

University of Minnesota

Medical Bulletin

A PUBLICATION OF THE MINNESOTA MEDICAL FOUNDATION



Spring 1994

The Remarkable,
Regenerative Liver

**The Minnesota Medical Foundation
supports the research and educational
missions of the University of Minnesota
Medical Schools by encouraging
private contributions.**



ON THE COVER:

In Greek mythology, Prometheus was chained to a rock for stealing fire from Zeus to give to man. Each day his liver was pecked out by a bird of prey, and each night it regenerated. University of Minnesota researchers are studying the mysteries of liver regeneration. Oil painting (1868) by Gustave Moreau.



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University of Minnesota

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Liver Regeneration:



Unlocking the Mysteries

Researchers in the University of Minnesota's Department of Medicine are breaking ground with their studies of the amazing liver.

Fascination with the liver began long ago. In Greek mythology, Prometheus was chained to a rock on Mt. Caucasus for stealing fire from Zeus to give to man. As part of his punishment, a bird of prey pecked out Prometheus's liver — every day. Each night, his liver grew back.

This amazing occurrence is not entirely impossible. The liver, which cleans the body of toxic material and makes important proteins, is also able to regenerate. In other words, if as much as 70 to 90 percent of a human liver were removed, the remaining portion could grow back to full size, provided it was healthy. In a rat, it only takes ten days for the liver to regenerate after 70 percent of it has been removed.

No other solid organ can do this. The liver's ability to regenerate after injury from chemicals, viruses and other infections, physical trauma, or partial surgical removal is unique. However, the term regeneration is a bit of a misnomer. When part of the liver is removed, the remaining portion only grows back to the original size. The individual lobes that were removed do not grow back. In its strictest definition, regeneration would require that all of the missing lobes would regrow to their original size and shape.

Scientists don't yet know specifically why or how the liver regenerates. Unlocking this mystery could ultimately help physicians treat patients with liver damage. Potentially, they could inject patients suffering from liver disease with a substance or substances that would trigger liver regeneration. Understanding the mecha-

BY JODI OHLSEN READ

Photos by Nancy Mellgren

nisms regulating regeneration could also offer clues about cell growth in general and could increase knowledge about abnormal cell growth, such as cancer.

A complex cascade of events

"Liver regeneration after partial surgical removal is a remarkable phenomenon," says Clifford Steer, M.D., professor, Departments of Medicine and Cell Biology and Neuroanatomy. "A regenerated liver is completely functional. Microscopically, there is absolutely no difference between the regenerated liver and the original."

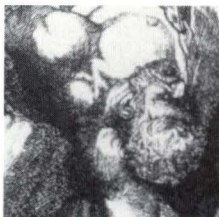
Studying liver regeneration offers researchers a unique opportunity to study cell growth in a live situation. "It is a perfect example of *in vivo* controlled cell growth. Cell division like this cannot be duplicated in a test tube. For example, we cannot remove regenerating liver cells and put them in a petri dish and expect them to grow as they do when part of an intact organ, as in its natural environment," says Steer.

The process of liver regeneration is complicated, with many aspects to be studied. As Steer explains, "Liver regeneration is a complex cascade of interacting events. There is no single switch that turns liver regeneration on and off." Steer recently received a new research grant from the Minnesota Medical Foundation. He hopes to find out what makes the liver regenerate and which signals in the body tell it when to stop regenerating.

To understand how regeneration works, how it knows when to stop or start, and how it could be induced, Steer and his colleagues are examining several aspects of liver regeneration at the molecular level. Some of these include messenger ribonucleic acid (mRNA) stability, the role of cyclins, apoptosis, tumor suppressor genes, and gene targeting to manipulate gene expression.

How do these aspects of regeneration fit into the whole process? In even a simplified chain of action, regeneration consists of numerous molecular events. The first phase of liver regeneration after partial removal of the liver begins almost immediately; within 15 minutes of injury, regenerative activity can be detected. A number of factors may be involved in sending the first signals to regenerate, including cytokines (growth factors) and oxidative stress. During this stage, gene expression is induced — certain genes begin to send messages to prime the liver cells to divide. Many of these genes fall into a group referred to as immediate-early genes. Certain proto-oncogenes are included in this category.

Typically, proto-oncogenes are involved in priming the liver to replicate and some appear to be involved in the next phase, the progression. Proto-oncogenes are important to cell growth, but by themselves they are not enough to cause cells to divide. In liver regeneration, increased expression of certain proto-oncogenes is evident early.



Understanding the mechanisms regulating regeneration could increase knowledge about abnormal cell growth, such as cancer.



Janeen Trembley and Dr. Clifford Steer examine an autoradiogram to analyze a sequence of a gene.

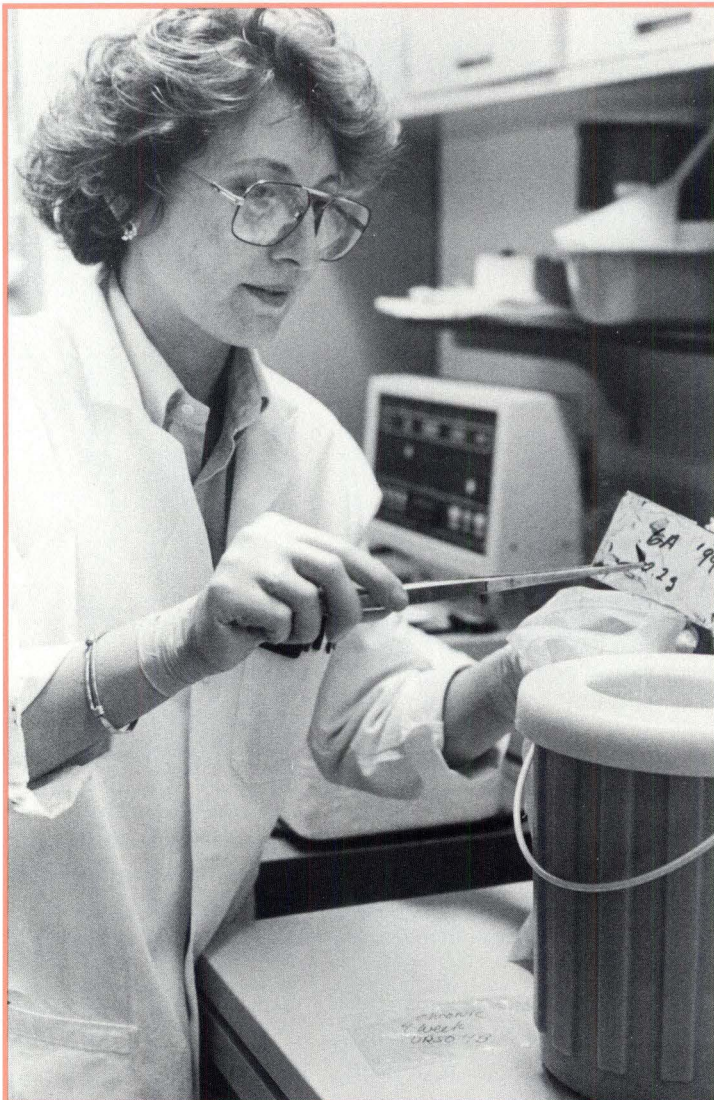
Liver Regeneration: Unlocking the Mysteries

Studying these immediate-early genes will provide information about cell growth in general and how regeneration might be initiated.

Understanding mRNA stability — how long a message or transcript created by a gene lives — could be vital to controlling the characteristics of liver regeneration. The mRNA, or transcript, is the product of gene activation and produces the protein necessary for cell division. Without these proteins, cells may not divide. For most genes, there is a related mRNA and its lifetime varies from minutes to days. Betsy Kren, Ph.D., is a research associate working with Steer to learn more about mRNA stability. They hope to find out what the correlation is between the half-life of certain messages and the proteins they produce. Kren has already made some fundamental discoveries regarding mRNA stability as it relates to different phases of the cell cycle in the regenerating liver.

Once researchers know the stability of a gene's message, they can better understand the role the gene takes in cell growth. Ultimately, by manipulating stability, scientists could control the expression of the gene, and thus regulate cell growth or regeneration.

**Betsy Kren, Ph.D.,
removes tissue
samples from liquid
nitrogen.**



Programmed cell death

Liver regeneration also provides an ideal environment to study apoptosis, which is programmed cell death. "Every cell appears to be programmed to die at some time. If researchers were able to reverse this, perhaps they could keep cells alive indefinitely," says Steer. "In the adult liver, a hepatocyte (the major cell of the liver) divides only every couple of years at the most. It's programmed to be inactive or quiescent almost its entire adult life, yet it can be stimulated to undergo rapid and repeated replication. What allows this?" asks Steer. By learning how and why a cell dies, researchers could possibly manipulate cell growth.

Another factor in regeneration is the group of cyclin genes. Cyclins are a large family of related molecules which are critical mediators of the cell cycle. When cells start to divide, the cyclins appear to be involved in each cell cycle stage. Cyclins may eventually provide a marker of regenerative activity in human liver diseases.

Several researchers in Steer's lab have been studying the role of cyclins. Two gastroenterology fellows, Jeffrey Albrecht, M.D., and Jeffrey Hoffman, M.D., Ph.D., each spent 18 months in Steer's lab studying cyclins in regeneration. Presently, Janeen Trembley, a graduate student in genetics and cell biology, is continuing to work with cyclins, and in particular with a specific cyclin which is involved in hepatocyte growth in rats.

Once the liver begins to regenerate, how does it know when to stop? "Somehow the liver knows

exactly how big it needs to be," says Steer. "For example, if a parent gave part of their liver to their baby, the transplanted liver would grow with the infant. If the liver were too large, it would shrink to accommodate the size of the baby, and if it were too small, it would grow. Also, the remaining liver in the parent would eventually regenerate to its original size." Tumor suppressor genes may play a key role in determining when the liver begins and stops regenerating.

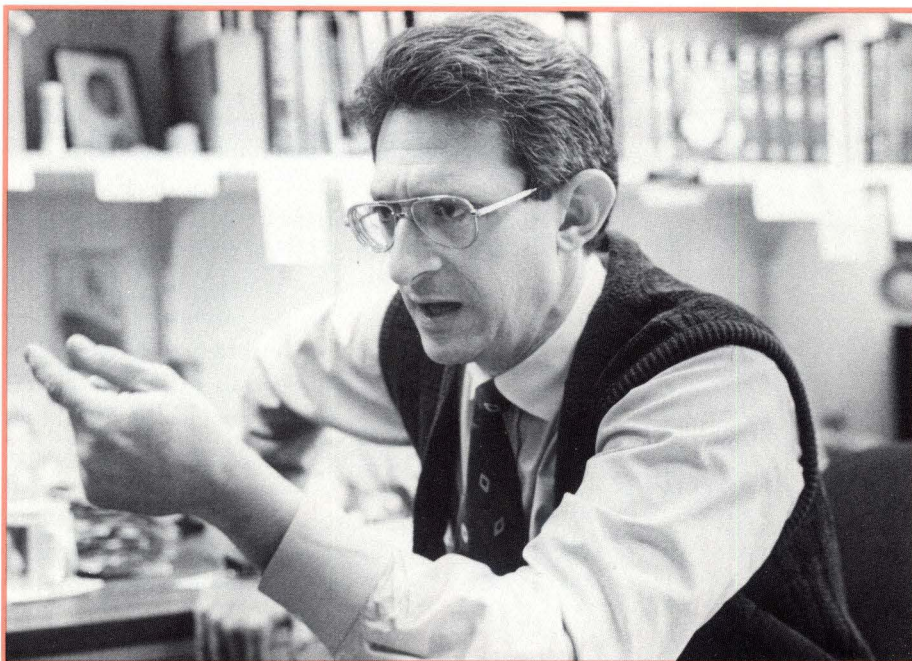


Once the liver begins to regenerate, how does it know when to stop? "Somehow the liver knows exactly how big it needs to be," says Steer.

Inhibiting growth

"In general, tumor suppressors appear to inhibit cell growth. If they suppress growth, then during regeneration they must be inactive," says Steer. "We hope to learn how important tumor suppressors are in the normal growth of an organ. Without tumor suppressors, cells may undergo uncontrolled growth and even develop cancers. Is it possible that the liver, without tumor suppressors, would simply keep regenerating? That's one of the questions being considered." Currently, Guangsheng Fan, M.D., Ph.D., a research associate, is studying the role of tumor suppressors. He is using cell and molecular biology to better define the importance of certain tumor suppressors, such as retinoblastoma, in cell growth and apoptosis.

Targeting specific genes to the liver to control their expression could also help scientists learn more about gene regulation and regeneration. "If we were able to shut down a specific gene, we could examine that gene's role in regeneration," explains Steer. "In contrast, if we were able to overexpress a gene, we could see what effect that has on the ability of the liver to regenerate. It is conceivable that certain injuries turn on cellular apoptosis, which induces the cell to die. If we were able to shut off that process, perhaps the liver could regenerate more efficiently."



Dr. Clifford Steer has been studying liver regeneration since coming to the University in 1989.

With a previous MMF grant, Steer has studied the role of the retinoblastoma tumor suppressor gene. Identifying this gene's involvement in regulating liver cell growth will help increase understanding of controlled cell growth. To do this, Steer and his colleagues are cloning the gene. Amy Teel, a graduate student in the Department of Cell Biology and Neuroanatomy, partially sequenced and characterized the gene while working in Steer's lab.

The research being done at the University of Minnesota is somewhat unique. Steer's lab may be the only one with such a specific focus on message stability in the regenerating liver. In fact, there are only a handful of laboratories in the world doing this type of molecular research on liver regeneration. Steer's lab, specifically Trembley, was the first to clone the cyclin B1 gene from the rat. Steer and his colleagues are continuing to clone and sequence the retinoblastoma gene in the rat. This is unique

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in the rat because the retinoblastoma gene appears to produce at least two mRNA species, in contrast to humans which express a single transcript.

Interest in this field is continually increasing. Last summer Steer organized and led the 1993 American Association of the Study of Liver Diseases international symposium on liver regeneration — the first of its kind. The meeting attracted 135 people from universities all over the world, as well as several biotechnology companies.



There are only a handful of laboratories in the world doing this type of molecular research on liver regeneration.

Now, with the current MMF grant, Steer plans to study the retinoblastoma gene in liver cancer cells. Fan will be working with Steer to find out what role the retinoblastoma tumor

suppressor has on the growth characteristics of the liver cancer cells. The information will provide important understanding of the role of tumor suppressors in cells which are no longer under the control of apoptosis.

Steer has been studying liver regeneration since coming to the University in 1989. That year, MMF supported Steer's research with a start-up grant used to purchase a cell-culture incubator and hood — both which are still used in his laboratory today.

If the liver can regenerate, it may seem odd that so many people suffer from liver disease or need liver transplants. One reason a liver may not be able to regenerate is an irreversible loss of cells in part due to scar tissue. Scar tissue, also called fibrosis, resulting from liver damage can block cell replication. Also, at least part of the remaining liver must be healthy to regenerate.

Can a diseased liver ever regenerate? "Maybe," answers Steer. "Regeneration works best in a healthy liver but if there are enough healthy cells in the diseased liver, it may be able to regenerate. One controversial idea is that stem cells in the liver may be able to differentiate into other cells, to actually change and become hepatocytes which are able to then regenerate the liver. If the liver is so diseased that not a single cell can divide, the liver cannot regenerate at that time. In this case, one can only hope that over time the liver can heal itself, that the injured cells can recover, and that the liver can regenerate." Perhaps, in the future, the recently developed bioartificial liver will be used to provide the liver an important window of time needed to begin regenerating.

Ultimately, the goal of this research is to understand the natural function of the liver to eventually cure disease. There are only about 3,000 livers available for transplant each year in this country and there are far more people waiting for a transplant. There are simply not enough livers to go around. "Within five to ten years we may well be able to resurrect a diseased liver. We may even be able to induce liver regeneration," says Steer. In fact, some biotechnology companies are already eager to develop growth factors which could help stimulate regeneration. "Simply, the more basic research we do, the more we will understand how the liver regenerates and thus, the easier it will be to induce the liver to regenerate." ■

Steer, a University of Minnesota Medical School alumnus, completed his internal medicine residency at the University. His clinical training includes internal medicine and hepatology. Before coming to the University, he had been at the National Institutes of Health since 1976.



Amal Murarka, the Care Partners Night Visitor



Care Partners volunteers offer much-needed support and companionship to patients at University Hospital.

by Beth Zauhar ☀ photo by Nancy Mellgren

Since 1983, Care Partners (formerly CARE) has been reaching out to the community to train and match volunteers with families who have a child or family member facing a lengthy stay at University of Minnesota Hospital. Most often, the patients are children undergoing bone marrow transplants that may be their only hope of survival.

Many of these families have traveled a long way from home to spend perhaps several stressful months waiting and hoping, without benefit of extended family, friends, or familiar support systems. Trained Care Partners volunteers provide that much-needed support by offering whatever care and comfort they can.

One such Care Partner volunteer is Amal Murarka. Amal has been serving as a volunteer with the program since 1991, and at the same time has been attending the University of Minnesota Medical School in pursuit of an M.D. degree that will be completed in June of this year.

Planning a medical career in pediatrics, Amal's volunteer experience with Care Partners has given him a unique perspective on treating serious children's illnesses.

"These experiences have

made me realize there's a lot more to treating a child with a serious condition than just medicine," says Amal. "What you don't study in medical school is the psychological impact these situations have on the entire family, and ultimately on the patient. All of that can strongly impact the recovery rate of the child."

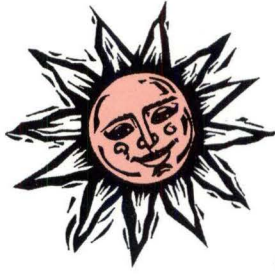
Amal has served several families in Care Partners, and each has given him a different insight. Amal's first experience was with Ben, a four-year-old undergoing treatment for a brain tumor. Only a few months earlier Ben's father had committed suicide, perhaps as a result of the stress brought on by the family crisis.

"The treatment was difficult for the whole family," says Amal. "Ben's mother was commuting an hour each way — rather than staying at the Ronald McDonald House — so she could provide as normal a setting as possible for Ben's siblings. In addition to taking care of Ben's needs there was work, bills, and dealing with the loss of her spouse as well as the possible loss of her child.

"This often left Ben alone at night, sometimes after some pretty scary treatments. I arranged my schedule so I could spend several evenings a week with Ben, reading to him or just talking until he fell asleep so he wouldn't be alone.

"We became pretty close during Ben's stay. Perhaps

Photo above: Medical student Amal Murarka has been a Care Partners volunteer since 1991. He shares his time with a cancer patient at the Ronald McDonald House.



what I will remember best from all of this is the way Ben threw his arms around my neck and hugged me the day he was released from the hospital. That alone has made every minute worthwhile.”

Besides his volunteer work, Amal has been involved in a research project on neuroblastoma, a common childhood cancer with poor treatment outcome. He received a student research grant from the Minnesota Medical Foundation for his project, titled “In vitro and in vivo models of human neuroblastoma and the evaluation of novel therapeutic options.”

He explains, “Neuroblastoma is the most common extracranial solid tumor in children, accounting for 8 to 10 percent of all childhood cancers. Outcome of this disease is dependent upon the age of the patient at the time of diagnosis and the stage of the disease... A variety of therapeutic options including surgery, chemotherapeutic agents, and radiation therapy have been used in treatment of neuroblastoma, but with little success.”

In his research, Amal attempted to demonstrate and evaluate various types of novel therapeutic options to more effectively treat neuroblastoma.

In late January, Amal left for New Delhi, India, for research at the All-India Institute of Medical Sciences. While there, he also plans to investigate public health and volunteerism in India.

Although Amal claims any benefits from his volunteer experience have been his, Care Partners Executive Director Pat Kasell insists it’s been a two-way street.

“Amal Murarka is a remarkable person,” says Kasell. “He has given so much of himself to the families he’s served. In addition, Amal has served as a member of the volunteer management committee for Care Partners, and has helped develop plans regarding recruitment, recognition, and responsibilities of volunteers. He’s been an incredible asset to our program, and we’re really going to miss him.”

Although many Care Partners volunteers share Amal’s devotion and sensitivity, Amal is somewhat unique in that he is one of only a few male volunteers in the program.

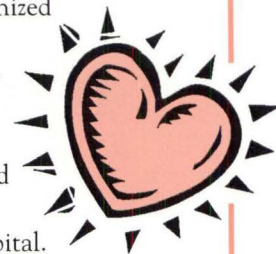
“We really could use more men in the program,” says Kasell. “We serve several teenagers and young men who could really use a male volunteer to talk to. We need as many Amals as we can get, especially now that the program has been expanded.” ■

Beth Zauhar is on the board of directors of Care Partners and is chair of the organization’s public relations committee. She also served on the Junior League of Minneapolis committee that first established Care Partners (then called CARE).

What is Care Partners?

Care Partners, a non-profit program, is a special fund of the Minnesota Medical Foundation. Originally called CARE, Care Partners was established in 1983 through the collaborative efforts of the Junior League of Minneapolis, the Children’s Cancer Research Fund, and the University of Minnesota Hospital and Clinic.

These organizations recognized the need for a support system for patients — and their families — who are undergoing bone marrow transplants and other treatment for cancer and blood-related disorders at the University of Minnesota Hospital.



CARE originally stood for Children’s Cancer, Assistance, Resource, and Encouragement. As the program expanded to other diseases and age groups, the name was changed to Care Partners — A Family Support Network.

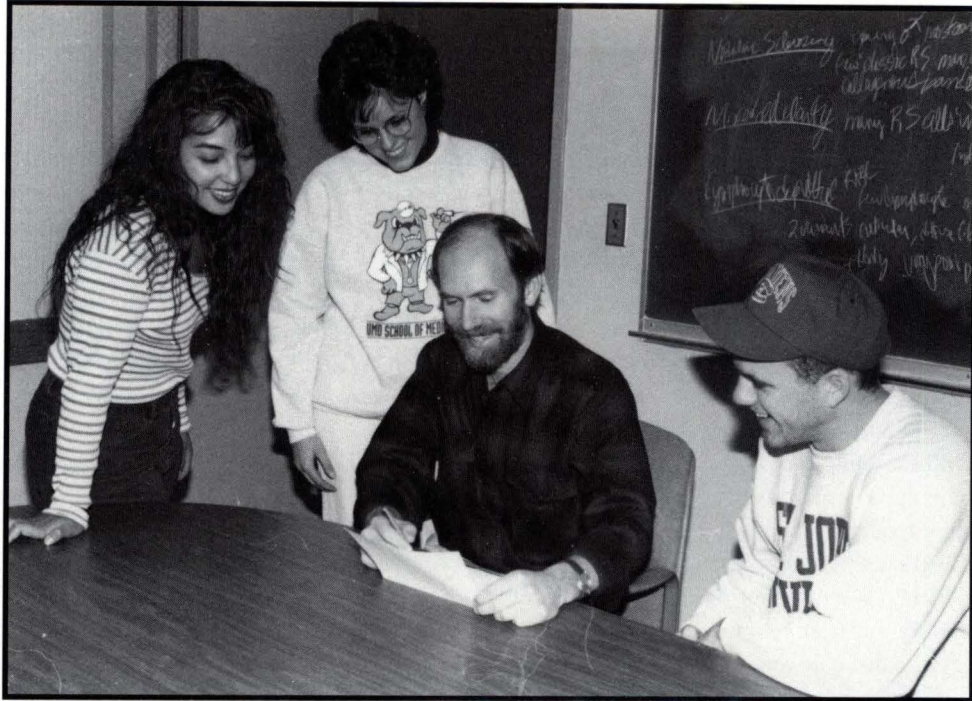
Care Partners volunteers offer families support and companionship during a critical time in their lives. Treatment can last several months to a year, and families may be far from home, without their usual support systems, transportation, or daily needs met.



A volunteer might take the parents or spouse out for coffee, decorate a patient’s hospital room, run an errand or drive to the airport, fix a home-cooked meal, or read to a child while the parents take a break.

Volunteers receive training which provides an overview of cancer and other diseases, bone marrow transplants, and the psychosocial aspects of a family in crisis.

If you are interested in becoming a Care Partners volunteer, contact Pat Kasell at (612) 626-2951. ■



Dr. Dan Benzie: A Community Physician

UMD's Dr. Benzie promotes the role of primary care physicians. by Dina Flaherty

Dr. Dan Benzie is new to the faculty of the University of Minnesota, Duluth (UMD) School of Medicine, but he is not new to the School. His first two years in medical school were spent at UMD, and he has chosen northern Minnesota as his home and workplace.

Benzie has returned to UMD as a part-time faculty member in the Department of Family Medicine, directing the development of third- and fourth-year rotations for medical students. He also maintains his family medicine practice at the Gateway Clinic in Moose Lake, Minnesota, and works at the Duluth Family Practice Center.

It's a busy schedule, but Benzie enjoys what he does — working as a rural family practitioner and promoting the important role of primary care physicians, especially in rural communities.

Focus on community care

Changes in state and federal legislation, the national generalist initiative, and the new MinnesotaCare legislation (which mandates a 20 percent increase in graduates of primary care residency programs) prompted the University of Minnesota to increase the exposure of medical students to primary care and community-based

Photo above: Dr. Dan Benzie is on the faculty at the UMD School of Medicine, and also has a family medicine practice in Moose Lake, Minnesota.

training. At the UMD School of Medicine, students complete the first two years of medical training combining basic sciences with clinical preceptorships in family medicine. The students transfer to the Twin Cities campus for their third and fourth years, which consist primarily of hospital-based required and elective clerkships.

Benzie is developing additional rotations in Duluth so transferring students and students from the Twin Cities campus have expanded opportunities for learning.

“Duluth is the logical site for this,” says Benzie. In the Duluth community and surrounding area, physicians who have previously taught medical students during their first and second years are excited to teach third and fourth year students in their rotations. According to Benzie, “We are offering not just the same but a better quality experience, plus an opportunity to see community health care and what primary care doctors do.”

The starting date for the new rotations will be summer 1994. Presently, two major rotations are offered in Duluth — obstetrics/gynecology and radiology — but by summer 10 to 12 required and elective rotations will be offered. Benzie is coordinating the new rotations with the assistance of Dr. Robert McCollister and the Department of Curricular Affairs on the Twin Cities campus.

“We are offering the same rotations up here in Duluth, but with the benefit of community exposure,” says Benzie. “The support is great from the Duluth medical community.” UMD School of Medicine faculty have offered housing to the medical students and the hospitals will provide meals.

Average rotations are three, four, or six weeks. The rotations will be office-based with the hospital component added. Benzie feels the community experience is a key factor in influencing medical students to become primary care doctors, an exposure that is less available in Minneapolis.

Working in rural health clinics in the surrounding areas is another key component of the new rotations. Medical students will not only experience primary care rotations (family medicine, internal medicine, and pediatrics), but will have first-hand exposure to specialty practices including ENT, urology, ophthalmology, etc. Students will also observe the relationship between primary care physicians and specialists in a rural setting, providing them with a better understanding of health care delivery in rural communities.

Close to his environment

Dan Benzie grew up in Grand Rapids, a small town in northern Minnesota. He attended college at the University of Minnesota, graduating in 1976 with a degree in biology. He pursued a master’s degree in environmental health, and worked as a research scientist for the state. He then decided to apply to medical school and was accepted at the UMD School of Medicine. After two years, in 1979, he transferred to the Twin Cities for years three and four.

Benzie took several rotations in Duluth during his third year, giving him first-hand experience on how best

“When working in a small community you really get to know your patients and it truly is a family practice.”

to organize the new rotations.

After completing his family practice residency, in 1984 Benzie joined a practice in Moose Lake at the Gateway Clinic. He had always wanted to practice in a small community, and found the clinic in Moose Lake to be ideal.

“When working in a small community you really get to know your patients and it truly is a family practice,” says Benzie. The Gateway Clinic serves 20,000 patients, with six doctors in the group. It is a single specialty group and all the doctors are involved in education.

The clinic hosts students participating in the Rural Physician Associate Program (RPAP) and in the UMD School of Medicine preceptorship program. Both medical students and residents from the Duluth Family Practice Center “coat-tail” a physician through a typical day at the clinic, which includes seeing patients in both the office and hospital and experiencing first-hand how a clinic operates.

Benzie also works one day a month at the Duluth Family Practice Center, where he is directly involved in teaching residents. He and a resident may see a patient together, or the resident may see the patient and then discuss the case with Benzie. He enjoys working with both medical students and residents, and can relate to their situations — it was not long ago that he was a resident himself. ■

Dina Flaherty is communications coordinator at the University of Minnesota, Duluth (UMD) School of Medicine.

MMF's Fifty-fifth Annual Meeting

Dr. Bernadine Healy discusses the Women's Health Initiative

by Jean Murray
Photos by Nancy Mellgren



The Minnesota Medical Foundation's 55th Annual Meeting, held November 2, celebrated more than a half-century of support of education and research at the University of Minnesota Medical Schools. The Radisson Hotel Metrodome U of M was the site of the meeting, which featured Dr. Bernadine Healy as speaker. Healy is immediate past director of the National Institutes of Health (NIH).

Events on the program included reports by MMF President David R. Teslow and MMF Vice Chair Paul T. Birkeland, academic awards presentations, donor and volunteer recognition, and introduction of new MMF board members and special guests.

Distinguished Teaching Awards were announced for *Drs. Paul Severson, Arthur Aufderheide, and Stephen Downing* of the UMD School of Medicine, and for *Drs. David Dvorak, Eric Johnson, Stephen Katz, Valerie Ulstad, and Kathleen Whitley* of the Twin Cities Medical School. *Dr. Ann Rinehart* was recognized as recipient of the J. Jacob Kaplan Research Award.

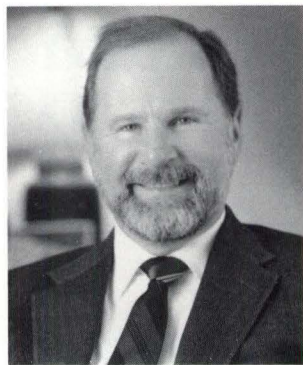
Six individuals were confirmed as new members of the MMF board of trustees. The board is comprised of faculty of the University of Minnesota Medical Schools, leaders in the medical community, and representatives of the corporate community. The board is charged with the overall guidance of MMF in accomplishing its mission of raising and disbursing funds for medical education and research at the University of Minnesota Medical Schools in the Twin Cities and Duluth. New board members include:

William A. Cooper, Medina, chairman and chief executive officer of TCF Financial Corporation, Minneapolis;



Top photo: Dr. Bernadine P. Healy addresses the MMF Annual Meeting.
Photo below: MMF Vice Chair Paul Birkeland and University Regent Jean Keffeler recognize Dr. Joseph Garamella, a founder of the Garamella Lynch Jensen-Cardiac Research Committee Perfusion Training Program at the University of Minnesota.

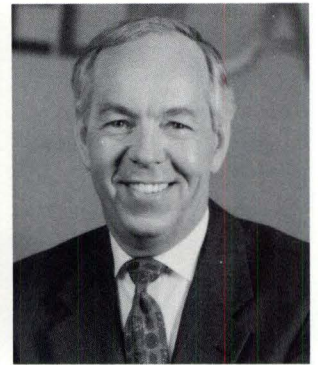
MMF's Fifty-fifth Annual Meeting



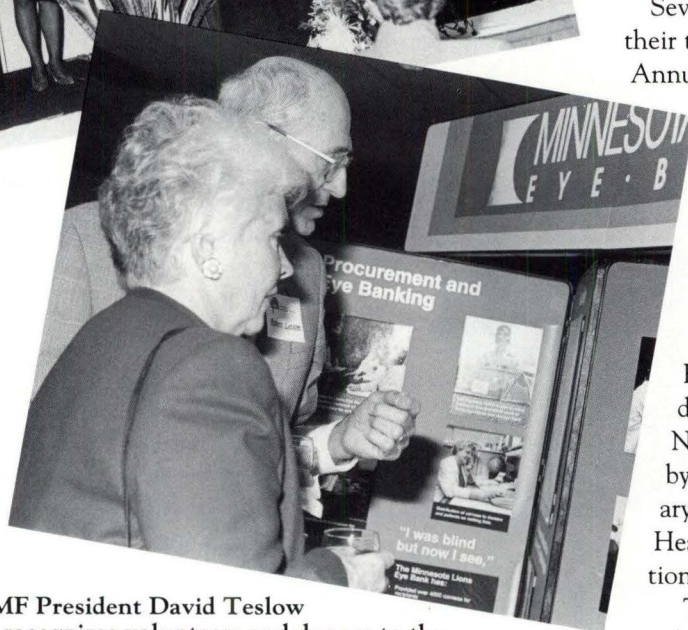
William A. Cooper



M. Elizabeth Craig, M.D.



K. James Ehlen, M.D.



Top: MMF President David Teslow (center) recognizes volunteers and donors to the Minnesota Medical Foundation. Photo below: Annual Meeting guests view displays during the reception.

Dr. M. Elizabeth Craig, Minnetonka, clinical assistant professor emeritus in pediatrics and family practice/community health and former University regent;

Dr. K. James Ehlen, Plymouth, chairman and chief executive officer of Medica;

Dr. Oliver H. Peterson, Minneapolis, obstetrician/gynecologist practicing in Minneapolis;

Dr. Judith F. Shank, Wayzata, dermatologist practicing in Plymouth;

David A. Sonstegard, Ph.D., Hudson, Wisconsin, research and development vice president, 3M Life Sciences Sector, 3M Company.

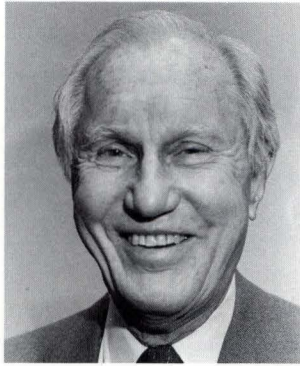
Several MMF board members have concluded their terms of office, and were recognized at the Annual Meeting for their generous commitment

of time and resources. Retiring board members include **Ronald Baukol**, **Dr. Frazier Eales**, **Dr. N.L. Gault, Jr.**, **N. Bud Grossman**, **Dr. Paul Quie**, **Dr. Nadine Smith**, and **John Warder**.

A time for change

Featured speaker **Dr. Bernadine Healy** addressed the audience on the subject of the NIH Women's Health Initiative. Appointed by President Bush as director of NIH in January 1991, Dr. Healy launched the Women's Health Initiative to study the causes, prevention, and cures of diseases that affect women.

The \$625 million, 15-year women's health study is the biggest and most extensive health research project in U.S. history. It will focus on the causes and prevention of heart disease, cancer, and osteoporosis and on developing ways to



Oliver H. Peterson, M.D. Judith F. Shank, M.D. David A. Sonstegard, Ph.D.

teach post-menopausal women how to stay healthy. The University of Minnesota is one of the institutions chosen to participate in the study.

Healy told the audience that medical practice has been seen through the eyes of men. "In clinical medical research, men are the standard," she said, noting that medical research has been conducted almost exclusively on men. Cholesterol and stress tests, use of aspirin to prevent coronary disease, and even an estrogen study have been conducted on men only.

Health care delivery differs for men and women as well, said Healy, who cited recurrent stories of varying patient care depending on the gender of the patient. The elderly have also been neglected in clinical trials, Healy noted.

"The health of women is a measure of the health of the nation and of society," said Healy. In third world nations, she said, when women's educational level and income increases it has had more impact on society than when the same happens with men. And education, she said, is the key to women's mental and physical health, in developed nations as well as developing nations.

The focus of the Women's Health Initiative is on health, not on disease, according to Healy. The study will involve 150,000 women. ■



Above, Dean Shelley Chou and Dr. B.J. Kennedy enjoy the Annual Meeting reception. At left, Dean Chou presents MMF's Distinguished Teaching Award to Dr. Stephen Katz. Drs. Valerie Ulstad and Eric Johnson, behind Dr. Chou, also received the award, as did Drs. David Dvorak and Kathleen Whitley, not pictured.

DEAN'S REPORT

Our New Health Care System: A Challenge to Medical Education

by Ronald D. Franks, M.D.
Dean, University of Minnesota, Duluth
School of Medicine

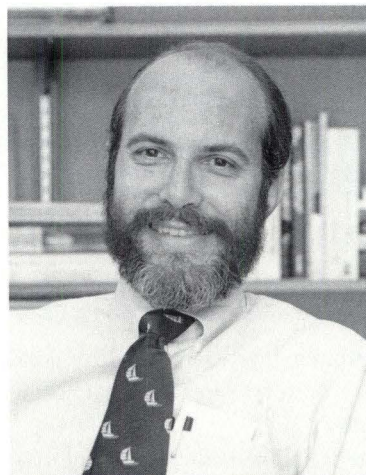
With the dramatic changes occurring in our health care system, both statewide and nationally, it is imperative that medical schools better prepare our future physicians to meet the health care needs of the patients they will serve. Broad reforms in the education, specialty selection, and geographic distribution of our future physicians will be necessary if we are to meet this goal.

The greatest change occurring within our health care system, even beyond the demands for increased access and quality at reduced cost, will be enhanced expectations for improved health for all Americans. Specifically, the concept of "health care" will evolve to mean much more than just the recognition and treatment of disease; indeed, the emphasis will be on gaining and maintaining health.

Thus, the responsibility of future physicians will extend well beyond just understanding and correcting the physical and emotional disturbances of their patients. Instead, health care will increasingly focus on the prevention of disease, both for individuals and for large populations. This will require new approaches and techniques, many of which are yet undiscovered.

Therefore, the education of residents and medical students on their responsibilities in this vitally important area will become a major focus of future curricular reforms. If we are to fulfill this mandate, we will have to become more effective in addressing the health care needs of large underserved populations, including racial and ethnic minorities, inner city inhabitants, rural citizens, and the disabled, to mention but a few.

Related to these changes will be a strengthening of the doctor-patient relationship. There will be an even greater emphasis on shared decision-making between doctor and patient, using a more collaborative model. As a consequence, patients will ideally assume more responsibility for their own health. To achieve this goal, we will need new educational approaches for residents and students, including instruction in how to



Dr. Ronald D. Franks

assist patients in modifying high risk, unhealthy behaviors.

Future physicians will also need additional training in leadership skills.

Our health care systems are increasingly organized around teams of variously trained health care professionals, each responsible for a specific aspect of the overall health of a patient. These teams have the potential of significantly enhancing health care quality while reducing costs.

This team concept, however, will introduce a level of complexity that will require even greater leadership abilities on the part of physicians, who must provide coordination and direction to their teams' efforts. The image of a physician "handing down" orders will be replaced by this collaborative team approach, with the primary care doctor providing the leadership, and with the patient involved at all decision points. This shift in health care delivery systems is rapidly occurring, and is largely responsible for the dramatic increase in the need for primary care physicians.

Attendant to the above changes will be enhanced training of medical students and residents in methods of quality improvement and cost control. Specific educational initiatives will be necessary for students and residents to learn continuous quality improvement strategies and more sophisticated approaches to resource allocation.

These same educational initiatives must also include more advanced training in medical ethics and associated decision making. Available resources will not keep pace with the demand for new tech-

nologies as well as routine health care services. Thus, physicians will need to know how to make decisions to ensure that these limited services are distributed ethically and fairly to their patients.

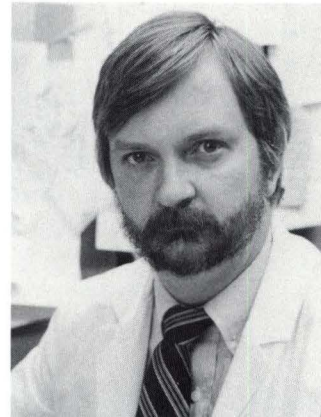
These major changes in educational approach are occurring at a time when available funding for medical students, residents, and other health care professional trainees has become severely limited. Insurance companies are no longer willing to pay for educational costs "buried" in a hospital or clinic bill as part of "usual and customary" charges. Consequently, hospitals and clinics are no longer able to "write off" the added costs of educating students and residents.

With fewer and fewer resources available for such "cost shifting," our ever competitive, cost conscious environment has yet to develop a method for paying for the education of tomorrow's health care professional. The Minnesota Legislature is to be congratulated for its foresight in already recognizing this dilemma, and for providing initial funding through MinnesotaCare for the development of some of the above described measures. However, new educational approaches for medical students and residents, added to the already intense training requirements in the fundamentals of medical education, will require creative, new sources of funding.

The changes in our nation's health care system will place ever greater expectations on tomorrow's physicians, expectations that will enhance the overall health of all Americans, even beyond today's high standards. This challenge brings with it the opportunity for an ever stronger relationship between doctor and patient, and even greater fulfillment in the practice of medicine. ■

Grant received for new eating disorders program

University researcher **Dr. James Mitchell**, Department of Psychiatry, will receive \$1 million from the McKnight Foundation to study eating disorders. The studies include research on preventing relapses among anorexics and treating bulimics who do not respond to cognitive behavior therapy, and follow-up studies. The grant is part of a total \$4.6 million that the McKnight Foundation is dedicating to eating disorder research among adolescents and youth. ■



Dr. James Mitchell

Cancer vaccine developed

Dr. Emmanuel Katsanis, assistant professor, Department of Pediatrics, has announced that he has developed a promising treatment for neuroblastoma, a common childhood cancer. The vaccine is made up of neuroblastoma tumor cells spliced with genes that produce a natural hormone to stimulate the immune system. When stimulated, the immune system will then attack the tumor.

Currently, treatment includes surgery, radiation, and chemotherapy. Although the vaccine probably would not destroy the disease in advanced cases, according to Katsanis, it would likely stop cancers diagnosed early and cancers weakened by chemotherapy and radiation.

The vaccine is not yet used on humans but has improved survival rates in laboratory mice. More than one third of mice receiving modified tumor cells were cured. ■

Researchers find new ways to fight leukemia

A new technology may improve the survival rates of leukemia patients. **Drs. Catherine Verfaillie, Jeff Miller, and Philip McGlave**, Department of Hematology, have developed a process to multiply healthy body cells to fight leukemia.

The technology would take some non-cancerous stem cells from the body, multiply them, and inject them back in the patient. The increased supply of stem cells will help ward off negative effects of chemotherapy. It could eventually replace bone marrow transplants, revolutionizing the way people think about transplantation. The new process could also be used to make cells that produce blood, someday replacing blood banks.

The researchers expect to begin testing the technology on adult leukemia patients this year. ■

Medical student runs marathon

University of Minnesota medical student **Bob Kempainen** finished second in the New York City Marathon, held November 18. He was timed at 2:11:03, the fastest time this year by an American. Kempainen is a third-year medical student who balances his rounds with marathon training. As a first-year medical student he won the U.S. cross-country title and in 1992 he finished 17th in the Olympic marathon. He will complete the final two years of medical school in three years, continuing to run through the 1996 Olympics. ■

New program to train rural family practice physicians

The University of Minnesota will operate a new program designed to attract doctors to rural family practice. Part of the 1992 MinnesotaCare legislation, the Rural Family Practice Residency Program is designed to help relieve the shortage of rural family practice physicians.

Four medical school graduates will enter the program each year, spending the two final years of their residencies practicing in Waseca and Mankato hospitals and clinics. Program developers hope to prepare the residents for rural family practice by introducing them to the realities of practicing in rural communities. The Department of Family Practice and Community Health will recruit 12 residents over the next three years. ■

Study to evaluate cancer tests

The University of Minnesota School of Public Health is one of two Twin Cities centers designated by the National Cancer Institute to participate in a study to evaluate common cancer screening tests. Eight other United States centers will take part in the 16-year, \$87.8 million study.

Among the screening tests to be studied are digital rectal exams and prostate-specific antigen blood tests, chest X-rays for lung cancer, flexible sigmoidoscopy for colorectal cancer, and transvaginal ultrasound, pelvic exams, and a blood test for ovarian cancer. The study will determine whether these tests detect cancers early enough to save lives, says **Dr. Jack Mandel**, professor and the Minnesota principal investigator. ■

Head size related to Alzheimer's

Alzheimer's disease may be more likely to affect people with smaller heads and the genetic predisposition to develop the disease. According to **Dr. James Mortimer**, associate professor, Department of Neurology, genetics and head size — an indicator of brain development — may be the most important factors in the causation of Alzheimer's.

Mortimer's study involved measuring the circumference of the head and looking for a correlation with cognitive abilities. Researchers plan to publish their findings soon.

Other risk factors may be low socioeconomic status and poor education. ■

Genetic flaws linked to cancer

Women with apple-shaped figures and family histories of breast and ovarian cancer are nearly five times more likely to develop breast cancer as the average woman of the same age, say University of Minnesota researchers. According to **Dr. Thomas Sellers**, associate professor of epidemiology, those women appear to have an inherited defect on chromosome 17. Sellers is the principal investigator of a continuing study of 37,000 post-menopausal women in Iowa.

Researchers believe the defect that makes women susceptible to breast cancer is on the 17th of the 23 pairs of chromosomes. But, most women who carry the genetic defect don't develop cancer, reports Sellers. ■

DEPARTMENTAL UPDATES

Anesthesiology

Drs. Douglas Koehntop and **Kumar Belani** were guest lecturers at the 41st Annual Conference of the Indian Society of Anesthesiologists held in Bangalore, India, December 25-29. **Belani** served as the international coordinator for the meeting, participated in a workshop symposium on the difficult airway, and reviewed "Modern Trends in the Management of Patients with a Difficult Airway."

Biochemistry

Dr. John D. Lipscomb, professor, received a National Institutes of Health renewal grant for "Oxygenase Enzyme Mechanism." **Dr. Sampath Ramachandran**, postdoctoral associate, received a Neuromuscular Disease Research Fellowship from the Muscular Dystrophy Association for "Spectroscopic Probes of Myosin Dynamics in Muscle."

Family Practice & Community Health, Program in Human Sexuality

Dr. Eli Coleman received a two-year \$244,000 grant for the study "Pharmacotherapy with Sex Offenders," funded by the Department of Corrections. He was also elected Secretary General of the World Association for Sexology.

Neurosurgery

Dr. Roberto C. Heros, professor and department head, has been appointed interim head of the Department of Urology. **Dr. Walter C. Low**, professor, received a \$595,990 grant from the National Institutes of Health for an Alzheimer's disease study entitled "Transplantation of Colinergic Nerve Cells." The grant will cover a four-year period.

The Department of Neurosurgery administrative offices have moved to Room D-429 of the Mayo building. The mailing address and phone numbers remain the same.

Obstetrics/Gynecology

Dr. Doris Brooker, assistant professor, was recently awarded a \$300,000 grant from Target Research Association, Inc. to conduct a study on vaginitis. **Dr. Linda Hammer Burns**, assistant professor, and **Dr. Linda Carson**, associate professor, continue their "Quality of Life Studies" to measure quality-of-life factors in women cancer patients. Carson has been elected to a two-year term as secretary/treasurer of the

Minnesota Obstetrics and Gynecology Society.

Dr. Leo Twiggs, professor and department head, will become president of the American Society of Colposcopy and Cervical Pathology in April. He has also been recognized as a top physician by his peers in being named to Who's Who Among American Physicians.

Dr. Sharon Norling joined the department in February and specializes in general gynecology with an emphasis on mature women's health. **Dr. Marianne Westerheim**, assistant professor, made a presentation on women's health to 3M employees in January. **Dr. June LaValleur**, assistant professor, presented "Hormone Replacement Therapy to Prevent Disease and Prolong Life" to the American Association of University Women in January and made two presentations in Red Wing at a February women's health event. She will also make a presentation at the third annual menopause conference April 30.

Pediatrics

Dr. John Kersey, professor in pediatrics and laboratory medicine and director of the bone marrow transplantation program, has been elected councillor of the American Society of Hematology. **Dr. Robert V. Hodapp**, clinical assistant professor, was awarded the Gold-Headed Cane Award for his lifetime of professional and community service to thousands of children and their concerned parents. **Dr. Harumi Jyonuchi**, assistant professor, received the University Children's Foundation Scholar Award for her research on the role of nucleotide supplementation in enhancing immune competence in at-risk infants.

Outstanding Faculty Educator Awards went to **Dr. Youngki Kim**, professor, **Dr. Clark M. Smith II**, associate professor, and **Dr. William Woods**, professor. **Dr. John Wagner**, associate professor, received the Jundt Research Award. **Dr. Henry Staub** received the Homer and Maurine Venters Clinical Teaching Award for 45 years devoted to community service and teaching of pediatrics. The first Mark Snelling Outstanding Fellow Teaching Award was presented to **Drs. Steven Baisch** and **Judith Lynn Zier**.

Drs. Robert William Blum, professor, and **Clara Wolman**, research associate, received a grant from the U.S. Department of Education for their study "Cross-Cultural Meanings of Chronic Illness and Disability."

Pharmacology

Dr. Frank Burton joined the department as assistant professor. He received his degree from the University of Chapel Hill, North Carolina, and did his

postdoctoral work at the Scripps Research Institute. His research interest is in the development of the function of the nervous system.

Radiology

The department was well represented at the Radiological Society of North American (RSNA) annual meeting in Chicago. Faculty and residents presented 14 scientific papers.

Dr. William M. Thompson was appointed program chairman for the RSNA, starting in January 1994. He is also president elect of the Society of Gastrointestinal Radiologists and the secretary/treasurer of the Association of Program Directors in Radiology.

Surgery

Dr. Henry Buchwald, professor of surgery and biomedical engineering, was appointed to the state Board of Invention by Governor Arne H. Carlson. The November 1993 issue of *The American Journal of Surgery* is devoted to **Dr. John S. Najarian** in honor of his 25th anniversary last year as department chair. **Dr. David L. Dunn**, professor of surgery and head of the Division of Surgical Infectious Disease, will serve a four-year term as a member of the Surgery, Anesthesiology, and Trauma Study Section of the National Institutes of Health (NIH). **Dr. Peter S. Dahlberg**, a fourth-year resident, was awarded the American College of Surgeons Merck Scholarship for the Study of Surgical Infection.

The Medical Update 1994 conference is scheduled for March 7-11 in Fort Lauderdale, Florida. The department is a sponsor of this annual conference. Faculty members who will speak at the conference include **Drs. R. Morton "Chip" Bolman III, Edward W. Humphrey, John S. Najarian, and W. Douglas Wong.**

Drs. Jerome H. Abrams and Frank B. Cerra received honorable mention at the American Medical Writers Association for their book *Essentials of Surgical Critical Care*.

Therapeutic Radiology-Radiation Oncology

Dr. Fatih Uckun, professor of therapeutic radiology-radiation oncology, pediatrics, and pharmacology, has been awarded four grants totaling \$3,489,416 from the National Cancer Institute. The funding will be used for drug development against childhood cancer. ■

MMF approves \$148,500 in research grants

The Minnesota Medical Foundation board of trustees approved \$148,500 in research and special grants at its fall quarterly meeting. The amount includes \$65,000 in faculty research grants, \$19,800 in student research grants (additional student grants were presented throughout the quarter), and \$63,700 in special grants for research equipment and salary support.

MMF Grant Recipient: Kathleen Myers, M.D., M.P.H.

More children suffer from depression and other forms of mood disorders than ever before. Identifying those children at risk of developing serious mood disorders is crucial to understanding, treating, and preventing depression and other serious problems that occur later during development.

Do children with mothers who have bipolar disorder (also known as manic depression) and those who have mothers with major depression have a higher risk of developing these illnesses? Dr. Kathleen Myers, assistant professor, Department of Psychiatry, Child Psychiatry, received a \$9,000 research grant from the Minnesota Medical Foundation to study youths living with mothers who have one of these two mood disorders. These youths often have depressed symptoms mixed with conduct problems, but it hasn't been established whether these characteristics are a reaction to living with a mother suffering from a serious mood disorder or if they are early signs of the disorder itself.

"Bipolar disorder and major depressive disorder fall under the general heading of mood disorders," explains Myers. Major depression is distinguished from transient depression that many people experience during their lives. Major depression lasts longer, is more severe, and the patient usually has trouble functioning, even in simple daily tasks. In cases of bipolar disorder, most people have extremely low moods followed by extremely happy

FACULTY GRANTS INCLUDE: *Timothy W. Behrens, M.D.*, Medicine, Rheumatology, \$9,000, ES Knockout of Jawl; *Douglas J. Christie, Ph.D.*, Laboratory Medicine and Pathology, \$5,000, Cardio-pulmonary and multiple organ failure associated with alloimmunization to platelet transfusions; *Terese M. Collins, M.D.*, Medicine, \$7,000, Cellular sites of acute and latent murine cytomegalovirus (MCMV) infection in the liver; *Scott J. Crow, M.D.*, Psychiatry, \$6,000, Neuropeptide Y levels in cerebrospinal fluid of patients with major depression; *William B.*

Dobyns, M.D., Neurology, \$5,000, Molecular studies of lissencephaly; *Lars Engebretsen, M.D., Ph.D.*, Orthopaedic Surgery, \$6,000, Development of a collagen meniscus prosthesis; *Kathleen Myers, M.D., M.P.H.*, Psychiatry, \$9,000, Early identification of bipolar prodromes in the offspring of women with bipolar affective disorder; *Claire Pomeroy, M.D.*, \$6,500, Medicine, Interferon treatment of Toxoplasma pneumonia: Studies in a mouse model of AIDS; *Warren E. Regelman, M.D.*, Pediatrics, \$4,000, Development of a measure of airway destruction in

highs. Others may have extreme lows followed by irritability instead of happy highs. These people may lash out, be aggressive, and hostile. Some even flip-flop between highs and lows over short periods of time. Both of these types of mood disorders are thought to have genetic and environmental contributions. The genetic contributions to bipolar disorder appear to be especially strong and make it one of the most biologically determined psychiatric disorders.

Although young adolescents are often moody, those with mood disorders have additional difficulties. The biggest difference is that their depression is very impairing — the youth can't get to school, can't handle daily life tasks, may not have friends, and may become suicidal. They may even get into legal trouble. "Unfortunately, some young people with mood disorders who are irritable, impulsive, and hyper are not diagnosed and treated (for example with counseling and/or medication) but instead end up in juvenile detention centers," says Myers.

"If doctors were able to better recognize the early warning signs of major depression and bipolar disorder, these young people might be treated instead of jailed. Similarly, if youths with peer, family, and academic problems really have early signs of depression, we want to be able to pick that up sooner to prevent further impairment and get them on track in life.

"So far, there have been very few outcome studies of youths with apparent bipolar disorder. Existing studies suggest that youths with bipolar disorder may have difficulties for a long time. It is extremely important to follow youths at risk of developing bipolar disorder to find out how they handle transitions, how they adapt, and when problems start," says Myers. "We will follow at-risk youths for three years through two developmentally pivotal periods — the first group through early puberty and the second group through completion of high school. These are important stressful transition periods for young people. We hope to find out what problems these youths have and how they handle transitions. We hope to learn who develops bipolar disorder and who successfully eman-

cipates from the family into young adults.

"We also hope to better understand what mothers with bipolar disorder and major depression need to better parent their children, especially through these transitions. Parenting is stressful in general, but if a woman has a serious mood disorder, it can be overwhelming."

Prior studies by Myers and other groups have shown that major depression can start quite early in life. "We also believe bipolar disorder may start earlier than previously thought, which is one reason we are studying the younger group," says Myers. "We hope to be able to better determine which children should receive early interventions, such as medication or counseling." Results of the study may also have implications for future prevention through public health and community intervention.

Myers received her M.D. and her M.P.H. from the John A. Burns School of Medicine and the School of Public Health, University of Hawaii. She did her internship in pediatrics at the University of Arizona Health Sciences Center and her residency training at the University of Washington School of Medicine, Department of Psychiatry and Behavioral Sciences. She was a fellow in Child Psychiatry at the Children's Hospital & Medical Center and the University of Washington School of Medicine. She completed a research fellowship with the Robert Wood Johnson Clinical Scholars' Program at the University of Washington School of Medicine which nurtured her interest in prevention. In addition to serving as assistant professor, an attending psychiatrist on the Inpatient Unit, and director of the Child & Adolescent Mood Disorders Clinic at the University of Minnesota, Myers also serves as a medical consultant to various community programs serving children and adolescents with mental health needs. ■

infants and children; and **Jonathan P. Tolins, M.D.**, Medicine, \$7,500, The link between salt and hypertension: Role of the Endogenous nitric oxide system.

SPECIAL GRANTS INCLUDE: **Paul J. Camarata, M.D.**, Neurosurgery, \$13,800, Ischemic brain injury and automation of neurochemical analyses; **Jay W. Carlson, D.O.**, Obstetrics and Gynecology, \$14,000, Measuring Ribavirin's efficacy in treating anogenital papillomatosis; **Barbara S. Daniels, M.D.**, Medicine, \$11,000, Purchase of plasma tube for Argon laser; **Gareth J. Parry, M.D.**, Neurology, \$3,900, Autonomic function testing in patients with chromosome 6 linked hereditary ataxia; **Nancy Cox Raymond, M.D.**, Psychiatry, \$9,000, Investigation of nociceptive thresholds in bulimia nervosa; and **Michael Y. Tsai, Ph.D.**, Laboratory Medicine and Pathology, \$12,000, Genetic predisposition to hypertriglyceridemia, hyperhomocysteinemia and vascular disease.

STUDENT RESEARCH GRANTS include: **Keyvan Abtin**, Effects of Epidermal Growth Factor on the Growth of a Human Primary Brain Tumor Cell Line in Mice; **Holly C. Boyer**, Topical Antihistamine Effects on the Laryngeal Chemoreflex; **Roy R. Brown, Jr.**, The Role of Nitric Oxide in the Development of Autoimmune Diabetes Mellitus; **Cynthia A. Kennedy**, The Impact of Surgical Treatment of Fungal Sinusitis in Immunosuppressed Patients; **Kim Koffler**, Biochemical and Histopathological Changes of the First Metacarpal Trapezial Joint in Osteoarthritis; **Robert G. McDonald**, Comparison of the Effects of ACE Inhibition and Angiotensin II Receptor Blockade; **Amal Murarka**, Experimental Models of Human Neuroblastoma and the Evaluation of New Therapeutic Strategies; **Christopher J. Swanson**, Intravascular Communication: The effects of acetylcholine and sodium nitroprusside on local and distant microvascular segments; **William E. Taylor**, Does Brain Ischemia Alter the Expression of Glucose Transporters in Gerbils?; **Jessica Vanderscoff**, The Effects of Social Support and Length of Maternity Leave on Women Family Practice Residents' Postpartum Health; and **Joy Walker**, Cutaneous Innervation in Androgenetic Alopecia. ■

Scholarship winners recognized

Through its scholarship and awards programs, the Minnesota Medical Foundation recognizes outstanding achievement and assists medical students faced with high debt levels. The following scholarships were presented this past fall by MMF:

Alpha Omega Alpha Scholarships

Stacia S. Anderson
Hamid R. Djalilian
Jeffrey R. Weis
Established by the Minneapolis Chapter of Alpha Omega Alpha, an honorary medical society.

Baker in memory of his father and in grateful recognition of his own training at the University of Minnesota Medical School, from which he graduated in 1934.

American Cancer Society Scholarships

Nicole L. Dodge
Huy A. Nguyen
Provided by annual grants from the American Cancer Society.

Dr. Henry H. and Pauline E. Blaustone Scholarship

Stuart H. Bloom
Established by bequest of Dr. Blaustone, an alumnus of the Medical School, Class of 1920, and his wife Pauline.

Fritjof H. Arestad Scholarships

Sheryl L. Cameron
Mari B. Knudson
Mark D. Scarupa
Created by bequest of Gladys E. Arestad in memory of her husband, Fritjof, an alumnus of the Medical School, Class of 1924.

Ruth Boynton, M.D. Memorial Scholarships

Kathy L. MacLaughlin
Stephanie L. Porter
Honor Dr. Ruth Boynton, former director of the University of Minnesota Health Service.

Dr. A.B. Baker Memorial Scholarship

Christine De Lisle
Established in memory of Dr. Baker, a leading educator in the field of neurology.

Dr. Richard A. and Mari Carlson Scholarship

Jack E. Maloney
Established by Dr. Richard A. Carlson, an alumnus of the Medical School, Class of 1972, and his wife, Mari.

Russell L. Baker, M.D. & Harry R. Baker, M.D. Scholarship

Joan L. Hilgren
Established by Dr. Russell

Dr. H. Mead and June S. Cavert Scholarship

Keyvan Abtin
Established in recognition of Dr. Cavert's many years of service to the Medical School and the University.

Centennial Scholarship

Stephanie K. Carlson
Created in commemoration
of the Medical School's
100th anniversary.

**Class of 1931
Scholarship**

Stacy A. Vogt
Established by the Class of
1931 as a permanent
commemoration of their
50th reunion.

**Class of 1937
Scholarship**

Ali R. Djalilian
Established by the Class of
1937 as a permanent
commemoration of their
50th reunion.

**Class of 1942
Scholarship**

Casey S. Martin
Established by the Class of
1942 as a permanent
commemoration of their
50th reunion.

**Class of 1943, March,
Scholarship**

Hiren P. Patel
Established by the Class of
1943 (March) as a
permanent commemoration
of their 50th reunion.

**Class of 1943,
December, Scholarship**

Daniel A. Albright
Established by the Class of
1943 (December) as a
permanent commemoration
of their 50th reunion.

**Class of 1947
Scholarship**

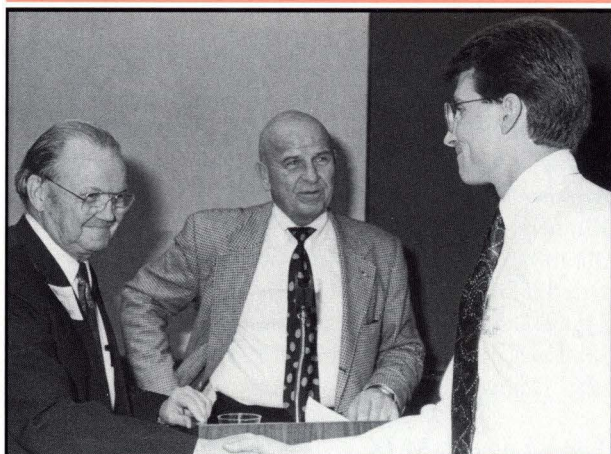
Sigrid A. Nelson
Provided by the Class of
1947 in commemoration of
their 45th reunion.



Alpha Omega Alpha Scholarships. From left, Dr. Jim House, Councillor for AOA, Stacia Anderson, Jeffrey Weis, Hamid Djalilian.



Ruth Boynton, M.D. Memorial Scholarships. From left, Kathy MacLaughlin, Dr. Marilyn Joseph, director, Boynton Health Center, Stephanie Porter.



Class of 1943, December, Scholarship. From left, Dr. Harry Mixer, representing the class, David Teslow, MMF president, Daniel Albright.

**Dr. Robert W. Cranston
Scholarship**

Matthew L. Hecht
Established to recognize Dr.
Cranston's appreciation for
the medical education he
received at the University of
Minnesota, from which he
graduated in 1927.

**Dr. & Mrs. Stanley B.
Crosbie Scholarships**

Kyungai Mireille Chae
John A. Dvorak
John J.W. Fangman
Lori A. Pinke
Established in honor of the
University of Minnesota
Medical School, from which
Dr. Crosbie graduated in
1941.

**Margaret Dowell-
Gravatt, M.D.**

Scholarship
Rekiyatu O. Lawal
Established by Dr. Dowell-
Gravatt, an alumnus of the
Medical School, Class of
1945.

**H.E. "Tiny" & V.C.
Drill Scholarships**

Krystyna P. Bednarz
Jeanne M. Johnson
Andrew J. Schmidt
James J. Yurcek
Established by bequest of
Dr. Drill, past president of
the Minnesota Medical
Foundation, 1958-60, and
an alumnus of the Medical
School, Class of 1929.

**Eunice L. Dwan
Scholarship**

James R. Hebl
Established by a gift from
the Eunice L. Dwan 1991
Irrevocable Trust.

Dan Gall Human Spirit Scholarship

Barbara A. Elfstrom
Established in memory of Dr. Gall, an alumnus of the Medical School, Class of 1989.

Harry B. Hall, M.D. Scholarship

Chad J. Richardson
Established by Dr. Harry B. Hall, an alumnus of the Medical School, Class of 1935, and his wife, Betty.

James T. Housewright UFCW Scholarship

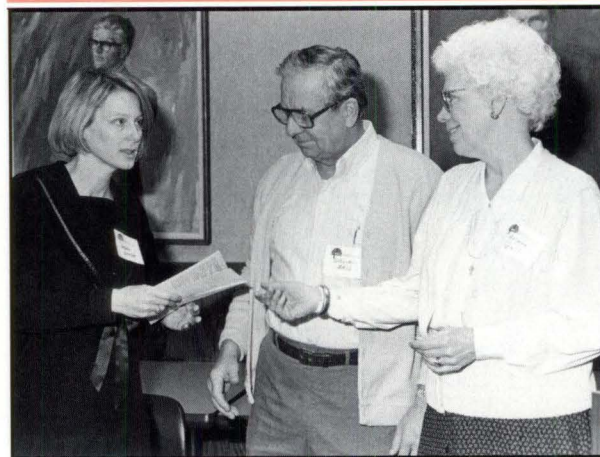
Rael A. Bennett
Established by the United Food and Commercial Workers International Union.

Ludolf J. Hoyer Memorial Scholarship

Tara A. Willette
Established in memory of Dr. Hoyer, an alumnus of the Medical School, Class of 1932, by his son Leon, an alumnus of the Class of 1962.

Chester & Charlotte Johanson Scholarships

Jason R. Buffington
Kimberly S. De Golier
Thomas R. Frerichs
Allan F. Hunt
Mary C. Litchy
Timothy A. Myers
Rachel L. Schuneman
Jeffrey A. Sczublewski
Roberta J. Van Amber
Kyle L. Wahlstrom
Established in memory of Mr. Johanson's parents, Christine and Per Johanson, who were pioneer Traverse County, Minnesota, homesteaders.



Dan Gall Human Spirit Scholarship. From left, Barbara Elfstrom, William and Arlene Gall.



Park Nicollet Medical Foundation's Nicollet Clinic Founders Scholarships. From left, Charles Heise, Kerry Moore, Phuc Tran, Andrea Lee Veatch.

William H. Knobloch Scholarships

Kirk J. Aadalen
Bradley D. Berry
Thomas W. Frederickson
Kimberly J. Haycraft
Susan J. Sickler
Lora L. Truckenbrod
Established by William H. Knobloch, M.D., and his wife, Donna K. Irlbeck.

James Lillehei, M.D. Scholarship

Clayton L. Chau
Established by the Aspen

Medical Group of St. Paul to honor the professional contributions of their colleague.

Walter & Elva Lovell Scholarships

Kathleen M. Adelgais
Susan E. Pearson
Gregory B. Snyder
Established by a gift from Elva Lovell.

Metropolitan-Mount Sinai Scholarship

Anthony L. Severt
Established by the medical staff of the former Metropolitan-Mount Sinai Hospital in recognition and remembrance of its contributions.

Minority Higher Ability Scholarships

Ekuatinne Agborbesong
David J. Hell
Phuc V. Tran
Pao Vang
Awarded for academic achievement and financial need.

Dr. Harry W. and Delores M. Mixer Scholarship

Laura A. Black
Established by Dr. Mixer, an alumnus of the Medical School, Class of 1944, and his wife Delores.

Lester & Lois Netz Scholarships

Brandon L. Allard
David A. Asinger
Jennifer M. Fridlund
John M. Menezes
Matthew D. Munding
Annette C. Schmit
Julie A. Weber
Created through the generosity of Dr. Lester Netz, an alumnus of the Medical School, Class of 1926, and his wife Lois.

Nicolette Norton Memorial Scholarship

Jennifer L. Merchant
Established by Mr. Thomas Grossman and the Metropolitan Corporation in memory of Nicolette Norton.

Parents Scholarship

James A. Rooney
Established by Medical School parents in conjunction with the Centennial Scholarship Campaign.

Park Nicollet Medical Foundation's Nicollet Clinic Founders Scholarships

Charles P. Heise
Kerry E. Moore
Phuc V. Tran
Andrea Lee Veatch
Established by the Park Nicollet Medical Center for second- and third-year medical students.

Malcolm & Ruth Pearson Scholarship

Jennifer M. Fisher
Created by bequest of Dr. and Mrs. Pearson.

Phi Delta Epsilon Jewish Medical Fraternity Scholarship

Andrew B. Kopstein
Made possible by a grant from the fraternity.

Dr. Albert E. Ritt Scholarships

Joseph C. Ardolf
Claudia K. Luscher
Julie C. Reddan
Made possible by the generosity of Dr. Ritt, an alumnus of the Medical School, Class of 1932.

Jean Covert Sauer & Carolyn Patrice Sauer Scholarship

Kim M. Koffler
Established by Dr. Jean Sauer, an alumnus of the Medical School, Class of 1956, to honor Dr.



Dr. Albert E. Ritt Scholarships. From left, Lowell Weber, MMF vice president/development, Dr. Albert Ritt, Joseph Ardolf, Julie Reddan, Claudia Luscher.



Eugene S. Strout, M.D. Family Practice Scholarship. From left, David Teslow, MMF president, Janalynn Fish.

Carolyn P. Sauer, her daughter.

Dr. Vernon D.E. Smith Scholarship

Kristine A. Kolewe
Peter B. Wold
Given in memory of Dr. Smith, a St. Paul surgeon and a founder of the Minnesota Medical Foundation.

Eugene S. Strout, M.D. Family Practice Scholarship

Janalynn Fish
Established by Dr. Strout, an alumnus of the Medical School, Class of 1964.

Albert Sullivan Endowed Scholarship

Heidi Sorenson
Honors the memory of Dr. Sullivan, associate dean of the Medical School and for 34 years a member of the faculty.

Luigi Taddeini Scholarship

Peter P. Chuang
Established in memory of Dr. Taddeini, who served as chairman and president of Ramsey Clinic in St. Paul.

Dr. Hulda Thelander Scholarships

Lazaro A. Diaz
Dana J. Harms
Jerry Kao
Connie M. Lutkevich
Jack R. Snedden
Established by bequest of Dr. Thelander, an alumnus of the Medical School, Class of 1924.

Vines Scholarships

Patricia L. Clarke
Michael D. Heaney
Karen L. Kustritz
Karen K. Sentz
Heidi L. Sorenson
Georgia K. Taggart
Cynthia J. Wetmore
Eric J. Yue
Established in memory of Harold Thomas Vines through a bequest from Lillian Vines.

George H. & Lillian K. Williams Scholarships

Ravi P. Agarwal
Terrance C. Tuominen
Paul M. Williams
Established by bequest of George and Lillian Williams. ■

International Hearing Foundation affiliates with MMF

The International Hearing Foundation (IHF), whose mission is to generate private support for hearing research, education, and awareness programs, has affiliated with the Minnesota Medical Foundation.

IHF supports both clinical and basic otological research at the University of Minnesota's Department of Otolaryngology, with special emphasis given to the Otopathology Laboratory. The organization promotes advanced educational opportunities for professionals including IHF fellows, clinical fellows, visiting fellows, temporal bone dissection courses, meetings, and symposia.

IHF develops and sponsors support groups such as those currently in existence for Meniere's disease, tinnitus, and acoustic neurinomas, and sponsors services to hearing impaired individuals and related organizations. IHF also encourages affiliates in other countries to encourage sharing of scientific communication and corroborate on otological research.

Increasing public awareness and support of hearing problems is a high priority for IHF, and the affiliation with MMF will enhance this effort. Dr. Michael M. Paparella of the Minnesota Ear Head & Neck Clinic, P.A., founder of IHF and former head of the University's Department of Otolaryngology, is the primary liaison between IHF and MMF. ■

Rasmussen Fund to support Heart Failure Clinic established

The Walter C. Rasmussen Memorial Fund in support of the Heart Failure Clinic at the University of Minnesota Medical School has been established through the Minnesota Medical Foundation. A gift of \$250,000 from the Walter C. Rasmussen Foundation, through the generosity of Rasmussen's wife, Belva, will help establish the Walter C. Rasmussen Heart Failure Clinic.

Dr. Jay Cohn, head of the Cardiovascular Division at the Medical School, and his colleagues at the Heart Failure Clinic will combine basic research into heart failure with efforts to diagnose it early and stop its progression.

Walter Rasmussen was owner of the Northeast State Bank in Minneapolis and its branches in Columbia Heights and Coon Rapids. He was a strong supporter of his community and neighborhood unity.

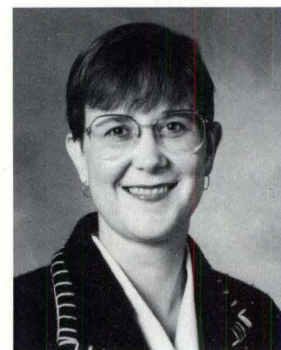
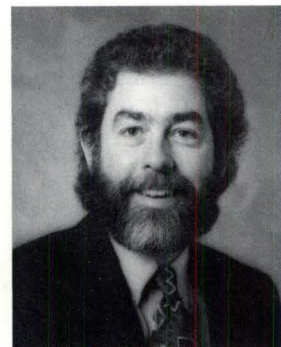
The Walter C. Rasmussen Heart Failure Clinic will be dedicated in late spring. ■

New staff join MMF

Mark H. Desmond

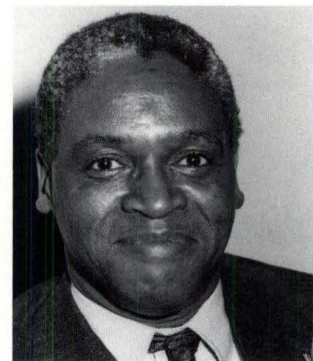
became director of development for the Department of Pediatrics in January. Desmond was previously senior vice president of resource development and chief operating officer of the United Way in St. Paul, Minnesota.

Barbara Zimmerman has been named associate director of development of the University of Minnesota Cancer Center. She was previously executive director of the Mental Health Association in Memphis, Tennessee. ■



MMF board member dies

Daniel W. Gaither, Jr., M.D. died January 17 at the age of 54. Dr. Gaither was a member of the MMF board of trustees and served on the Nominating and Community Relations committees. He was chief



Daniel W. Gaither, Jr., M.D.

orthopedic surgeon at St. Paul-Ramsey Medical Center. A native of Rock Hill, South Carolina, Dr. Gaither graduated from Howard University. He did his internship in St. Paul at the Charles T. Miller Hospital and completed his residency in orthopedic surgery at the Veterans Administration Hospital in

Minneapolis. Dr. Gaither was part of the surgical team that recently reattached the arms of Michael Conoboy, the 6-year-old Wisconsin boy whose arms were severed by an irrigation machine. He is survived by two daughters. Memorials to the Daniel W. Gaither Jr. Fund for Needy Medical Students, through MMF, are suggested. ■



UNDER OUR UMBRELLA

Children's Cancer Research Fund

The CCRF campaign to endow a \$3 million chair in Pediatric Oncology has been expanded to endow a second chair. So far, the campaign has reached \$1,700,000 in gifts and pledges. Dr. Les Robison has been offered the first of these two chairs with an endowment of \$1,500,000. To participate in this drive, contact William Urseth, Steering Committee chair at (612) 874-1000 or Jonathan Pyne, CCRF development officer, at (612) 625-1440 or 1-800-922-1MMF.



The 13th annual Dawn of a Dream Benefit was held at the Historic Orpheum Theatre in Minneapolis. The event, featuring *Miss Saigon*, raised more than \$285,000 for children's cancer research.

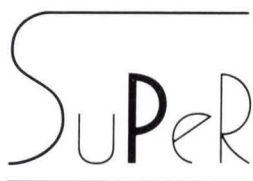
The third annual A Cause for Applause fashion and entertainment extravaganza sponsored by Dayton's will be held July 28. The 14th annual Dawn of a Dream benefit is tentatively scheduled for November. For more information, call the Children's Cancer Research Fund, (612) 929-5535 or 1-800-922-1MMF. ■

SUPER

At the January 10 executive board meeting, Robert Burgett reported that through SUPER's (Supporters United for Parkinson's Education and Research) efforts, more than \$100,000 had been raised to support Parkinson's disease research in the Department of Neurosurgery. A campaign to raise additional funds for expanded research has also begun. Volunteer chairs are Ronald and Marlen Simon.

A fall fundraising event is being planned for October. Volunteers are needed to assist with planning, staffing of committees, and other activities a volunteer event entails.

SUPER's outreach activities continue with visits to Parkinson's disease support groups and other interested groups in Minnesota. Dr. Timothy Ebner, professor, Department of Neurosurgery, along with SUPER volunteers Dale Bahn and Noelann Brown, visited the Mankato Parkinson's Support Group November 16 and Robert Burgett visited with the Brooklyn Center Lion's Club on December 20.



If you would like more information about SUPER or if you would like to volunteer or participate, please contact Robert Burgett, Department of Neurosurgery and the Minnesota Medical Foundation, at (612) 625-0972 or 1-800-922-1MMF. ■

University Children's Foundation

The Catch a Rising Star benefit is tentatively scheduled for October 8 at the Minneapolis Club. It will be a special celebration because the University Children's Foundation will be celebrating its fifth anniversary.

The PKU Foundation will be holding its annual fundraising dinner on April 29. The dinner will celebrate publication of Dr. Robert Fish's book, *Light from the Yellow Star, A Lesson of Love from the Holocaust*. Artwork from the book will be displayed at the Frederick R. Weisman Art Museum on the University of Minnesota Minneapolis campus. Dr. Robert Fish has requested that all benefits from the book go to the PKU Foundation.

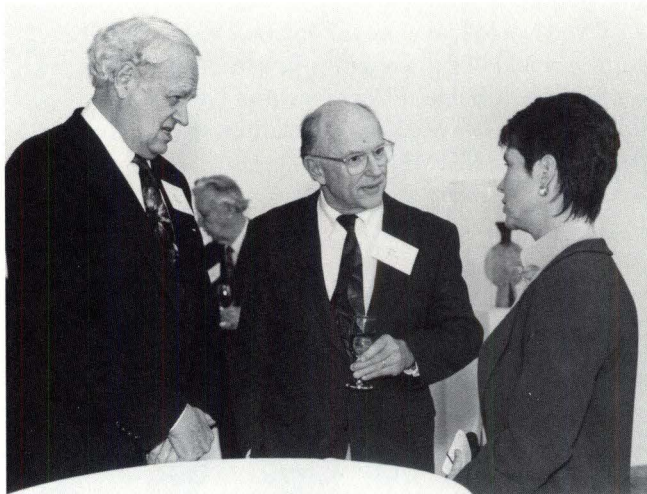
For more information, contact Cynthia Livingston, (612) 626-1904 or 1-800-922-1MMF. ■



University of Minnesota Cancer Center

December 31, 1993, marked the conclusion of The Fund for the University of Minnesota Cancer Center's four-year capital campaign, surpassing the original goal of \$30 million. The official announcement of the campaign conclusion took place on January 4, 1994, at a press conference and reception hosted by the Cancer Center at the Frederick R. Weisman Art Museum to honor campaign benefactors and volunteers. Included in the program were Dr. John Kersey, acting director of the Cancer Center; David Teslow, president of the Minnesota Medical Foundation; Win Wallin, chairman of The Fund for the University of Minnesota Cancer Center; Dr. Shelley Chou, interim dean of the Medical School and deputy vice president for Medical Affairs; Nils Hasselmo, president of the University of Minnesota; and the Honorable Jean





Win Wallin, Dr. John Kersey, and Regent Jean Keffeler enjoy the Cancer Center press conference and reception.

Keffeler, chair of the University of Minnesota Board of Regents.

The reception was attended by nearly 200 donors, volunteers, University officials, faculty, and staff members. During the program Win Wallin announced the campaign total of \$30,544,200 from almost 1,000 individual, corporate, and foundation donors. Dr. John Kersey spoke of plans for the Masonic Cancer Research Building, with construction scheduled to begin in February, 1994. Dean Shelley Chou spoke about the importance of the Cancer Center as a research, patient, and teaching resource for the community. President Hasselmo remarked that the Cancer Center was a high priority for the University's Investment Initiative to the State of Minnesota. Governor Arne Carlson (not in attendance) proclaimed January 4 as "University of Minnesota Cancer Center Day." Regent Jean Keffeler presented Win Wallin with a Board of Regents Certificate of Appreciation to honor him for his leadership of The Fund for the University of Minnesota Cancer Center campaign.

Planning is underway for a Phase II fundraising drive to meet the Cancer Center's ongoing programmatic objectives. For information or to offer your suggestions and assistance to this vital post-campaign fundraising phase, please contact David Madson, Director of Development, at (612) 625-4441, or the Development Office at (612) 625-8455. ■

Variety Club Association

Variety Club's annual Steve Payne/Snyder Golf Tournament will be held in early June. Proceeds from the event will benefit patient and family programs at Variety Club Children's Hospital. Funds raised from last year's event were designated to support Kids Club TV, a weekly interactive, closed-circuit television program for children within the hospital.



Expansion of the Unit 4E

Critical Care family lounge in the Children's Hospital is underway. Remodelling should be completed by the end of spring. Variety Club Association's goal in funding this project is to better accommodate families' needs by doubling the current space and by providing additional private conversation areas, secure places to store personal belongings, and a comfortable resting place.

Archery and rod and gun clubs in Minnesota and Western Wisconsin continued their 18-year tradition of supporting heart research for Variety Club. Four clubs held tournaments and raised more than \$30,000 for pediatric heart research at Variety Club Heart and Research Center.

Variety Club welcomed seven new board members to its board of directors in January.

Children and families at Variety Club's Children's Hospital relaxed and enjoyed themselves at Variety Club's annual Breakfast with Santa, held in December. The party included a performance by a children's violin group, visits with Santa, and toys. For more information about Variety Club Association, call (612) 624-6900 or 1-800-922-1MMF. ■

Vision Foundation

Dr. R.L. and Ruth Schmidtke were awarded a trustees plaque in the Lions Research Building's new neuro-ophthalmology laboratory for establishing a revocable trust and gift annuity for the Schmidtke fund. The fund will be used for research in neuro-ophthalmology and ophthalmology. Dr. Schmidtke is a former member of the Vision Foundation board and retired ophthalmologist who practiced in St. Paul and at Boynton Health Service.



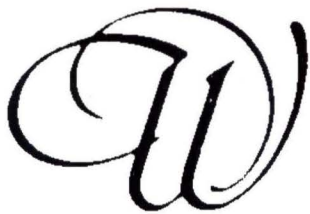
President Nils Hasselmo presented the Presidents Club plaque to Dr. Karl and Ruth Sandt on October 17 for their gift of stock to the Vision Foundation. Dr. Sandt graduated from the University in 1934 with an M.D. in ophthalmology and is an emeritus clinical associate professor and an active member of the Vision Foundation Board.

Teddy Wong, Abel and Charlotte Swanson, and Mary Nevin are major supporters of the Knobloch Retina Education and Research Fund. This fund enables the recruitment of outside speakers in retina research and treatment. The most recent Knobloch Lecturer, Dr. Mark S. Blumenkranz, arrived September 10 from Stanford University Medical Center, Department of Ophthalmology. The fund is being used to purchase two retina books for the Gruber Ophthalmology Library and for other retina research and educational efforts.

For more information about the Vision Foundation, call (612) 625-6169 or 1-800-922-1MMF. ■

The Women's Health Fund

The Women's Health Fund formally adopted a new logo (at right) at its November board meeting. This logo will appear on all stationery, brochures, and other publications of the Women's Health Fund.



The Women's Health Fund is planning a benefit to raise funds for quality-of-life research in women with cancer. The event, "A Mother's Day Cabaret," is scheduled for Sunday, May 8, 1994. The music and comedy cabaret show will begin at 7:30 p.m., preceded by optional dinner packages and a silent auction. For more information, contact Jurene Fremstad at (612) 626-2612. Planning is also underway for the third annual Celebration of Life luncheon, honoring the University's women cancer survivors. This event is tentatively being planned for June 1994.

End of the year requests for contributions went to about 18,000 patients, alumni, donors, and friends of the Ob/Gyn Department. Major gifts received to date include a \$5,000 gift from Russell and Mary Jo Spence to the Ovarian Cancer Research Fund, and a \$10,000 contribution to the Endowed Chair in Women's Cancer Research from Loring Staples.

We are sorry to announce the death of Women's

Health Fund board member Dr. Lin Schenck. A longtime friend of the University Medical School, Dr. Schenck was instrumental in raising funds for the Endowed Chair in Women's Cancer Research through the Minnesota Women Physicians, an organization she helped to found. Dr. Schenck also served on the Medical School Admissions Committee and as a medical student advisor. The family has requested that memorial gifts be made to the Medical Student Scholarship Fund in care of the Minnesota Medical Foundation.



Dr. Lin Schenck

For more information about the Women's Health Fund, call (612) 626-2612 or 1-800-922-1MMF. ■

School of Public Health

The School of Public Health is planning its 50th anniversary celebration which will take place during the 1994-95 academic year. The celebration will begin with a booth at the Minnesota State Fair in late summer. Other events will include a health fair, a five-K run, an American Public Health Association reception, an all-school holiday event and a family event, and an international symposium. More activities are being planned and the 50th anniversary logo is being designed. For more information about the 50th anniversary or about the School of Public Health, please call (612) 624-5439 or 1-800-922-1MMF. ■

Care Partners

Care Partners, a family support network, has named Dr. Norma Ramsay, professor of pediatrics at the University of Minnesota, to its board of directors. ■



MAS NEWS

President's Report

I would like to welcome all the resident alumni who may be receiving the *Medical Bulletin* for the first time. Included as resident alumni are those who completed a residency, fellowship, or other graduate work in medicine at the University of Minnesota Medical Schools. We hope you enjoy the *Bulletin* and will participate in alumni functions in Minnesota and around the country.

All alumni, including resident alumni, will be receiving questionnaires for the new Medical Alumni Directory. This directory is produced by the Harris Publishing Company at no cost to the Medical Alumni Society or the Minnesota Medical Foundation. Please complete the questionnaire whether you plan to order a directory or not; information on ordering will be enclosed for those interested.

Reunion Weekend '94 is scheduled for June 2-4, 1994. This weekend provides alumni a great opportunity to get together with classmates and colleagues. The weekend is full of many events, including the Saturday evening dinner which is the cornerstone event of the weekend and should not be missed. A golf tournament is also included as part of the weekend, as well as the New Horizons in Minnesota Medicine CME which will help make this weekend educational as well as fun. Please see the complete list of events in the alumni section of the *Bulletin*.

The Medical Alumni Society is accepting nominations for board members. If you or someone you know are interested in serving on the board, please send your nominations to the nominations chairman, Dr. Frank Lushine, '71, Medical Alumni Society, Box 193 UMHC, Minneapolis, MN 55455.

Finally, the alumni annual fund needs your support to provide much-needed scholarship dollars and to meet other critical needs of medical students. Let's make sure we help the students that need our help — support the alumni annual fund with your gift. If you have any questions, comments, or suggestions about the Medical Alumni Society or alumni activities, please call (612) 625-8676 or 1-800-922-1663.

Sincerely,

Wayne Liebhard, M.D., '83
President, Medical Alumni Society

Diehl nominations

Nominations for the Harold S. Diehl Award, given in honor of the University of Minnesota Medical School's fifth dean, should be received by April 14, 1994. The award is presented to an individual who has made outstanding professional contributions throughout his or her career.

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 include supporting documents and references to assist the committee in its deliberations. Please send nominations to Dorothy J. Horns, M.D., Chairperson, Harold S. Diehl Award Committee, Box 193 UMHC, Minneapolis, Minnesota 55455. Questions may be referred to the Medical Alumni Society at the Minnesota Medical Foundation, (612) 625-8676. ■

ALUMNI PROFILE

Dr. Harry W. Orme, Class of 1948, Rancho Mirage, California, spent September in Nizhny Novgorod, Russia's third largest city. Under the auspices of the International Executive Service Corps, Orme consulted with Children's Hospital #27 about upgrading management techniques and increasing the efficiency of space utilization and equipment.

Nearly every day for a month, Orme visited the 165 bed hospital to interview section chiefs, nurses, and other personnel to develop a recommendation about management and efficiency. He also had the privilege of visiting several other hospitals and consulting with numerous physicians and government officials. Orme noted many differences from U.S. hospitals. For example, children are kept in the hospitals for their entire recuperation to allow mothers to continue working, which results in excessively long hospital stays.

Other health related concerns Orme encountered included a very high incidence of birth trauma, poor perinatal care, lack of medications and supplies, and a rapid increase of tuberculosis and AIDS. However, according to Orme, the hospital does an excellent job of following up on newborns. As soon as a child is born, it is assigned to the Children's Hospital and a pediatrician or nurse visits the child at home once or



Dr. Harry and Bonnie Orme with Dr. Lyudmila Lazareva, neonatologist and chief doctor for Children's Hospital #27.

twice in the first month. If the child isn't brought in for checkups, a health care representative immunizes the child at home.

Orme also noted that a significant number of physicians are leaving the profession. "Medicine is not considered a glamorous occupation there," says Orme. "The average salary for a physician is only \$60 per month." However, he is optimistic about the prospects for change. "Nizhny Novgorod is the center for privatization in Russia," explains Orme, "so I was encouraged by discussions with officials. There is a need for more bilateral exchanges in all professions."

Orme and his wife, Bonnie, stayed with a Russian family in their two-bedroom flat in a nine-story, 360 apartment complex, typical in urban areas. Since the Ormes spoke no Russian and the host family spoke no English, much of the communicating was done through charades and with a translating book. "We developed a close bond and became part of their extended family," says Orme.

"Based on our experience, we would be pleased to return. We encourage other professionals to consider a similar journey, which could enrich their lives as well as assisting our new friends," says Orme. The International Executive Service Corps, a nonprofit organization founded in 1964, sends executives primarily to third world countries. Most of the executives are involved in small businesses but physicians are considered if they've had experience in management or as an administrator. Orme will also be helping develop an exchange work program with a government official in Nizhny Novgorod.

Orme completed his internship and residency in pediatrics at the University of Minnesota and specialized in pediatric cardiology. He was an assistant professor for a short time but spent most of his practice as a pediatric cardiologist in Long Beach, California. He also conceived and developed Miller Children's Hospital in Long Beach and served as medical director and administrator. Last spring, Orme and his wife were hosts of a University of Minnesota Medical School alumni reception. ■

4th Annual MMF Golf Classic

sponsored by the
Minnesota Medical Foundation
August 29, 1994

TOURNAMENT INFORMATION

- \$200 per person includes lunch, golf clinic, golf, cart/caddie, dinner banquet
- Scramble format
- Space limited to 240 golfers
- Prepayment via VISA/Mastercard preferred

A tournament to benefit medical research and education at the University of Minnesota Medical Schools.

To register or for more information, call the Minnesota Medical Foundation Alumni office at (612) 625-8676.

Kevin McHale - Honorary Chair of the 4th Annual Golf Classic

The Minnesota Medical Foundation is pleased to announce its 4th Annual Golf Classic. The event will be held on Monday, August 29, 1994, at the beautiful North Oaks Golf Club in North Oaks, Minnesota. Kevin McHale, ex-Gopher, ex-Boston Celtic Star, will serve as the Honorary Chair.

This event has continued to grow over the past few years and has emerged as one of the premier golf events in the Twin Cities. Last year over 220 golfers participated in the event, which raises money for medical education and research at the University of Minnesota Medical Schools in Minneapolis and Duluth.

Nearly \$100,000 has been raised in the past few years and the committee looks forward to the most successful year to date. The money raised from these tournaments has been used to provide research grants and scholarships for faculty and students here at the University of Minnesota Medical Schools.

The tournament, which is a double shotgun start (morning and afternoon), is a scramble format and will fill quickly. The cost for this event is \$200 (including a \$65 tax-deductible portion) and includes lunch, dinner, golf, prizes, and more. Your chance to guarantee your participation in this event is on March 15, 1994 when open registration will begin. Golfers may sign up as individuals or with a group.

Please contact the Medical Alumni Office at (612) 625-8676 or 1-800-922-1663 after March 15 to reserve your spot with a credit card. Sponsors for this event are also being sought and may find out more about sponsorship opportunities by contacting the Medical Alumni Office. ■

Medical Alumni Reunion Weekend '94

June 2-4, 1994

University of Minnesota / Radisson Hotel Metrodome U of M

SCHEDULE OF EVENTS

All Reunion '94 activities are held at the Radisson Hotel Metrodome U of M, unless otherwise noted.

Registration materials will be sent in April. Notify the Alumni Office if you are not receiving your class mailings. Classes celebrating special reunions: 1934, 1939, 1944, 1949, 1954, 1959, 1964, 1969, 1974, and 1984.

THURSDAY

Reunion Headquarters

Regents Room, second floor
Noon - 5 p.m.

Welcome Reception

(Special Honorees 50th Class)
Regents Room, second floor
This reception provides alumni with their first opportunity to see one another. This is an informal event, an opportunity to socialize and meet other alumni.
5 p.m. - 7 p.m.

Medical School Department Tours

Some departments will provide short tours of their facilities.
Medical School
3:30 p.m.

Deans Reception and Dinner or Individual Class Functions

Meet the dean and other department heads while enjoying a great view of Minneapolis and the river and dine at the Campus Club's Buffet.
Campus Club, Coffman Memorial Union
5:30 p.m. reception
6:45 p.m. dinner

FRIDAY

Reunion Headquarters

Regents Room, second floor
8 a.m. - 5 p.m.

Half-Century Program and Luncheon

Open to all pre-1944 graduates
(Class of 1944, special guests)
10 a.m. - 1 p.m.

Campus/Hospital Tour

View the University Campus and Hospital
(bus and walking - approximately 1 hour)
1 p.m.

Alumni Golf Tournament

Find a foursome from your class or we'll find one for you (University of Minnesota Golf Course - tentative)
1 p.m. (tee times will vary)

Medical School Graduation

Class of 1944 is presented
Northrop Auditorium
2:30 - 4:30 p.m.

SATURDAY

Reunion Headquarters

Regents room, second floor
8 a.m. - 5 p.m.

New Horizons In Minnesota Medicine (CME) Ballroom, second floor

8:00 a.m. - 12 p.m. Lunch at 12 p.m.

Campus/Hospital Tour

View the University Campus and Hospital
(bus and walking - approximately 1 hour)
1 p.m.

Medical School Class Reunion Dinner & Programs

The MAS presents the Diehl Award as part of the festivities. Individual classes have programs following the dinner. This is the cornerstone event of the weekend and should not be missed. Class photos are taken and reunion memories books are given out.
Ballroom, second floor
5 p.m. Reception & Registration
6 p.m. Dinner and Programs

New Horizons In Minnesota Medicine

Saturday June 4, 1994

Radisson Hotel Metrodome U of M

8:00 am - 12:00 noon

Registration is \$30 for Medical Alumni Society members (\$65 for non-members), which includes a buffet lunch following the program.

Ashley Haase, M.D.

Professor and Head, Department of Microbiology
University of Minnesota
"Where and How the Aids Virus Hides"

Stanley M. Goldberg, M.D.

Professor, Department of Clinical Surgery
University of Minnesota
*"New Operations for Ulcerative Colitis:
Do They Work?"*

Robert F. Miller, M.D.

Professor and Head, Department of Physiology
University of Minnesota
"Current Developments in Vision Research"

Jane Korn, M.D.

Medical Director of Breast and Cervical Cancer
Control Program, Minnesota Department of Health
"The Breast and Cervical Cancer Control Program"

Gerald Hill, M.D.

Director, Center of Native American Center and
Minority Health
University of Minnesota, Duluth

C. Paul Martin, M.D.

Internist/Family Practice Affiliate
Medical Clinic - Marshall
Marshall, MN
*"The Doctor as Detective: Medicine, Murder
and Mystery in Victorian England"*

New Horizons in Minnesota Medicine is an annual presentation to showcase six faculty members and alumni of the University of Minnesota Medical Schools. Scheduled in conjunction with Medical School graduation ceremonies and class reunion activities, New Horizons offers an opportunity to both local and visiting alumni to see the exciting and innovative work taking place at the Medical School and by alumni — as well as an opportunity to earn CME credits.

New Horizons in Minnesota Medicine is sponsored by the Medical Alumni Society, with assistance from the University of Minnesota Medical School, Minnesota Medical Foundation, and the Continuing Medical Education office. For more information, contact the Alumni office at (612) 625-8676 or 1-800-922-1663. ■

CLASS NOTES

1941

Dr. Alfred M. Freedman, New York, New York, retired in 1989 from his position as chairman and professor of psychiatry at New York Medical College in Valhalla, and has continued as professor emeritus. Recently he travelled around the world for six weeks, lecturing and participating in meetings in Ireland, Germany, Japan, and China. In Changsha he was appointed honorary professor of psychiatry at the Hunan Medical University. He travelled to the Orient under the auspices of the World Health Organization as a scientific advisor.

1947

Dr. John E. Verby Jr., Bloomington, has "advanced" (or retired) as of June 30, 1993. He was previously director of the Rural Physicians Associate Program which places third-year medical students in rural communities to work with practicing physicians.

1952

Dr. Donald Mayberg, Minneapolis, has received the 1992-93 Outstanding Private Practitioner of Psychiatry Award from the Minnesota Psychiatric Society. He has served as director of psychiatric education and training

at Abbott Northwestern Hospital in Minneapolis since 1972 and as chair of the Minneapolis Psychiatric Institute at Abbott Northwestern since 1985. He is also a clinical professor at the University of Minnesota Medical School and is a consultant to the Department of Defense and to the Federal Aviation Administration.

1976

Dr. John Frederick, Shoreview, Minnesota, was appointed chief executive officer of East Metropolitan Health Organization (EMHO) in St. Paul. He is the first physician to serve as the organization's full-time executive officer. He has been in family practice in Shoreview and Lino Lakes since 1979.

1980

Dr. David G. Stille, Des Moines, Iowa, is now director of the emergency department and urgent care center at the county hospital in Des Moines.

1988

Dr. David M. Salter, Billingham, Alaska, has been working in southwest Alaska for two years. Among his unique experiences are traveling to remote villages and treating a case of botulism. ■

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THANKS FOR GIVING

Class of 1943

by Jean Murray

In 1943, World War II was underway and there was a need for physicians on all fronts of the war effort. The demand was so high that the University of Minnesota graduated two medical school classes that year, in March and December.

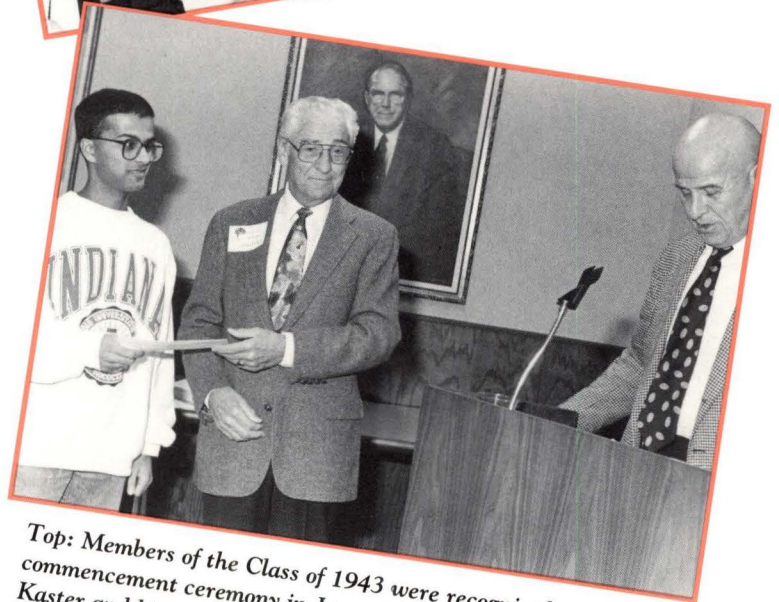
The demands placed upon medical students during the war years were intense, and there would be even greater pressures placed on these young physicians in the very near future. Medical school courses were made easier by tough but talented professors such as Cecil Watson, Owen Wangensteen, E.T. Bell and many others. "These men were our heroes," said one class member.

One of the least inviting parts of medical school in 1943 was a series of comprehensive exams that were a required part of the training. The sentiment is confirmed by one classmate, who said, "Thank God, the school finally got rid of those horrible comprehensive exams." Upon completion of the exams and the course work, many class members left immediately for a quick internship and military service.

There was little respite for these alumni, at a time in their careers when they should have been working on their internships and residencies at hospitals around the country. Many of these young physicians were involved in events ranging from the invasion of Saipan to the war in Europe, while those who stayed behind filled a large gap in their communities.

Many of the members of the Classes of 1943 were never able to go through commencement exercises, because at that time medical students were required to complete an internship before receiving their diploma. Consequently, many received their diplomas in the mail. Fifty years later the dream of walking into commencement exercises was realized. Nearly 100 members of the class and their spouses marched into commencement as their names were called at the graduation of the Class of 1993.

As part of the celebration of their 50th Year Reunion, a legacy of the Classes of 1943 was given to the Minnesota Medical Foundation. Scholarships were



Top: Members of the Class of 1943 were recognized at the commencement ceremony in June, including Dr. John Kaster and his wife Jean. Below: Dr. James Mankey, representing the Class of 1943, March, presents a scholarship to medical student Hiren Patel.

established in honor of each class (March and December) and additional scholarships and research grants were established in honor of many individuals in the two classes.

This past November the first Class of 1943 Scholarships were awarded to students. Each year these scholarships will be awarded in honor of all of the members of the Classes of 1943 — their gift to future physicians and graduates of the University of Minnesota. One member of the class summed up their feelings: "I am proud to be a part of such a distinguished class!" ■



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University of Minnesota researchers study the complex process of liver regeneration. Front, left to right: Clifford Steer, M.D., Betsy Kren, Ph.D., Guangsheng Fan, M.D., Ph.D., Janeen Trembley, and Karr Halverson.