder of the C. Walton and Richard C. Lillehei Land Grant Chair in Fundamental Immunobiology, was appointed to the University Health System's board of governors.

Therapeutic Radiology- Radiation Oncology

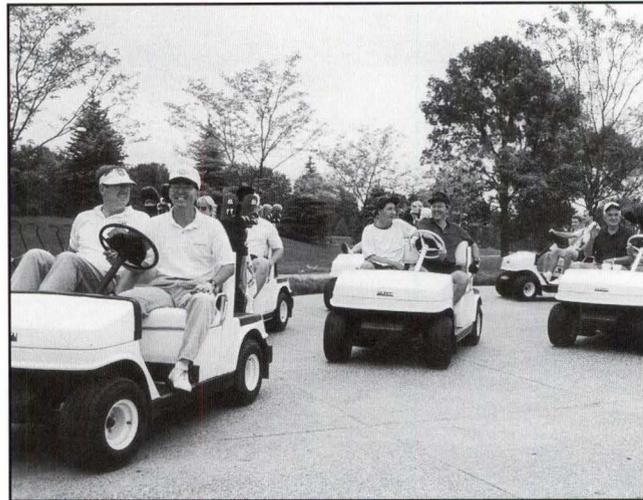
Dr. Seymour H. Levitt, professor and department head, has been awarded the Service to Humanity Award presented by the United Hospital Foundation to individuals associated with United Hospital who have demonstrated selfless dedication and exemplary leadership in improving the health and welfare of residents of St. Paul and the surrounding area. He also received the American College of Radiology (ACR) Gold Medal, an award from the ACR in honor of outstanding dedication and achievement in academic radiology. ■

MMF approves \$109,900 in grants

At its summer quarterly meeting, the Minnesota Medical Foundation board of trustees approved \$109,900 in research and special grants. The amount includes \$62,500 in faculty research grants and \$47,400 in special grants.

FACULTY GRANTS include: **John H. Bond, M.D.**, Medicine, \$4,000, Development of gastroenterology clinical outcomes research unit; **Augustin P. Dalmaso, M.D.**, Laboratory Medicine & Pathology, \$6,000, Accommodation of a xenograft to its recipient; **Peter G. Duane, M.D.**, Medicine, \$6,000, Neutrophil-induced killing of *Legionella pneumophila* mediated by the activation of a novel *L. pneumophila* phospholipase A1; **Lars Engebretsen, M.D., Ph.D.**, Orthopaedic Surgery, \$3,500, Development of osteoarthritis in knees with anterior cruciate injuries; **Thomas Gilbert, M.D.**, Diagnostic Radiology, \$3,000, Evaluation patellar hyaline cartilage on MRI; **Sharon D. Luikart, M.D.**, Medicine, \$8,000, Molecular cloning of a macrophage differentiating protein; **Mary Porter, Ph.D.**, Cell Biology and Neuroanatomy, \$8,000, Cloning of dynein regulatory genes; **Peter Souther, Ph.D.**, Microbiology, \$8,000, Milk-borne transmission of human immunodeficiency virus (HIV); **Dorothy L. Uhlman, M.D.**, Medicine, \$3,000, Fluorescent in situ hybridization in papillary renal cell carcinoma; **Chester Whitley, M.D.**, Pediatrics, and **Edward H. Holland, M.D.**, Ophthalmology, \$8,000, Pre-clinical studies of gene therapy for Scheie keratopathy; and **Beverly Smith Wical, M.D.**, Neurology, \$5,000, Neonatal EEG evaluation in the neurophysiologic assessment of at-risk newborns.

SPECIAL GRANTS include: **David S. Beebe, M.D.**, Anesthesiology, \$7,820, Does the laprolift reduce the risk of venous stasis for patients undergoing laparoscopic cholecystectomy?; **Joseph DiSalvo, Ph.D.**, Medicine & Molecular Physiology, \$7,000, Partial support for fluorescence radiometric imaging analysis; **David F. Stronck, M.D.**, Laboratory Medicine & Pathology, \$15,968, Purchase of a controlled rate freezer to optimize the cryopreservation of blood and hematopoietic cells for gene therapy; and **David Zarkower, Ph.D.**, \$16,700, Control of sexual differentiation in the nematode *C. elegans*. ■



Golfers head for the course at the 1995 MMF Golf Classic.

MMF Golf Classic a success

The 1995 MMF Golf Classic, held at North Oaks Country Club, was another huge success, thanks to the many volunteers and corporate sponsors who participated. This year's event netted nearly \$50,000, the most successful tournament to date. Proceeds will benefit the University of Minnesota Medical Schools.

Each year the tournament has grown in size, under the leadership of Drs. Dave Kendall, Greg Vercellotti, and Tim Walseth. "We have been very happy with the way the tournament has evolved. Having raised \$15,000 the first year, with 156 golfers, to where we are now (\$50,000 and over 230 golfers) is a great step forward," commented co-chair Kendall. The committee is already setting goals and looking for the opportunity to involve the community to an even greater extent next year.

This year, the four major sponsors of the tournament were Holiday Companies, University Health System, Preferred One, and First Asset Management. The Men's Athletic Department provided a pair of football tickets for every registrant. More than 20 other sponsors also supported the event.

Next year's tournament is scheduled for Monday, August 26, 1996, at Rolling Green Country Club. If you are interested in participating in next year's tournament or serving on the committee, please contact Mark Marshall at 612-625-8676. ■

MMF Grant Recipient: Beverly Smith Wical, M.D.

A newborn baby may appear normal, even to a physician. But is the baby's brain truly functioning normally? "This is one of the difficulties that we have with newborns. Babies often look normal and act relatively normal when they are born, yet we know that a number of them are going to be at risk for learning problems and developmental problems later," says Beverly Smith Wical, M.D., Department of Neurology, Division of Pediatric Neurology.

"How can we predict, in the newborn period, who is going to have problems and who's not?" Wical asks. She plans to look into that question with the help of a \$5,000 Minnesota Medical Foundation grant. Wical was one of 16 faculty who received an MMF grant last summer.

In conjunction with Charles Nelson, Ph.D., primary investigator for a National Institutes of Health (NIH)-funded study that is examining prediction of the outcome of babies who have had early, chronic, or repetitive brain insults, Wical will evaluate newborn development by performing electroencephalogram (EEG) tests on babies. "The EEG is completely non-invasive — it is not painful to them and is a harmless way to evaluate the baby's brain function," explains Wical. The EEG wires are pasted onto the babies' heads and the brain waves are recorded and later examined.

"We hope this study will help us find out which babies are most at risk," says Wical. "We will be looking at two of the best-known baby groups that suffer from subtle or repetitive brain injury. One is a baby born small for its size because the mother has high blood pressure, and the other is the infant of a mother with diabetes. We know that both groups are at risk for later developmental problems. The question is, why do some babies get problems and other babies don't?"



Beverly Smith Wical, M.D.

"If we can find out who's going to have trouble, we can offer that child the best chance to develop in terms of early intervention and monitoring their progress. Also, it will give us some ideas about what's going on with the infant and how infant brains develop over time."

The information gained from Wical's study will also contribute to Nelson's larger study, which is examining how babies respond to stimuli and evaluating development over time, utilizing tests not widely used currently. Her results will help ensure the validity of the study's data. "What MMF is allowing us to do is to make sure our data is the most reliable and that the babies we think are normal, really are normal," she says.

Wical joined the University as assistant professor of neurology in October 1994. "I was really glad to get this grant during my first year at the University," she says. "What MMF has graciously done has allowed us to add a very significant part to assessing the babies initially. After we assess the results from the first part of the study, we'll apply for additional funding from NIH for the second phase of the EEGs. It is a great thing and I'm very excited about this project." ■

Parents of medical students enjoy Parents Day

On October 21, more than 175 parents of first-year medical students gathered at the 20th annual Parents Day to learn more about the University of Minnesota Medical School. Parents toured the Medical School Minneapolis campus, visiting laboratories, student offices, and the Biomedical Library Learning Center. Professors Paul Letourneau, Ronald Shew, Dennis Livingston, and Eric Newman visited with parents at lab sites, and the Learning Resource Center staff hosted the LRC tour. Fourteen first-year students led the tours.

The program included welcoming remarks by David Skripka, representing the Medical Student Council, and David Teslow, president, MMF. Speakers included Drs. Paul Quie, Donald Robertson, Robert McCollister, and Helene Horwitz. Parents Day is sponsored by the Minnesota Medical Foundation and the Medical Student Council. ■

MMF AFFILIATES

Children's Cancer Research Fund

The 15th Annual Dawn of a Dream Benefit, to be held January 20 at the Minneapolis Convention Center, will feature Kenny Loggins. Proceeds from a January drawing at the Mall of America for a \$400,000 log home will go to CCRF. Tours of the home, furnished by *Country Home* magazine, will be offered November 18 - January 1.

Children's Cancer Research Fund



the wings of a dream

CCRF is pleased to announce its officers and new board members for 1995-96. The officers are Mark E. Nesbit, M.D., co-chair; Norma K.C.

Ramsay, M.D., co-chair; Sharon Waller, president; Dave Flec, president-elect; Sandy Simmons, past-president; Dan Johnson and Steve Rice, treasurers; Jean Hedberg, recording secretary; and Sherry Knappenberger, corresponding secretary. The board of directors are Camie Eugster, Jim Lehman, Philip B. McGlave, Bill McHale, Denny Senneseth, Patti Taube, and Laura Williams.

In 1994-95, CCRF raised over \$1.5 million for research and training in the fields of pediatric oncology/hematology, epidemiology, and bone marrow transplantation conducted at the University of Minnesota. Since

1981, CCRF has raised over \$8 million for childhood cancer research. For more information, call 612-929-5535 or 1-800-922-1MME. ■

Diabetes Institute for Immunology and Transplantation

Dr. David E.R. Sutherland recently met with officials from the Health Care Finance Admin-



istration to advocate that Medicare provide coverage for pancreas transplants in diabetic individuals who receive kidney transplants. Medicare covers kidney transplants for diabetic individuals but at this time does not cover the addition of a pancreas transplant, in contrast to regular insurance plans. Therefore, patients who cannot have both transplants cannot be cured of diabetes.

Transplant surgeon Lucile Wrenshall, M.D., Ph.D., received a two-year \$100,000 research grant from the Juvenile Diabetes Foundation International. This funding will support Wrenshall's work in studying the immune responses of pancreatic islets implanted in different sites. She hopes to determine which site induces the most tolerogenic response.

Educational and cultivational gatherings have taken place in recent months in Bermuda, Minneapolis, and New York City. These events were sponsored by individuals whose lives have been touched by the work of the Institute. For more information, call 612-626-2101 or 1-800-922-1MME. ■

International Hearing Foundation

Dr. William F. House received the 1995 Academy Foundation's Distinguished Award for Contribution in Clinical Otolaryngology, which recognizes outstanding achievements and sustained significant contributions that have produced lasting changes in the practice of clinical otology and/or neurotology. The award is sponsored by the International Hearing Foundation. For more information, call 612-339-2120. ■



University of Minnesota Cancer Center

To celebrate the March opening of the University of Minnesota Cancer Center's Masonic Cancer Research Building, the Cancer Center is planning five opening and dedication events between the end of March and late June. A Masonic Cancer Research Building dedication with tours will be held Saturday, March 30, at Northrop Auditorium. The program is scheduled from 1:00 to 2:00 p.m., with a reception to follow. The Cancer Health Care Specialists symposium, reception, and tours will be held late April or early May. A community open house, honoring construction workers who worked on the building, is scheduled for a Sunday in late April or early May at the Masonic Cancer Research Building. The Grand Celebration will be held in June at the Mississippi River flats below the new Masonic Cancer Research Building and will feature a celebrity guest, fine food and wine, tours, music, and dancing.

If you would like to serve on the volunteer committee for one of these events, or for more information, please contact Mary Kenyon at 612-626-1987 or Barbara Zimmerman at 612-625-3650. ■



University Children's Foundation

The annual benefit, Catch a Rising Star, held July 16, raised \$90,000. These funds support the UCF Scholar Award and other research endeavors in the Department of Pediatrics.

This year's UCF scholar is Dr. Catherine Bendel, Division of Neonatology.

The PKU (phenylketonuria) Family Support Group hosted Sequins and Masquerade on October 13 at Interlachen Country Club with proceeds going to support the PKU Foundation. An alumni reception was held at the annual meeting of the American Academy of Pediatricians in San Francisco on October 16. Over 40 alumni and friends of the Department of Pediatrics attended.

The Paul G. and Elizabeth H. Quie International Health Fund was established to generate an annual sum which will be awarded to a young physician needing financial assistance in order to complete an international



health experience.

The Children's Fall Fashion Show, an event to benefit UCF, was held August 12 at Nordstrom in the Mall of America in Bloomington. Patients and friends of the Department of Pediatrics modeled the apparel. Through the fund-raising efforts of UCF, research is conducted and children are treated at the Department of Pediatrics and the University-Variety Hospital for Children. For more information, call 612-625-1148 or 1-800-922-1MME. ■

Variety Children's Association

The Medical School Running Club held its first Variety's Assistance, Love, and Support — or VALS — Run for Kids on Saturday, September 23. Erick Bothun and Kai MacDonald, race directors and medical students, added fund-raising efforts to the club's original goal of training students for marathons. Participants ran a 10-kilometer race along the Mississippi River. Proceeds will go to a University-Variety Hospital for Children program.

Rich Becker, center fielder for the Minnesota Twins, selected Variety Children's Association as his primary charity of choice and, together with the Minnesota Twins Community Fund, presented VCA with a check for \$1,000 at a Twins game in September.

Alternative Staffing sponsored the Variety Children's Association 1995 Carousel Ball, featuring the 31st Talent Auction, Saturday, November 4, at the Metropolitan Ballroom (formerly Ruperts). The evening included silent and live auctions, the comedy act of Strength and James, and '60s and '70s music by Power. Nationally renowned classic pianist Roderick Kettlewell performed during dinner. Chuck Foreman, former all-star running back for the Minnesota Vikings, was MC for the evening. The funds raised will support a University-Variety Hospital for Children program. For more information, call 612-624-6900 or 1-800-922-1MME. ■



Vision Foundation

The 9th Annual Thanksgiving for Vision celebration was held September 23 at the Radisson Hotel Metrodome. In addition to a special musical presentation by Dr. Ray Lindeman, past patients of the Department of Ophthalmology told their stories to promote eye research



and education. Debra Holman of Bemidji, Minnesota, told "Andrew's Story" about her son's struggle with Peters' Anomaly. Anna Seifert of Chanhassen shared her story about her cornea transplant. Guests also heard from Jerry Hartl, a family member of a cornea donor, about the importance of organ donation. A silent auction was held which raised over \$1,600 for the Minnesota Lions Eye Bank.

The Medical School received the last \$600,000 installment of a \$3 million grant from the Minnesota Lions Eye Bank-Multiple District 5M Lions International that helped fund the construction of the Lions Research Building. The check was presented at a July 15 ceremony by Gerald McCauley, Minnesota Lions Eye Bank chair, to Dr. Jay Krachmer, professor and head of ophthalmology. All alumni and friends of the Department of Ophthalmology were invited to a reception at the American Academy of Ophthalmology in Atlanta, Georgia, held October 31.

The Minnesota Lions Children's Eye Clinic recently received a large supply of stuffed toys, thanks to the generosity and help of the St. Francis Lioness Club. The toys will be used by children as they proceed through an eye examination.

The Minnesota Lions Eye Bank has hired Scott Augustin as the new director of public relations. He will handle all communications and will be the liaison between the Minnesota Lions and the Department of Ophthalmology.

Gift of Sight tours were scheduled in November. Friends of the Vision Foundation were invited to see the Department of Ophthalmology's research laboratories and educational facilities. Stops included the Lions Children's Eye Clinic and Lions Research Building. For more information, call 612-625-9613 or 1-800-922-1MMF. ■

Women's Health Fund

Dean Frank Cerra was the featured speaker at the Women's Health Fund annual meeting held at the Minikahda Club on October 11. Joann Paden was elected president of the fund. Joining the board of directors were Johnelle Bowman, Laura Edward, M.D., June LaValleur, M.D., Robyne Robinson, and Leslie Turner. ■



President's Report

I am pleased to announce that this fall, 51 alumni-student pairs were matched as part of the Medical Alumni Society (MAS) Mentoring Program, a 30 percent increase over last year. It has provided a great way for alums to get in touch with what it is like being a student today, while also helping students adjust to medical school and plan for the future.

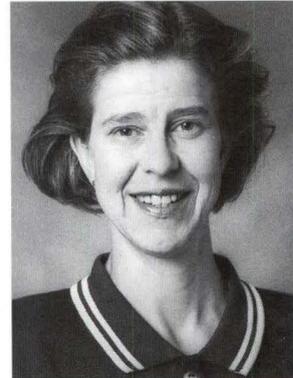
Please remember to support the Alumni Annual Fund at the Minnesota Medical Foundation. This fund provides vital support for medical students, MMF programs, and research grants for faculty members. Annual Fund contributions go to the area of greatest need, but you always have the option of designating your gift to a particular program or area of interest.

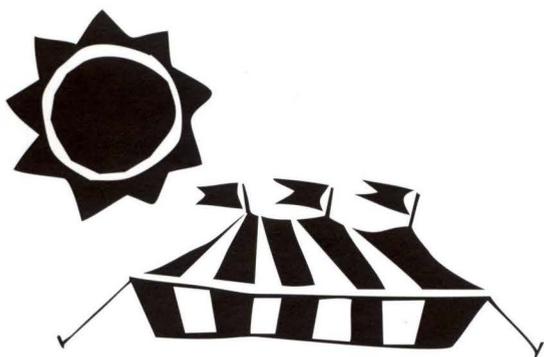
Everyone is also encouraged to become a dues-paying member of the Medical Alumni Society. Members receive special invitations to a variety of events, *Minnesota* magazine (the official magazine of the University of Minnesota Alumni Association), and a variety of other benefits. For information on joining or getting involved with alumni in your area, please contact the MAS office at MMF 1-800-922-1663 or 612-625-8676.

There are big changes in store for medical education, not just in Minnesota but around the world. We will keep you posted as they happen. I know it is important to the leadership of the Academic Health Center that alumni, as physicians and members of the community, support the changes that will be taking place.

If you are interested in getting involved in any MAS activity, please let us know. We need your help planning reunions and other events. Contact our office at the previously listed numbers or write to: Medical Alumni Society, Box 193 UMHC, 420 Delaware Street SE, Minneapolis, MN 55455.

Dorothy J. Horns, M.D. '76
President
Medical Alumni Society





The Medical Alumni
Society announces

Alumni Reunion Weekend 1996

June 6-8, 1996
All alumni welcome.

Honoring the classes of
1946, 1951, 1956, 1961,
1966, 1971, 1976, 1986.

Contact the Medical Alumni
office for more information,
1-800-922-1MMF or
612-625-8676.

Diehl Award nominations invited

Dorothy J. Horns, M.D., '76, invites nominations for the Harold S. Diehl Award. The award will be presented at the Medical Alumni Society's Annual Reunion Weekend, June 6-8, 1996.

Given in honor of the University of Minnesota Medical School's fifth dean, Harold Sheely Diehl, M.D., the award is presented to an individual who has made outstanding professional contributions throughout his or her career. The Diehl Award has been presented to 70 people since its inception in 1962.

Qualifications for nomination are: 1) Preferably a graduate of the University of Minnesota Medical School; 2) Not currently engaged in an academic capacity; 3) Outstanding contributions to the Medical School, the University, the alumni, and the community; and 4) Relatively long experience in the field of medical service or a related field.

Nominations should be received by April 5, 1996, and should be sent to: Dorothy J. Horns, M.D., Chairperson, Harold S. Diehl Award Committee, Box 193 UMHC, 420 Delaware St. SE, Minneapolis, MN 55455.

Nominations should include supporting documents and references to assist the committee in its deliberations. Questions may be referred to the Medical Alumni Society at the Minnesota Medical Foundation, 612-625-8676. ■

CLASS NOTES

1957
Dr. Fred Lyon, Minneapolis, is the author of *The History of Mt. Sinai Hospital*, initiated by Dr. Reuben Berman and published last summer.

1964
Dr. Lonnie Hammargren, Las Vegas, has been named Lieutenant Governor of Nevada.

Dr. Alvin Shemesh, San Juan Capistrano,

California, was honored for 27 years of membership in the American Academy of Family Physicians.

1965
Dr. John M. Barry, Portland, Oregon, was elected to a six-year term as a trustee of the American Board of Urology.

1966

Dr. James P. Polga, Longmeadow, Massachusetts, has been named a fellow of the American College of Radiology. He practices at Baystate Medical Center, University of Massachusetts Medical Center, and Tufts University.

1967

Dr. Lewis Struthers, Parkers Prairie, Minnesota, was re-certified in 1994 as an American Academy of Family Practice physician for the second time. He now has a clinic practice only, since the local hospital closed.

Dr. Ordean Torstenson, Madison, Wisconsin, will join the board of directors of the American Academy of Pediatrics (AAP), and will assume the duties of chair of AAP North Central District VI. Dr. Torstenson currently practices general pediatrics at the Dean Medical Center in Madison, where he is assistant clinical professor in the Family Practice and Pediatrics Department.

1978

Dr. Linda E. Bohn, St. Paul, Minnesota, has been named a fellow of the American College of Radiology. She practices at St. John's HealthEast and St. Paul Radiology.

1986

Dr. Michael J. Smith, Akron, Ohio, has been named assistant professor of orthopaedic surgery at Northeast Ohio University College of Medicine and has received the Department of Orthopaedics Teacher of the Year Award for 1995. He has also been elected a member of the North American Spine Society, the Scoliosis Research Society, and the Cleveland Orthopaedic Society. He recently published "Low Back Pain," a chapter in the 1995 edition of *The 5 Minute Clinical Consult*. He was featured on WAKC-TV 23 and on WAKR radio 1590 discussing prevention of cervical fractures. He will be inducted as a member of the American Academy of Orthopaedic Surgeons during the February 1996 annual meeting in Atlanta, Georgia.

1989

Major John J. Simmer, M.D., San Antonio, Texas, was recently promoted to the rank of major. Currently he is in the otolaryngology residency program at Brooke Army Medical Center.

1995

Dr. John Renelt, Omaha, Nebraska, and his wife, Billie, are pleased to announce the birth of their son, Zachary David, born September 17. ■

IN MEMORIAM

FLORIAN H. BAUMGARTNER, M.D., Class of 1937, died September 4 at age 84. An Albany, Minnesota, resident, Dr. Baumgartner practiced family medicine from 1938 until 1988. He was chief of staff at the St. Cloud and Albany hospitals and served on the staffs of the Melrose and Sauk Centre hospitals. He served as district counselor for the Minnesota State Medical Association and was a member of the Stearns-Benton Medical Society. From 1945 to 1954, he was also mayor of Albany. Dr. Baumgartner co-founded the Albany Medical Center with Dr. Richard Salk, and he was instrumental in founding the Mother of Mercy Nursing Home, the Albany Golf Club, the Albany Hospital, and numerous other community development projects. More recently he was a member of the President's Council of the University of St. Thomas. He is survived by his wife, Kathleen, and 10 children.

J. GORDON BEATON, M.D., Class of 1942, died August 16. A Minneapolis resident, he specialized in internal medicine.

LESTER W. CARLANDER, M.D., Class of 1943, died on September 23. Dr. Carlander, of Edina, Minnesota, was an orthopaedic surgeon and a founding member of Orthopaedic Consultants, P.A. He served as a captain in the Army Medical Corps and later completed his orthopaedic fellowship at the Mayo Clinic. He was active in the Hennepin County Medical Society and the Minneapolis medical community and had a special interest in medical ethics. He is survived by two sons and two daughters.

HOWARD E. CLARK, M.D., Class of 1928, of Carmel, California, died in June at age 95. Dr. Clark practiced ophthalmology.

STANTON A. HIRSH, M.D., Class of 1945, of Union Lake, Minnesota, died August 21 at age 77. After serving in the U.S. Navy, Dr. Hirsh completed a teaching fellowship with the Internal Medicine Department at the University of Minnesota. He later received a fellowship in cardiology from the National Institutes of Health and

trained at the Philadelphia General Hospital. In 1952, he was called back to active duty with the Navy where he served for eight months. Dr. Hirsh then established an internal medicine practice at Northwestern Clinic in Crookston, Minnesota, and taught at the University of North Dakota Medical School in Grand Forks. During a 1967 sabbatical, he taught senior medical students at the University of Minnesota. He retired from active practice in 1985 and continued to lecture at medical schools at the Universities of North Dakota, Florida, and Arizona. In June 1995, he received the prestigious Diehl Award from the University of Minnesota for outstanding community service and dedication to the Medical School and the medical profession. Dr. Hirsh is survived by his wife, Sally, two daughters, and two sons.

CHARLES E. REA, M.D., Class of 1930, died September 24 at age 87. Born in Montana, Dr. Rea attended high school in Billings, received a medical degree with distinction from the University of Minnesota, and earned a degree in pathology from the University of Chicago. He joined the surgical staff at the University of Minnesota and served until he retired in 1978. During World War II, he headed the Oak Ridge Hospital in Oak Ridge, Tennessee. Later, as a colonel in the U.S. Army, Dr. Rea was awarded the Legion of Merit Award. After the war, he joined the Minnesota Surgical Society and the American Association of Senior Physicians. In the 1950s and '60s, he was actively involved with a Twin Cities school that educated children with mental disabilities. In 1959, Pope John XXIII made him a Knight of St. Gregory for his work with the poor. In retirement, Dr. Rea started a ministry in Imokalee, Florida, for Haitian field workers. He is survived by six children.

JOHN J. REGAN, SR., M.D., Class of 1943, died September 17 at age 79. Dr. Regan was the first psychiatrist to become president of the Minnesota Medical Association. A graduate of the College of St. Thomas in St. Paul and the Medical School, he practiced in the Medical Arts Building in downtown Minneapolis. He was chief of staff from 1969 to 1972 and chief of psychiatry from 1958 to 1963 at the old St. Mary's Hospital in Minneapolis; president of the Metropolitan Health Care Foundation in 1975 and chairman of its board in 1976; taught in the Department of Psychiatry at the University of Minnesota; and helped raise money for a loan program for University medical students. He was a decorated

Navy veteran of World War II and was Minnesota Psychiatric Society's Private Practitioner of the Year in 1994. Dr. Regan is survived by his wife, Lucille, two daughters, and three sons.

HAROLD M. SOLVASON, M.D., Class of 1946, died July 17 at age 79. After receiving a B.A. in metallurgy in 1940, he served as a metallurgist for Standard Oil in Baton Rouge, Louisiana, for two years. He later returned to the University to complete a medical degree. An Edina, Minnesota, resident, Dr. Solvason practiced family medicine in Minneapolis and Edina from 1946 to 1975. He was a diplomate of the American Board of Family Practice from 1972 to 1988; a member of the Minnesota Medical Association and the Texas Academy of Family Practice; and a member of the World Medical Association, Royal Society of Medicine, and other international medical associations. He was on staff at the Fairview hospitals and several other city hospitals. In 1975 he left his practice in Edina to serve as a civilian physician with the U.S. Defense Department in Germany where he was chief of the emergency room and outpatient departments of the Berlin Army Hospital and the Nurnberg Army Hospital. He returned to El Paso, Texas, in December 1982.

Also noted:

EUGENE F. BERNSTEIN, M.D., resident alumnus, Class of 1964, died June 21 at age 64. Dr. Bernstein completed a general and cardiothoracic residency and received a doctorate in surgery in 1964. One of the founders of the University's Biomedical Engineering program, Dr. Bernstein served as an instructor and associate professor in the Medical School. He was one of the organizers and the first director of the University Hospital surgical residency program. In the 1960s, he and a group of University researchers developed a heart pump for heart surgery. He then became head of vascular surgery at the University of California in San Diego and later served as a surgical consultant at Scripps Clinic and Research Foundation in La Jolla, California. He is survived by his wife, Joan, and two children. ■

THANKS FOR ASKING



Susan C. Dunlop

Q: Could I use a paid up life insurance policy to achieve charitable objectives?

Yes!

Using life insurance to achieve your charitable objectives can offer several distinct advantages.

- Easy:** When making a gift of paid up life insurance, you can simply name the charity as the beneficiary or owner and beneficiary of the policy.
- Economical:** There is no charge in changing the beneficiary and/or ownership of the policy.
- Revocable:** If a charity is only made the beneficiary of a policy, this can easily be changed at any time and at no additional cost.
- Current tax savings:** If the charity is made the owner and beneficiary of a policy, there is a current income tax charitable deduction for approximately the cash value of the policy.
- Flexible:** A charity can be made the full, partial, or contingent beneficiary of a policy.
- Convenient:** If you have a policy that has served its original purpose, changing the beneficiary is easier and less expensive than creating a trust, rewriting a will, or arranging another form of the gift.
- Immediate:** After a person's life, insurance proceeds do not have to go through the probate process and can be distributed to the charity outright.

I would like to provide you more information about a life insurance gift and discuss with you how it can help you achieve your philanthropic objectives.

Please call me at 612-625-6169 or 1-800-922-1663, or return the reply below.

Dear Susan,

_____ Please send me information on Giving Through Life Insurance.

Name _____

Address _____

City _____ State _____ Zip _____

Please return to: Susan Dunlop, Minnesota Medical Foundation, Box 193 UMHC,
420 Delaware St. SE, Minneapolis, MN 55455-0392

MB-W196

THANKS FOR GIVING

Vail Farnell

by Jean Murray

Vail Farnell is very grateful to the University of Minnesota for the care her husband, Richard, received during his four-year battle with lymphoma. "The hospital became my home away from home," she says, "and the staff was wonderful."

Richard Farnell died in February, 1994, at the age of 54, and Vail Farnell established the Richard P. Farnell Endowment Fund for Lymphoma Research at the Minnesota Medical Foundation in his memory.

Both Richard and Vail Farnell came from outstate Minnesota — Richard from the Lindstrom-Center City area and Vail from Starbuck. Following graduation from high school in 1957, Richard began working for the U.S. Postal Service. He served in the army for two years in Kassel, Germany, and rejoined the postal service upon his return to the United States. He attended the University of Minnesota while working full time, and earned a Bachelor of Arts degree in 1972.

Richard rose through the ranks of the postal service, and in 1986 was appointed postmaster at Owatonna, Minnesota. He was a member of NAPUS (National Association Postmaster of the United States) and served as legislative chairman and co-chairman, positions which involved lobbying for postal issues. He retired in 1992 following 35 years of service. After he died, the many contributions from his friends in the postal service helped make the endowment fund a reality.

Richard was treated at the University of Minnesota by Dr. Bruce Peterson, professor of medical oncology, and his staff. "When he came to the University," says Peterson, "Richard had non-Hodgkin's lymphoma, a malignancy of the lymphatic system, that was behaving aggressively and not responding to the available standard forms of chemotherapy. He came here seeking new treatments that could control the malignancy. Both he and Vail wanted to do everything within their power to fight the lymphoma, and they worked closely together to achieve this goal."

Throughout Richard's treatment, Vail Farnell felt like part of the team. "Dr. Peterson and all the medical staff always had time for me," she says. "There was never a time when I couldn't pick up the phone and reach some-



Vail and Richard Farnell

one. They didn't mind how many questions I had." She was pleased that she could always be in Richard's room during consultations, and could stay overnight when it was necessary.

"Richard and Vail were insightful, inquisitive, informed, and most of all, always positive in their outlook," says Peterson. "He went through a series of different treatment programs and Vail was always beside him. Some of the treatments he received were new; others were investigational, but all were chosen because they offered Richard hope and the best chance of health. The treatments he received were very helpful, but in his case could not cure the lymphoma."

"Richard was a very optimistic man," says Vail. "He was willing to try different treatments which were sometimes experimental, to see what might work. He remained active and working throughout his illness. The staff at the University made sure he was able to attend our son's wedding, take a long-anticipated trip to Hawaii, celebrate the birth of our first grandchild, James Richard, and maintain as normal a life as possible.

"It's a combination of all they do that's so special," says Vail. "The nurses, the physicians, the people in the clinic and the day care, even the x-ray technician knew Richard's name and always stopped to say hello.

"Richard died too young. It was very important to our family to set up this fund in his memory," says Vail. "You don't have to be a millionaire to do this — ordinary people can establish an endowment fund, and additional gifts can be added to the fund at any time to aid in the lymphoma research effort." ■

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