

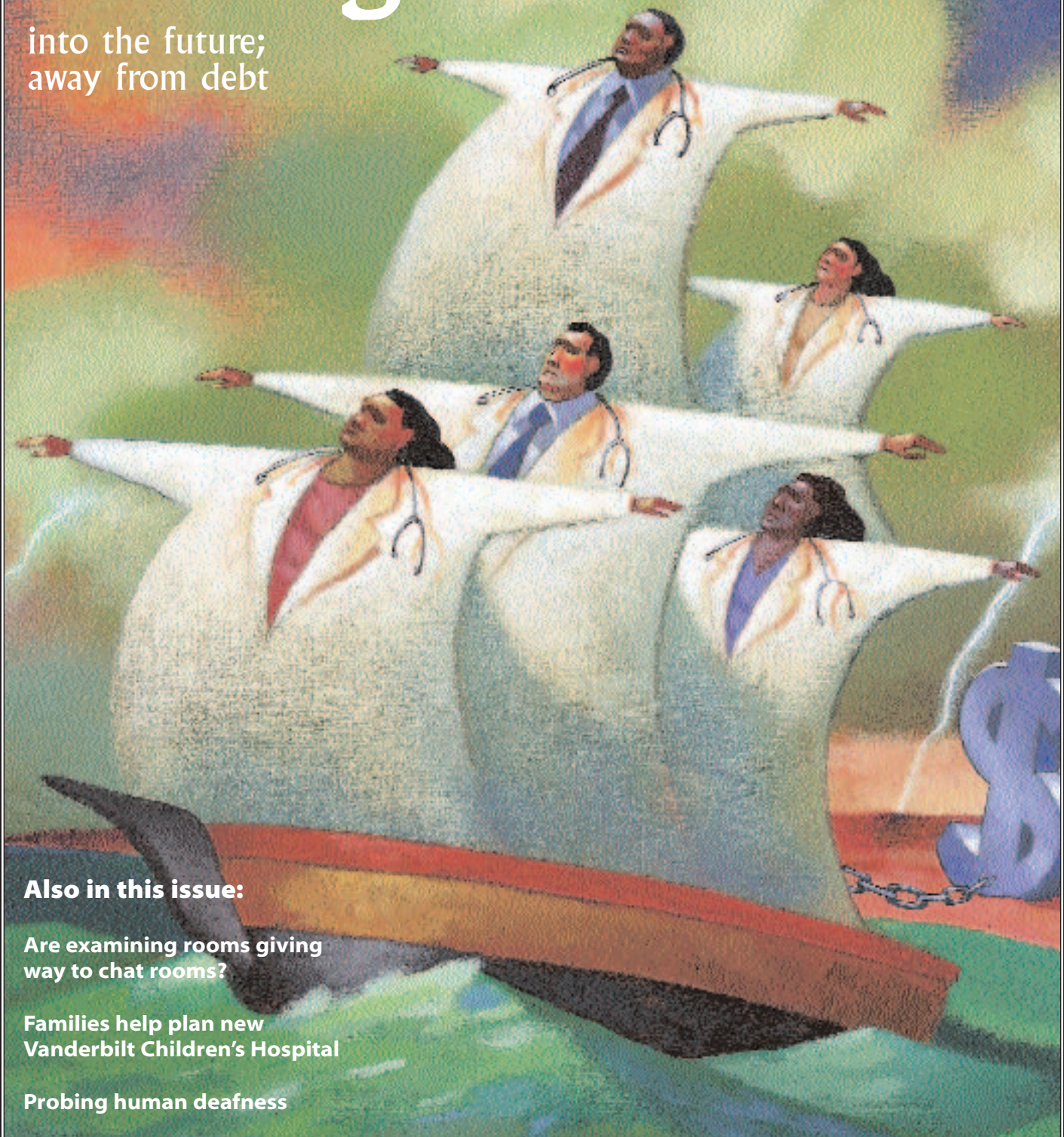
Vanderbilt Medicine

VANDERBILT UNIVERSITY MEDICAL CENTER

Spring 2000

medical education: setting sail

into the future;
away from debt



Also in this issue:

Are examining rooms giving way to chat rooms?

Families help plan new Vanderbilt Children's Hospital

Probing human deafness

Calendar of Events



march

March 18
American Association
of Orthopaedic
Surgeons
Meeting & Reception
Orlando, Fla.

March 28
Medical Alumni Dinner
San Antonio, Texas

March 30
Medical Alumni Dinner
Dallas, Texas

March 29
Medical Alumni Dinner
Houston, Texas

april

April 14-15
American College of
Physicians
Philadelphia, Pa.

may

May 16
Medical Alumni Dinner
New York City

May 17
Medical Alumni Dinner
Atlanta, Ga.

May 30-June 10
Medical Alumni
Sponsored trip to
Greece

May 20
Canby Robinson
Society
Annual Dinner

june

June 16-18
The Medical Alumni
Board of Directors
meeting
VUMC

June 21-24
Lonnie Burnett Society
Amelia Island, Fla.

June 26-July 4
Medical Alumni-
sponsored trip to
Provence, France.

June 23-24
Otolaryngology
Residents Weekend
VUMC

SPRING 2000

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Vanderbilt Medicine



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A once-in-a-lifetime **24** opportunity *Vanderbilt plans a new Children's Hospital with the help of patients and families.*

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The fight for the future of medicare

Thirty nine million Americans are insured by Medicare. No other single feature of the American healthcare system has a more profound and pervasive impact on patients and their physicians.

As the 20th Century ended, the Congress and President Clinton charged the National Bipartisan Commission on the Future of Medicare to examine the status of the program. We were proud to have Colleen Conway-Welch, the Vanderbilt Dean of Nursing, and Senator Bill Frist, a former faculty member, as members of the Commission.

No program in the federal budget is more worthy of scrutiny nor more in need of reform. Seniors wonder about the long-term reliability of their benefits under Medicare and whether those benefits can include a provision for prescription drugs. Forecasters and economists wonder about the nation's capacity to absorb the aging baby boom generation into the ranks of Medicare beneficiaries. Health care providers wonder whether across the board payment reductions like those enacted in the Balanced Budget Amendment of 1997 will one day leave them in severe financial crisis.

Real reform of Medicare will rest on two prerequisites. First, there has to be real agreement on the projected future costs of Medicare. The projections need to account for the relative health of the generations to enter Medicare over the next decades. Second, the future of Medicare and health care in general will depend on provider driven reform. Reform in healthcare over the last decade has produced an often awkward result, the consequence of insurers and bureaucrats trying to enforce change on providers from outside.

The 1999 Dartmouth Report, based on Medicare data from around the country, shows a pattern of variability in care

that cannot be supported or sustained. There is no reason that rates of cardiac bypass surgery should be three times higher in one community versus another or that a woman would be half as likely to get a screening mammogram in one town than another. And no reason that total medical expense per beneficiary should be three times higher in one area than another. Those grotesque examples of variability in practice cry out for the involvement of doctors in setting a standard of care and updating that standard of care continuously based on new evidence of effectiveness. In every other industry, wide variation is a hallmark of inefficiency and low quality.

Our medical schools, residency programs, professional societies and certifying boards must lead the way in establishing practice standards and evidence-based treatment protocols. We need to pioneer new tools for putting those standards in the hands of physicians and patients when they are needed. If you can buy a car, a computer, or a meal at the same price and the same high quality anywhere in the country, why don't we demand the same thing in healthcare delivery? We won't get there until providers, armed with clinical data and seasoned judgement, lead the way.

In addition, Medicare needs to turn its attention to people with chronic diseases like diabetes, hypertension or cardiovascular disease. People with chronic disease account for a small fraction of the population but a large share of the overall cost of Medicare. Focusing careful attention and care management on these enrollees can avoid costly hospitalization, can delay the onset of debilitating symptoms and can dra-

matically improve the quality of life and can markedly reduce the overall cost of care.

Medicare is for many Americans the difference between life and death. Its value in the American healthcare system is unquestioned. With the proper tools and proper focus, Medicare can continue to be the model for health protection worldwide and can do so without overtaxing the American economy. ♾



DEAN DIXON

BY HARRY R. JACOBSON, M.D.
Vice Chancellor for Health Affairs

Not so long ago, physicians made house calls, which eventually gave way to office visits. Now, with all the advances in computer technology, have examination rooms given way to chat rooms?

The Internet has made everything more accessible to consumers, and health care is no exception. With a click of the mouse, Internet users can tap into a wealth of information on almost any health-related topic. They can even "chat" with physicians online and have their concerns allayed and questions answered without seeing a physician in person. The result? More informed, confident patients, according to Dr. Robert Steele, MD'93, a pediatrician and regular contributor to ParentsPlace.com, a trademark of iVillage, Inc.

"The people who visit our web site are not presenting symptoms and looking for a diagnosis," Steele said. "Many of them have received a diagnosis and are looking for more information. What we do online will never replace a visit to the doctor, but it does provide parents with valuable information, which they in

turn use to prepare very intelligent questions for their physician."

Steele has answered more than 400 questions in his Ask the WebDoctor column since June 1995. In addition to his column, named by the American Academy of Pediatrics as the best pediatric Internet site, he holds office hours at ParentsPlace.com on Tuesday evenings at 10 p.m. Parents can log on and chat with Steele and receive an immediate response to their questions, which range in topic from the use of baby walkers to the rotavirus to the impact of media violence on children.

"The questions I get vary depending on what is in the news," Steele said. "I receive a lot of questions on vaccines, product safety, as well as run-of-the-mill type questions."

Steele, who practices medicine full time at St. John's Regional Health Center in Springfield, Mo.,



from House calls



to **MUSE** calls

by Kathleen Whitney



Dr. Bruce B. Dan

conducts about three hours of research per question. He estimates that he spends between 15 and 20 hours a week writing his column and answering questions from his home. He became involved with ParentsPlace.com about five years ago when he was surfing the net and ended up on a bulletin board posted by a couple who wanted to start an Internet business so they could stay at home with their newborn. The bulletin board started as a place for parents to exchange ideas. ParentsPlace.com evolved from this and Steele has been involved ever since.

Dr. Bruce B. Dan, MD'74, HS'74-'77, and an Adjunct Assistant Professor of Preventive Medicine at VUMC, is working full time developing new ways in which the Internet can be used to improve the practice of medicine.

Three years ago he started Medcast, a medical news and information service, which allows physicians to perform hundreds of functions on their computers. Healtheon/WebMD recently acquired Medcast and the new company offers "everything a doctor needs for his or her practice," from billing to continuing education to patient care, Dan said.

"Medicine is among the last disciplines to take advantage of technology for the pro-

fession's own use," Dan said. "We've used it for years for our patients, but not for ourselves. In terms of practicing medicine, we've been in the age of dinosaurs."

This is changing, of course. More physicians have computers and are comfortable using them to sift through the overwhelming amount of information they are expected to keep up with. Healtheon/WebMD puts all of that information in one place so physicians can access it at their convenience.

"We try to help physicians stay one step ahead of their patients," Dan said.

Dan, a renowned medical communications expert, earned his bachelor's degree in space systems engineering from MIT where he used his computer skills to program the orbits and trajectory for Project Galileo, NASA's future mission to Jupiter.

"I've been interested in science and technology for a long time," he said, "and I've tried to keep up with computer technology from the time of the mainframe through the development of the Net. The Internet has so much to offer and will do as much to change the world in the next century as electricity did at the beginning of this one."

Vanderbilt is building its own new product for physicians and patients in conjunction with a group of the nation's most distinguished academic medical centers. WebEBM (short for evidence-based medicine) is a website designed to help doctors and patients stay on top of the most recent research and standards of practice for chronic diseases.

"Perhaps the most significant problem in the cost and quality of healthcare is variability in the way healthcare is delivered," said Paul Keckley, WebEBM's president.

This site will become a resource for physicians who want to follow the latest in practice standards and for patients who want to find out more about their care.

"Vanderbilt has put together a consortium that includes Duke, Emory, Washington University and Oregon Health Sciences to compile and edit the information on the site,"

said Dr. David Maron, a Vanderbilt cardiologist who has been deeply involved in the development of the care protocols that constitute the backbone of WebEBM. Vanderbilt is a founding partner and a significant investor in the new venture with a \$1.5 million stake in the \$7.5 million start-up.

VUMC has also developed a relationship with another Web-based health information resource, America's Doctors on Line. The website holds volumes of patient-oriented information. Its most unique feature is real-time e-mail discussion with physicians 24 hours a day. Vanderbilt clinicians are routinely featured in ADOL's chat rooms.

So, where will all this technology lead us? The fear that physicians will lose touch with what is important to their patients, hands-on healing, is not completely unfounded, according to Dan.

"One of the things technology always tends to do is distance people," Dan said, citing the development of the stethoscope as an example. Before its discovery, physicians would actually put their ear to the patient's chest to hear the sound of a heartbeat. "Physicians will have to be careful not to lose sight of their patients' needs. There is much to be said for the healing touch; it lifts the patient's spirit. We should not lose it." ©

Dr. Robert Steele



It's how we manage it that counts.

It's Monday. You leave your office, already running 45 minutes behind. You maneuver through rush hour traffic, on your way to a meeting where you're the guest speaker. You drive slowly, very slowly, through rush-hour traffic. Finally, almost there, you reach for your briefcase that holds your speech. You've left it back at work.

By Kathleen Whitney

Stress. It happens to the best of us during busy or trying times. Even positive events, like a job promotion or a vacation, can bring on an attack.

We show stress in a variety of ways – yelling, crying, feeling panicked or sad – but it's how we manage stress that counts. It can literally mean the difference between life and death.

Colin Armstrong, Ph.D., a clinical psychologist and stress management expert with the Kim Dayani Human Performance Center, said there are conflicting findings regarding the relationship between stress and health. Poor stress management is thought to contribute to several serious health problems including compromised immune system function, high blood pressure, stroke, spasm of the coronary arteries, and heart attack. In addition, poorly managed stress may prompt individuals to participate in unhealthy activities, such as eating high fat foods, smoking, and abusing drugs and alcohol.

"Whether or not a situation is stressful largely depends on our viewpoint. I may view a situation as stressful, while someone else may see it as a piece of cake," he said.

Armstrong suggests seeking the advice of a qualified mental health professional if you: 1) feel anxious or stressed all the time, 2) are stressed following a specific traumatic event, 3) are experiencing potentially stress-related health problems, 4) are sad or depressed, 5) have intense periods of anxiety or panic, and/or 6) if stress seems to be having a strong impact on how you interact with others.

For managing day-to-day stress, Armstrong said that it's important to take care of yourself, get enough sleep, and refrain from alcohol, nicotine or other drugs to combat stress. You can also actively seek out productive solutions and try to remain focused on what is really important in your life.

In other words, don't sweat the small stuff. ©



the Dean of Deans

by Doug Campbell



ANNE FAYNER

Dr. John E. Chapman

Vanderbilt University School of Medicine without Dr. John E. Chapman as Dean? It will take some getting used to.

Chapman announced last fall that he is stepping down as the dean of Vanderbilt University School of Medicine — a post he has held for the last quarter-century — to take on a new role, that of associate vice chancellor for Medical Alumni Affairs.

Through not only his longevity in the position, but in his accomplishments and achievements, Chapman, whether he sees it this way or not, is synonymous with medical education at Vanderbilt. They are one and the same.

Not only has he conferred medical degrees to two-thirds of the living graduates of VUSM, but he has appointed essentially every one of Vanderbilt University Medical Center's more than 1,000 faculty members and been part of the appointment process for every current department chair.

"John Chapman's more than three decades of leadership of Vanderbilt's School of Medicine are unprecedented," said Chancellor Joe B. Wyatt. "His influence is felt every day all over the country through the thousands of physicians whom he helped educate and guide. For him, the medical student has always been the top priority. His firm belief that each student deserves individual attention has set the Vanderbilt School of Medicine experience apart from all others."

Dr. Harry R. Jacobson, vice chancellor for Health Affairs, agreed.

"John Chapman is truly a giant of American medical education. He has guided the school to the forefront of medical education programs in the nation. His insight, dedication, compassion and devotion to students and medical education are a credit both to him and to Vanderbilt.

"We look forward to John bringing that energy and experience to his new role as Associate Vice Chancellor for Medical Alumni Affairs, and I know he will be as successful in that arena as he has been during his tenure as dean."

Chapman will continue as dean of the School of Medicine until his successor is named and in place. A national search for the institution's eighth medical school dean is planned, but no timetable has yet been set. ⑤



VUMC joins geriatric effort

by Doug Campbell

Vanderbilt University Medical Center, Meharry Medical College and the Veterans Affairs medical centers in Nashville and Murfreesboro are teaming to improve the health of the region's elderly.

The four institutions have received a five-year, \$8 million grant from the U.S. Department of Veterans Affairs to establish a new Geriatric, Research, Education and Clinical Center (GRECC).

The new center, which will be directed by Dr. Robert S. Dittus, Joe and Morris Werthan

Professor of Investigative Medicine, is part of a larger VA initiative to expand its network of geriatric centers of excellence to better serve the nation's growing ranks of elderly veterans.

Securing the grant for the center's formation would not have been possible without the assistance of every member of Tennessee's congressional delegation.

"Our four institutions are ideally suited to deliver the multi-disciplinary care that our veterans will need in years to come," said Dr. Harry R. Jacobson, vice chancellor for Health Affairs. "This GRECC grant is the recognition of the top quality physicians and programs we have that are dedicated to improving the health of the senior population.

"However, we know that our grant approval could not have been achieved without the tremendous help of Rep. Bob

Clement, Sens. Bill Frist and Fred Thompson, and the entire Tennessee delegation."

The Nashville/Alvin C. York GRECC will focus on preventive health care and use of medications by the elderly. Another newly designated center, the Bronx/New York Harbor VA GRECC, will focus on end-of-life care for the elderly.

The need for these centers is growing, responding to a demand for geriatric care that the rest of American society will confront within the next 20 years. By next year, 38 percent of all U.S. veterans, or an estimated 9.3 million people, will be age 65 or older. In comparison, people 65 years or older account for 13 percent of the total U.S. population.

The VA's program in geriatrics was formed nearly 25 years ago to increase basic knowledge about the aging process and to improve overall quality of care.



Imaging technology provides high-tech tumor images

by Doug Campbell

An innovative diagnostic technology tested at VUMC is providing physicians with a sharper picture of tumors and other abnormalities in their patients.

The technology, called functional anatomic mapping, combines X-rays and injected radioactive tracers to create clearer images of affected tissues deep within the body. These images then can help guide treatment therapies with greater precision.

"Knowing the exact location of a disease, monitoring the response to therapy, and differentiating non-invasively benign from malignant lesions is critical to good patient care," said Dr. Martin P. Sandler, vice chairman for Clinical Services of Radiology and Radiological Sciences and director of the Radiological Clinical Service.

"I think this new technology will have a

huge impact on the diagnosis and management of cancer by optimizing nuclear medicine techniques to provide much more accurate information.

The functional atomic mapping technology was developed by Vanderbilt and GE Medical Systems, a unit of industrial giant General Electric Co. that makes medical diagnostic equipment and services. VUMC conducted clinical trials with the mapping technology — which was recently approved by the FDA — and, through a partnership structure, serves as the primary research and training site for GE worldwide in nuclear medicine, Sandler said.

"We are providing a road map for their technological development and transfer. We are in collaboration in providing an educational facility for them to train people from all



DANA JOHNSON

over the world in this area and we've also become their clinical site worldwide where they bring customers to see their latest technology," Sandler said.

Under the arrangement, GE keeps the technology updated as it progresses.

"It's great to have this opportunity to be constantly updated and continue working at the cutting edge of research and technology transfer," Sandler said. "This partnership, though intensely focused on nuclear medicine, is being extended to include MRI, functional MRI and Positron Emission Tomography."

Probing DEAFNESS

Eric Delpire had never given much thought to the intricate workings of the inner ear. But he learned fast when his research group made the surprising discovery that mice lacking a particular ion co-transporter are deaf.

Delpire, assistant professor of Anesthesiology and Molecular Physiology and Biophysics, generated the so-called ‘knockout’ mice to probe the biological roles of the co-transporter—a protein that moves sodium, potassium, and chloride ions across the cell membrane—in the central nervous system.

“We were hoping for significant effects related to brain development and function,” Delpire said, “but you have to go with what you find.”

But basic science research doesn’t always travel along the planned route and detours can lead to exciting discoveries. Delpire’s unexpected findings shed light on the complexities of hearing and may point to the culprit in some form of hereditary human deafness, opening the way for potential new treatments.

Do You Hear What I Hear?

We live on a noisy planet. Even a quiet place like a library is filled with the tapping of keyboards, the hum of the heating system, and the buzz of whispered conversations. All of these

sounds must initiate a complex chain of events before we ‘hear’ them.

Hearing begins when sound waves, funneled in by the outer ear, bang against the eardrum. The vibrating eardrum transfers the waves through the small bones of the middle ear to the inner ear. Buried within the temporal bone, this intricate structure includes the semi-circular canals, which house the equilibrium and balance machinery, and the cochlea, the snail-shaped home of the organ of hearing.

Inside the cochlea, about half the size of a split pea, a membranous tube follows the winding turns. The tube floats in one fluid, and it is filled with a special fluid called endolymph. Waves in the fluids set up shearing forces that pull on tiny hair cells, which in turn stimulate nearby neurons to send signals to the hearing centers. The endolymph and its unusual chemical composition—high potassium concentration—is key to hearing and to one thing that went wrong in Delpire’s knockout mice.

Wobbly and Deaf

When the mice that are missing a specific ion co-transporter are born, they appear normal. But within about 10 days they have a tendency to fall down, then have trouble getting back up, Delpire said. They also circle in the cage and bob their heads.

human ESS

by Leigh MacMillan

by Leigh MacMillan





Eric Delpire, Ph.D.

“All of the movement oddities suggested an inner ear problem,” he said, “so we looked at the structure of the inner ear and tested them for hearing.”

The knockout mice are deaf, and a look at the inner ear suggests why. They do not have the organized membrane compartments that characterize the inner ear.

“The endolymph is not being formed, and there is a collapse of the membranes and the cochlear duct cavity,” Delpire said.

“There is also disruption of the organ of Corti—basically of the hair cells themselves.”

The absence of one type of protein—the ion co-transporter—translates into dramatic changes in the structure of the inner ear.

Pass the Salt

The co-transporter protein that these knockout mice are missing is normally present on the surface of neurons and secretory epithelial cells, like those that line the lung, salivary gland, and intestines. In the inner ear, the co-transporter resides on the blood side of a layer of epithelial cells called the stria vascularis. Its likely role there, Delpire said, is to move potassium from the blood (along with sodium and chloride) into the cells. On the other side of the cells, potassium channels move the potassium into the endolymph.

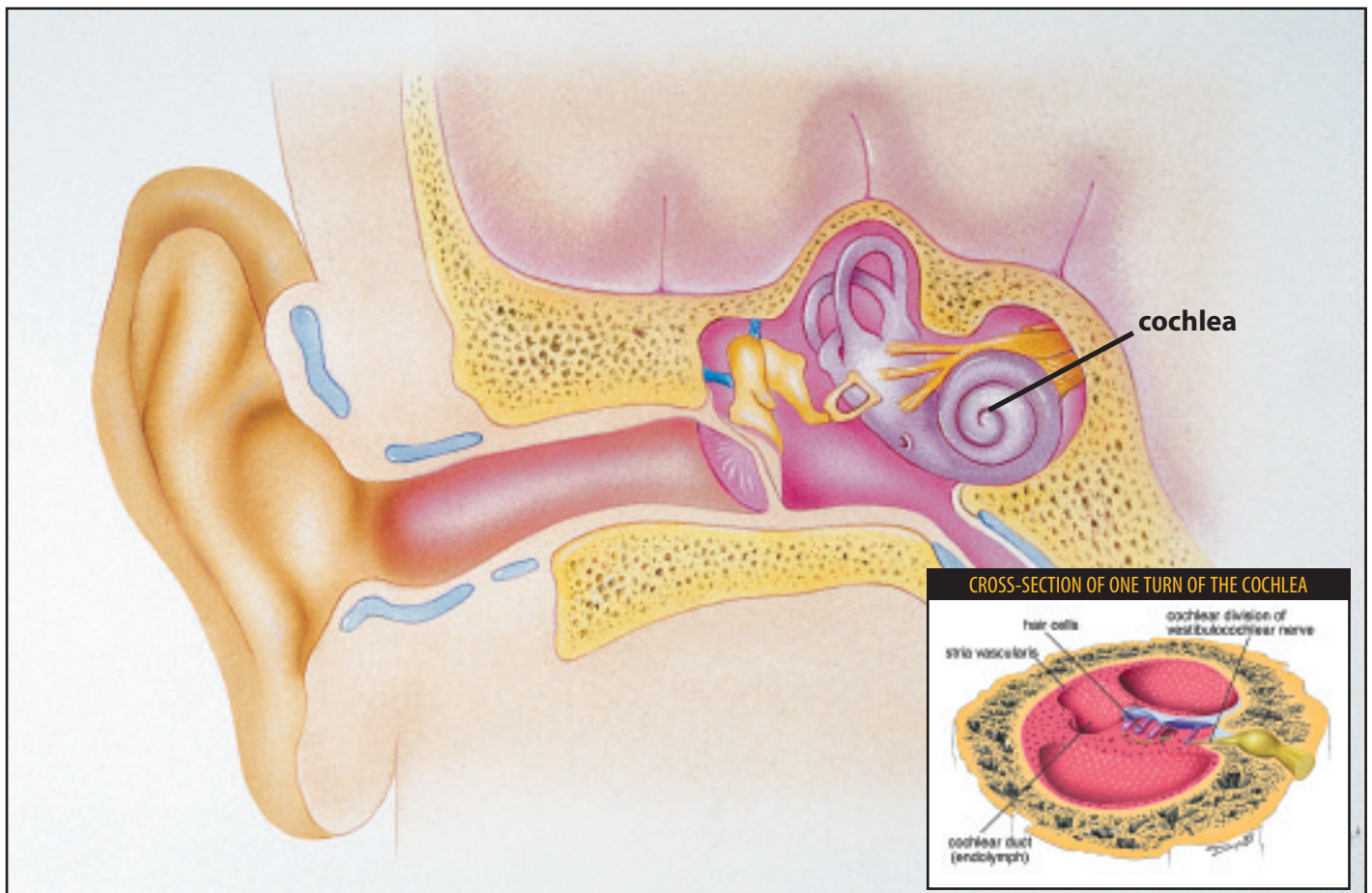
“The knockout of those potassium channels also results in deafness,” Delpire said. “So whichever you knock out—the molecules

that move potassium across the blood side or the endolymph side of the stria vascularis cells—you get the same phenotype.”

Even though Delpire wasn't looking for hearing problems, his findings make sense. And they provide a molecular explanation for the observed ototoxic side effects of a group of drugs called loop diuretics, which includes furosemide (LASIX) and bumetanide (BUMEX).

“LASIX is probably one of the most used drugs in clinical medicine,” Delpire said. “It's used to reduce volume in a variety of conditions including hypertension and edematous states such as congestive heart failure.”

Loop diuretics exert their pharmacological effect by inhibiting the activity of a kidney ion co-transporter, a sister molecule to the co-transporter that Delpire knocked out in mice. Since these drugs also inhibit the co-transporter found in the inner ear, it is now clear from Delpire's research why one of their toxic side effects is hearing loss.



Deafness Genes

Mutation of the co-transporter in human beings might be involved in genetic hearing loss. More than 28 million Americans have hearing impairments that result from genetic or environmental factors, or a combination of the two. Although the proportion of cases with a genetic basis is not known, the list of genes linked to hereditary hearing loss is growing.

One of these genes is for the potassium channel that works in concert with the co-transporter to secrete endolymph. So a linkage between deafness and a faulty co-transporter is logical.

“There is a human deafness linked to the chromosomal region where the co-transporter gene is,” Delpire said. “This disorder was recently mapped to a different protein in the region, but that doesn’t rule out the co-transporter being involved in another form of hearing loss disorder.”

Even if co-transporter gene defects are not responsible for any forms of human deafness, Delpire’s findings offer insight to the complex biology of hearing.

“Better understanding of the physiology of hearing will potentially lead to new treatments for hearing disorders,” Delpire said.

Current treatments for hearing loss center on amplification of sound (using hearing aids) or implants that stimulate the cochlear nerve or the cochlear nucleus of the brain. New treatments might take advantage of molecular insights offered by studies like Delpire’s to introduce replacement genes that correct defective processes.

Delpire will leave further study of hearing defects in the knockout mice to other researchers while his group probes the impact of the knockout on different physiological processes. In addition, his team is currently knocking out other members of the family of ion co-transporters that are linked to diseases of the central nervous system.

Perhaps this time around, the findings will line up with the expectations. ⑤

What’s up with the Human Genome Project?

by Leigh MacMillan



Coming this summer to a web-site near you: a “first draft” sequence of the human genome.

That is the goal of the Human Genome Project, the worldwide public consortium of academic centers that is working to decode the three billion chemical units that make up human DNA.

The Human Genome Project, funded primarily by the National Institutes of Health and the Wellcome Trust of London, began in 1990 as a 15-year project. Advances in technology and a race initiated in 1998 by the private company Celera Genomics hastened the pace of the public effort.

Regardless of which team reaches the holy grail of biology first, the unraveled genetic blueprint for a human being promises to usher in a new era of molecular medicine. Buried in the genome are each of the 60,000 to 100,000 genes—the instructions for making proteins that determine how we look, how well we fight infection, how we behave, and how we are affected by disease.

“Within five years, I believe there are going to be great strides in bringing the power of genetics and the wealth of new information from the Human Genome Project directly to the benefit of patients,” said Dr. Alfred L. George, Jr., Grant W. Liddle Professor of Medicine and director of the division of Genetic Medicine.

Those strides will likely include improved diagnosis of disease, earlier detection of genetic susceptibility to disease, rational drug design, new DNA-based drugs (gene therapy), and individually customized drug treatments.



At the
heart
of
cardiovas

By Marjorie Shaffer

As a young physician, Dr. Frank Cole Spencer almost single-handedly introduced arterial grafts as a substitute for the amputation of battlefield injuries during the Korean War. But that was just the beginning of his innovations. This extraordinarily influential heart surgeon has been on the frontlines of cardiovascular surgery throughout his long career. In the 1960s he was one of the first surgeons to perform coronary artery bypass.

The 1947 Founder's Medalist of Vanderbilt University School of Medicine, Spencer did his surgical training at Johns Hopkins University under Dr. Alfred Blalock. His early work on coronary perfusion, hypothermia, cardioplegia and heart valve reconstruction helped form the basis for many present-day cardiac surgical techniques.

A practicing surgeon for over 50 years, Spencer started New York University School of Medicine's coronary bypass program, the first in the Northeast. He was Chairman of the Department of Surgery at NYU for more than 30 years, from 1966 until his resignation in 1998, when he took on important new responsibilities overseeing facilities planning and development at Mount Sinai NYU. In 1998, NYU Medical Center and The Mount Sinai Hospital formed a new clinical partnership known as Mount Sinai NYU. Spencer continues his teaching, research and other activities as Professor of Surgery at NYU School of Medicine.

Dr. Spencer has helped transform the practice of surgery in the 20th century and shows no sign of slowing down in the 21st century. He has trained over 350 surgeons

in the NYU program and is honored yearly by the Spencer Surgical Society. In 1990, he received the Distinguished Alumnus Award from Vanderbilt University School of Medicine.

His contributions to medicine are widespread.

This year, roughly half a million Americans will suffer from a heart attack, and many will have coronary artery bypass surgery. In this common procedure, physicians restore blood flow to the heart by substituting a section of an artery or vein from one part of the body around the blocked portion of a vessel.


"In 1965, I was enthusiastic about coronary bypass surgery and said that if this was as good as it looked, it would become the most common form of thoracic surgery someday," Spencer recalled. "Everybody laughed."

With a colleague at Johns Hopkins Hospital, Dr. Henry Bahnson, Dr. Spencer developed techniques for the repair of thoracic aortic aneurysms. These weak spots in the wall of the aorta, the main vessel carrying blood to the body, can rupture, resulting in death. When surgery to repair aneurysms was first developed, many patients died. Spencer's group at NYU subsequently began to practice a safer form of the surgery by cooling the brain and allowing the repair with less risk. Spencer and colleagues also discovered ways to protect the spinal cord during surgery for thoracic aneurysms.

In addition, he was one of the first to widely use cardioplegic solutions — liquids which are infused into the heart to protect it

during surgery. With these better methods of protecting the heart, Spencer and his team at NYU became known for operating on high-risk cardiac patients, those with end-stage heart disease.

During his tenure at NYU, the Department of Surgery became a leader in teaching, clinical care and research. Spencer co-authored two leading textbooks in thoracic and general surgery; both are now in their sixth editions. But Spencer said the single contribution he is most proud of is starting arterial repair in 1952 while he was in the U.S. Marines in Korea. He received the Legion of Merit award for that work.

"Few have done more to bring honor and distinction to NYU Medical Center than Dr. Frank Spencer," said Dr. John W. Rowe, president and CEO of Mount Sinai-NYU Medical Center and Health System. 



vascular surgery

medical education:
**Setting
& Sail**
into the future;
away from debt

by Nancy Humphrey

Welcome to a century where an explosion of knowledge and technology is going to demand that medical students become lifelong learners; where the rapid change in the diagnosis and treatment of human disease, especially with the completion of the human genome project, is going to require medical students to amend over and over again what they learned in medical school; and where there's little relief in sight for the high cost of a medical education.

Think of medical education in the 21st century as a professional degree with an expiration date.

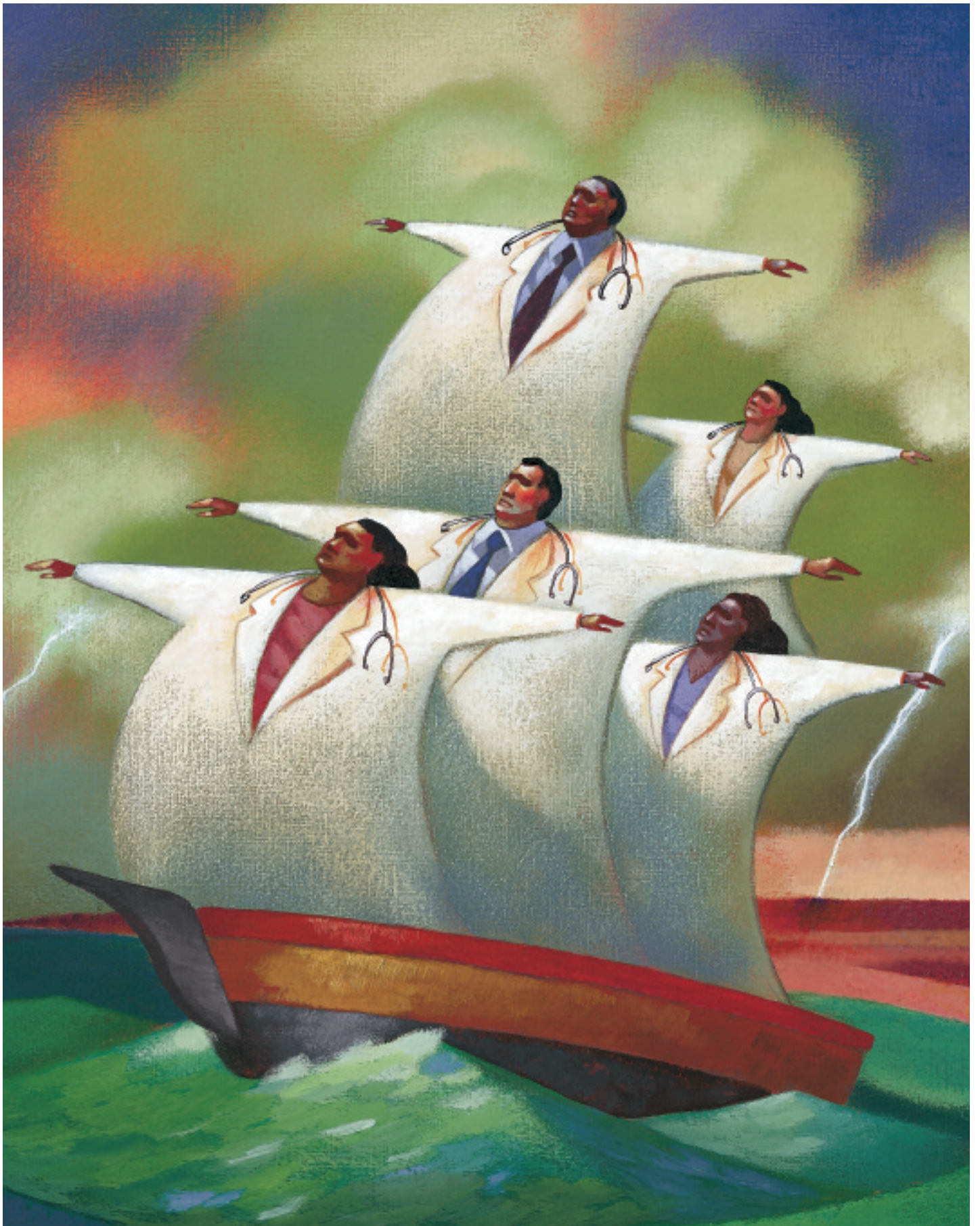
"There's a core of knowledge they need to have in medical school, but most of what they're learning will change drastically over the next 20 to 30 years," said Dr. Deborah C. German, senior associate dean for medical education at Vanderbilt University School of Medicine. "A person who graduates from medical school in their late 20s will have to learn medicine again and again by the time they are in their late 50s," German said. "The challenge to medical schools will be to help students learn how to continue their education once they've graduated, so that at 50 years old that doctor will still be current."

Dr. Gerald S. Gotterer, senior associate dean for Faculty and Academic Administrative Affairs, said that Vanderbilt medical students, who are among the best in the country, benefit from learning in a clinical setting which has the advanced level of computer support available through Vanderbilt's top-notch informatics program.

Computers have come into play in several courses, particularly gross anatomy, and in allowing students to obtain some of their course material online, therefore enabling them to participate more fully in off-campus ambulatory settings.

"As educational experience shifts to the ambulatory setting, one of the changes we've made in the past decade in response to the shortened length of stay, is a required ambulatory experience," Gotterer said. "Computers have enabled us to interact with our students with educational content without requiring them to assemble back at the medical center all the time and leave their preceptors in the community. It's a wonderful example of how technology is not incompatible with, and in fact, if used properly, can support a focus on the humanistic aspects of medicine."

How students are learning has also gone high-tech in some instances. Since 1998 gross anatomy at VUSM has been taught through a



CD-ROM program that uses anatomical X-rays, CT scans and a layer-to-layer, cross sectional view of the human body from head to toe. The program – the Frank H. Netter Interactive Atlas – was conceived, edited and developed by Arthur F. Dalley II, Ph.D., professor of Cell Biology at VUSM.

The internet is also creating a different kind of patient, and that in turn requires that Vanderbilt train its doctors accordingly.

German said that patients are more knowledgeable than ever because of the volumes of medical information that are available via the internet.

"Patients are coming in with more knowledge and we need to train our doctors to be flexible and to work with patients who have knowledge. In the past medicine was a patriarchal profession, the doctor telling the patient what to do. Now it's becoming more of a team effort. The doctor, the health care team, and the patient are involved together in figuring out how to approach wellness."

Dr. Gerald S. Gotterer



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Dr. John E. Chapman, dean of the School of Medicine for the past quarter century, said that a patient should be cautious of the information obtained through the internet.

"Patients are getting vast amounts of information while not having the judgment to go along with the data. The problem is that nobody's checking the accuracy of the internet. It's just there. But the fact is that patients are becoming more knowledgeable and are greater participants in their own diagnosis and care and in the decision regarding what care is appropriate."

Shedding the burden of the high cost of medical school will also be another challenge facing medical students in the 21st century. While the cost of medical education has more than doubled over the past decade, VUSM is embarking on a new and ambitious approach to financing medical education (see page 19). The approach is designed to ease the burden on students as well as on Vanderbilt since the medical school competes for the highest-caliber students – students who often go where they can receive the most financial assistance.

Vanderbilt will also place more of an emphasis on the human side of doctoring (see Dr. John L. Tarpley essay on page 22).

Plans are currently underway to implement a curriculum that makes its students more culturally, ethically and legally aware of the doctor-patient relationship.

German said that it important to shift the educational focus as the emphasis in health care continues to change from therapeutic to preventive over the next century.

"We believe it is important to introduce a variety of objectives dealing with the doctor-patient relationship in addition to the cognitive science of medicine," Gotterer said. "The cultural emphasis in the curriculum is in recognition of the changing population of the United States, as well as the changing role of the patient," Gotterer said. Another portion of the curriculum, under the direction of Tarpley, professor of

Surgery, encourages students to recognize that spirituality is an important part of caring for a patient.

Dean Chapman said that technology will never replace the importance of the human side of medicine.

"Over the next century, the ability of a student or physician to interact with information via computer will become more important than it ever has before, but patients are never going to accept anything less than attention by another human being: the arrangement of medical care, its accessibility, who's doing it, how much is done with what skills, and how much it will cost, that will all change over the next century, but the fundamental observation that people care for people, that will never change."

One Vanderbilt tradition that won't change is German's lecture to incoming first-year medical students on the first day of orientation – "The Good Doctor – a Vanderbilt Tradition."

It may be semantics, but there can be quite a difference in asking brand new medical students what kind of doctor they want to be or what kind of doctor they would choose for a seriously ill loved one or friend.

So the students are asked to describe the kind of doctor they would want to take care of someone they love. Their adjectives fill a chalkboard. Kind. Knowledgeable. Understanding. Up-to-date. A good listener. Fair billing practices. Dedicated. The list goes on.

When they complete the list they are told it is their contract with the medical school, to become that kind of doctor.

"To me this is the minimal expectation of all of our students and I want it up front and on day one," German said.



The Burden of Debt

If you had it to do again, would you be willing to take on the debt borne by today's medical student? Do you think that debt might have changed the specialty you chose? How does that high cost influence the future of medical education at Vanderbilt?

In 1999, 84% of the students graduating from Vanderbilt University School of Medicine borrowed to finance their education. They left medical school with an average debt of \$93,186, more than double the indebtedness of the graduating class of 1990.

According to the Association of American Medical Colleges, tuition and fees at private medical schools increased at an annual 6.4% rate in the last decade. At Vanderbilt the annual rate of growth was even higher at 7.3%, but tuition still remains lower than some other schools. Tuition at Vanderbilt for the class of 2000 is \$26,610 and total annual costs exceed \$37,000.

The burden on students is also a burden on Vanderbilt. "Vanderbilt competes with the best medical schools in the world for high-caliber students," said Dr. John E. Chapman, Dean of VUSM. "Often the final determinant for these exceptionally talented young people is the amount of financial assistance they can expect to receive."

Chapman, Dr. Robert D. Collins (MD '51, HS '51-'52,'53-'55) John L. Shapiro Professor of Pathology, and Dr. Judson G. Randolph (MD '53, HS '54) worry about the impact of indebtedness on career selection. "The heavy debt that saddles medical students makes it more difficult for students to practice in specialties and locations that offer lower salaries," Randolph said.

VUSM is embarking on a novel and ambitious new approach to financing medical education. It is an approach designed to meet these challenges as well as build a covenant among the school, the medical scholar and the community. By enabling significant tuition reduction, VUSM expects its students will embark on careers in medicine that include community service and other societal responsibilities.

The essential features being considered for this new scholarship program are:

- An endowment of \$50 million will be established, providing reduced tuition to all students.
- Students will receive financial assistance with no legal obligation to repay. Repayment may be made voluntarily in continuing support after graduation to the Medical School, and students will be strongly encouraged to commence life-long community service during their four years here.

The \$50 million endowment will be raised from individual, corporate and class gifts, as well as by contributions by the departments and by the students in the form of a 1% share of tuition.

Dr. Harry R. Jacobson, Vice-Chancellor for Health Affairs, has impaneled a steering committee to develop the plans and strategy for this Scholarship Program. Joining Randolph and Collins are Robert McNeilly, president of the Canby Robinson Society, and Robert P. Feldman, J.D., associate vice chancellor for development.

"The Canby Robinson Society will continue its program to fund 16 needy scholars," McNeilly said.

Watch *Vanderbilt Medicine* for more information about the scholarship fund or call Dean Chapman at (615) 343-3442 or Dr. Collins at (615) 322-3107.

A Teacher First and Foremost

The word doctor draws its meaning from the Latin root for teacher. Dr. Robert Collins, John L. Shapiro Chair in Pathology, has spent a lifetime with those words at the heart of his work.

On Oct. 30, the Vanderbilt community reflected on the career, accomplishments and philosophy of Collins, one of the most celebrated teachers at Vanderbilt and one of the most respected in the country.

Collins is the first holder of the Shapiro Chair, the only chair in the United States dedicated to teaching medical students. His organ recitals and CPC's are the stuff of which legends are made.

And his students across four decades have noticed. Collins has been awarded the Jack Davies award as the best pre-clinical lecturer seven times and is this year's winner of the coveted "Shovel" Award, a teaching award he has received an unprecedented four times.

"Bob Collins is much more than a teacher," said Dr. Harry R. Jacobson, at the Oct. 30 event, "but it is as a teacher he wishes to be known. It is fitting that we launch our scholarship program on this day set aside to recognize and honor him".



Setting Sail

He was a person

By Sara Habibian

Throughout history human dissection has been looked upon with fear and loathing by most civilizations including the Chinese and the Greeks who venerated the dead.

In his 1944 article "The History of Human Dissection," Dr. Linden Edwards quotes his colleague Dr. Cooper who stated that medical students "put their hands to a task which other men dread and join the company of those who have laid aside the deepest fears and prejudices of mankind, to seek in the dead bodies of their fellows some increase of knowledge wherewith to fight the ignorance and disease that laid them low."

Though its value in teaching could not be denied, it was not until 1543 that an anatomy professor at Padua by the name of Andreas Vesalius finally established the use of human dissection in medical training and founded modern anatomy.

On August 20th 1998, 455 years after its establishment, I joined the ranks of physicians of the past in performing my first human dissection along with 103 of my future colleagues. I remember distinctly

filing in, all of us in blue scrubs, white plastic aprons, and double-gloved.

I approached what was to be "my" cadaver for the semester. Having worked as a nurse and having been to a morgue, it was not the death that bothered me but the inhumanity. Our goal was to have no reaction. We would not be weak. He was on his stomach; I picked up the scalpel and made the first cut.

Throughout the semester things became more personal as we dissected the hands and then the head, the face, the eyes, the things that make us innately human. Yet by that point we were desensitized. All we were concerned with was our lack of sleep, stress over the impending test, and the need to memorize. Finally, all was said and done, and we survived, just as everyone said we would.

I attended the memorial service at the Vanderbilt burial plot for "our cadavers" one year after their death. I was struck by this realization: "My" cadaver was not mine and never had been. He was his own and his family's; he was a father, brother, husband. He was a person. Why had this

never occurred to me before? All I knew about him was his age and cause of death. Should I have known his favorite color? His greatest fear in life? Would I have still been able to perform the dissection if I had known? I do not know the answer; perhaps it lies in the ultimate reason why we perform the dissection – to make us better physicians.

Understanding and respecting him as an actual human being may not have made for a better dissection but perhaps it may have made for a better person and physician. And, ultimately, is that not the most important goal?

Editor's note: Sara Habibian (pictured on opposite page) is a second-year medical student from Nashville.



Setting Sail

And don't forget to listen

By Dr. John Tarpley



DANA JOHNSON

Listening. It's a basic human skill, but one that is often neglected in medical education and training.

The February 1999 issue of *Surgery* included an intriguing study that analyzed audiotapes from 676 routine office visits with community-based general surgeons and orthopaedic surgeons. The findings were disappointing.

Expressions of empathy toward the patient and other social content were uncommon. Surgeons directed and dominated the dialogue. It is pointed out in an editorial accompanying the study that a routine breast biopsy for the surgeon means fears of cancer, mutilation, and death for the patient.

A simple hernia repair bespeaks pain, time lost from work; family inconvenience; and perhaps decreased income to the affected patient.

In the *Surgery* study surgeons asked closed-ended questions, directed the interchange, and did not allow the patients to "tell their story."

Patients report that the two things they desire of their physicians are time and being listened to. Do we in the medical school "teach" communication and, specifically, listening skills?

An estimated 100 million Americans seek and utilize alternative medicine. Are scientifically superb physicians failing to listen, relate

to, give time to and touch their patients? Are patients looking elsewhere to address these needs? It's a question that is not being ignored. The Association of American Medical Colleges plays a major role in setting the direction of future medical care. At the 1999 AAMC meeting there were 30 different talks, symposia, posters, and sessions related to the "art" side of medicine and medical education.

The editor in the November 1999 *Surgical Rounds* asserts that medical schools have little likelihood of success in modifying student behavior; therefore, scarce curriculum space ought not to be diverted from hard science. I take a different position and contend that folks can change and behavior can be modified within limits. Think about smoking habits, seat-belt usage, gender sensitivity, and other societal shifts.

In the future I predict that physician listening skills, which include a grasp of the patient's cultural background and spiritual nature, will become increasingly important in the emerging era of patient ownership and partnership of health and health-care decision-making. Vanderbilt will continue to explore, experiment, and wrestle with the most effective ways to prepare our students and residents for practice in this era of the educated, informed patient.

Editor's note: Dr. John L. Tarpley, professor of Surgery at VUMC, graduated from Vanderbilt University in 1966 and Vanderbilt University School of Medicine in 1970.

New program bridges Medical Center and University

by Leigh MacMillan

Walter J. Chazin, Ph.D., plans to put Vanderbilt on the map as a premier site for structural biology research.

Chazin has joined the faculty as professor of Biochemistry and director of the new Structural Biology Program, a major initiative that bridges the university and the medical center. He comes to Vanderbilt from the Scripps Research Institute in California.

"Walter Chazin brings a world-class research program to Vanderbilt, and he will provide dynamic leadership for the Structural Biology Program," said John H. Venable, Ph.D., associate provost.

"Walter's vision for the development of the Structural Biology Program made him irresistible as the top candidate for the director position," said Michael R. Waterman, Ph.D., Natalie Overall Warren Distinguished Professor and Chair of Biochemistry.

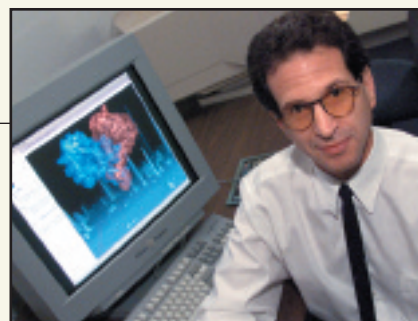
Chazin's vision includes two main elements:

a core of approximately 12 investigators focusing on atomic resolution structural biology — getting molecular structures down to the atom level — and a resource center to promote molecular research across the campus.

Chazin explains that being able to "see" the location of atoms that make up each molecule leads to understanding, at the most fundamental level, how molecules work when they perform biological functions in the body.

"Only by understanding how biological molecules work, how they interact with each other and with drugs, can we make rational choices in the development of new therapeutics that affect these molecules and their functions," Chazin said.

The dozen researchers in the Structural Biology Program core will include investigators from each of the three primary disciplines of



DANA JOHNSON

atomic resolution structural biology: x-ray crystallography; NMR spectroscopy; and computational biology.

The resource center will have expertise in these three disciplines as well as in sample production — making protein of appropriate quantity and quality for structural biology experiments.

Chazin received his Ph.D. in Chemistry in 1983 from Concordia University in Montréal and completed postdoctoral research at the Biophysics Institute in Zurich, Switzerland before joining The Scripps Research Institute in 1986. His research focuses on molecules that participate in calcium signal transduction and in the repair of damaged DNA.



Baby Samuel arrives safely



by Nancy Humphrey

Samuel Armas, the baby whose hand was seen grasping the finger of his surgeon through the womb on the cover of the Fall Vanderbilt Medicine was born healthy and without complications on Dec. 2 in Atlanta.

Due on Dec. 28, he was born 15 weeks after the surgery was performed at Vanderbilt University Medical Center.

There were no problems associated with prematurity and his brain function appears normal.

The photo generated quite a stir, both from its use in Vanderbilt Medicine and in a previous

story in USA Today. The picture was published worldwide and was at the center of a dispute between cyberjournalist Matt Drudge and Fox News executives.

Meanwhile at VUMC, the first comprehensive follow-up of 29 babies, born after undergoing fetal surgery at Vanderbilt University Medical Center to repair spina bifida, shows a significant reduction in the need for shunts to relieve hydrocephalus.

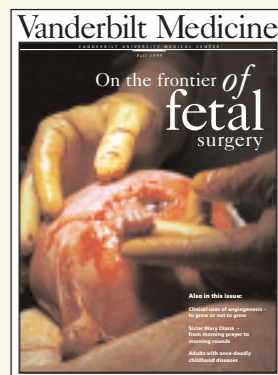
The follow-up study of the babies who underwent the surgery to repair myelomeningocele, the most common congenital anomaly of the central nervous system and a major cause of serious developmental disability, was published in the Nov. 17, 1999 issue of Journal of the American Medical Association.

It is the first large published study by the physicians who perform the procedure — Drs. Joseph P. Bruner, associate professor of

Obstetrics and Gynecology and director of Fetal Diagnosis and Therapy, and Noel B. Tulipan, associate professor of Neurological Surgery and director of Pediatric Neurosurgery.

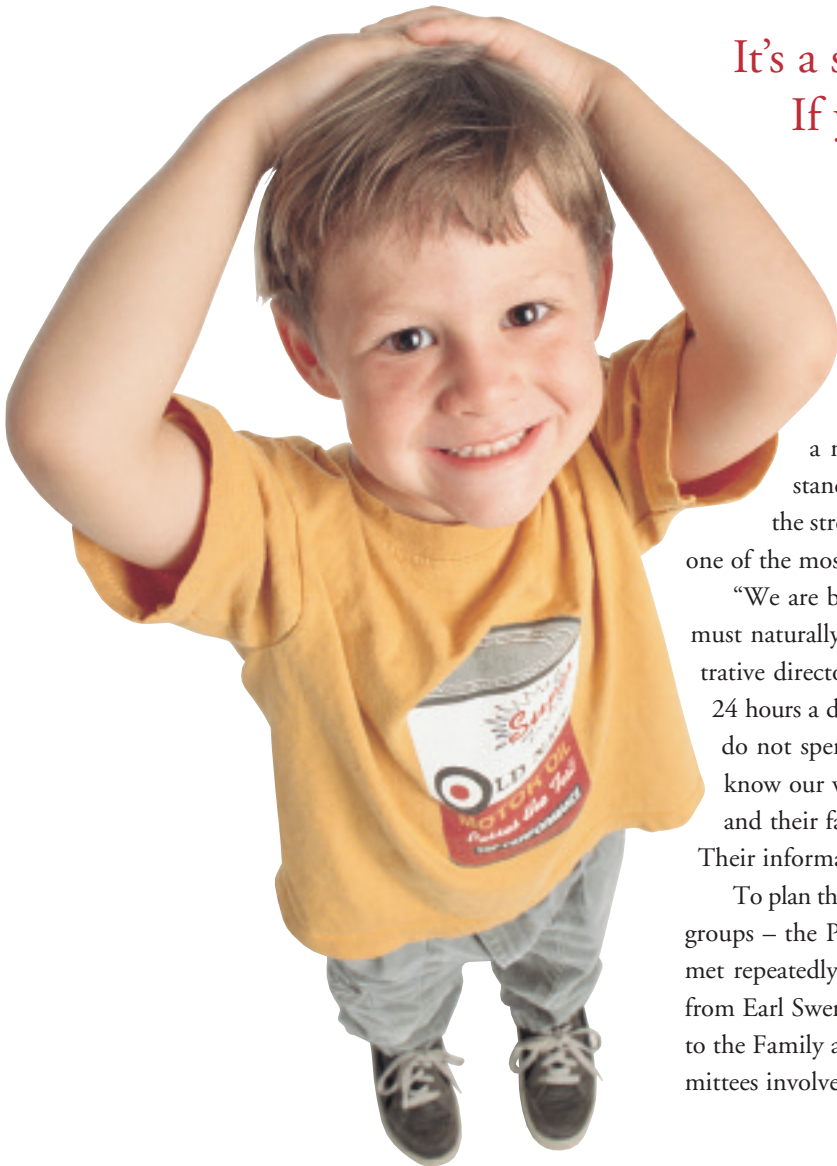
The study also showed that there is a significant reduction of hind-brain herniation (Chiari Malformation) into the spinal canal in the patients who have undergone the fetal surgery. This may explain the decreased need for shunts, Bruner said.

The JAMA study also showed there is low maternal risk involved in the procedure.



a once-in- a-lifetime Opportunity

by Nancy Humphrey



It's a simple concept, really.
If you're building a hospital for
children and their families,
letting them help plan what's
in it only makes sense.

Now that the state has awarded a Certificate of Need, Vanderbilt University Medical Center will embark on building a new Vanderbilt Children's Hospital – a 9-floor, 206-bed free-standing facility to be located next to The Vanderbilt Clinic, across the street from the Kim Dayani Human Performance Center. It will be one of the most family-centered children's hospitals in the country.

"We are building this hospital for the children and their families so they must naturally be part of the planning process," said Terrell Smith, administrative director of Vanderbilt Children's Hospital. "Caregivers do not spend 24 hours a day in the patients' rooms and we certainly do not sleep there. We do not spend time in the waiting rooms and in the public restrooms. We know our way around here so we don't have to follow signs. The children and their families add a whole different dimension to the planning efforts. Their information is invaluable."

To plan the new hospital, VCH enlisted the help of two of its most important groups – the Pediatric and Family Advisory Councils. The two councils have met repeatedly over the past two years with VCH officials and the architects from Earl Swensson and Associates to come up with the best plan. In addition to the Family and Pediatric Advisory Councils, there are 26 other design committees involved in the planning process.



DEAN DIXON

Helping plan the new Vanderbilt Children's Hospital are Family Advisory Council members Hollylu Conant Rees, Donna Guyton, and Jennifer Haag (far right), Andrew Haag, a Pediatric Advisory Council member, and architects Dick Miller (center) and David Miller of Earl Swensson and Associates.

An intense fundraising effort in 1999, led by Monroe J. Carell Jr., the chairman and chief executive officer of Central Parking Corp., and his wife, Ann, has set a goal of \$50 million to be applied toward the cost of the new hospital.

Smith said some of the PAC's most important requests for the new hospital have surprised her.

"You would think that the children would say they want some cool jungle gym or high tech computer games in the playrooms, but at the top of their list was more storage space in the inpatient rooms and a comfortable place for parents to sleep."

One of the FAC's requests is that a pharmacy be located on the way to the parking garage so that prescriptions can be conveniently filled.

Hollylu Conant-Rees, who chairs the FAC, said the council's involvement in the planning process is a "once-in-a-lifetime opportunity."

"The philosophy of family-centered care creates a perspective shift as dramatic as that which Copernicus set in motion when he proposed the shocking idea that the earth was just one small piece of an immensely complex universe," she said. "Family centered care recognizes that a child's natural

habitat is their family and that families have unique knowledge and expertise to bring to the healthcare partnership. Families are vital members of the healthcare team and are essential to a child's healing process."

Conant-Rees, the mother of a 16-year-old VCH patient with special health care needs, often attends up to three meetings a week to help plan the new hospital. But it's a commitment that is worth her time. She believes there are details that might be overlooked without family and patient involvement in the planning process.

"For instance, we'll have family laundry facilities in the new hospital. If it's

3 a.m. and your child's special blanket gets soiled and you can't go anywhere to wash it, then everybody on that floor is going to have a really rotten night.

Conant-Rees said that another family-centered concept is to have private rooms near the Neonatal Intensive Care Unit where parents can spend the needed time before they are released from the hospital learning to care for their newborn who has spent time in the NICU.

"These babies are going home faster and the health care system is asking families to do some pretty intense medical stuff at home," she said. "We're just making sure that our families are equipped to handle what will become necessary at home."

The new VCH will include all pediatric services, including the Pediatric Emergency Room. The rooms will all be private and in some cases nearly twice the size as the current rooms.

Each room will consist of three separate zones – for the staff, patient and family. The rooms will be more like home and will

have more space at the bedside for a parent. Besides extra storage space, there will also be more counter space. Many of the floors will be arranged in a 12-bed neighborhood concept. Instead of one large playroom where children of all ages mingle, there will be several playrooms all designed for particular ages and stages of development.

One of those neighborhood clusters will be for the myelosuppression unit, for immunosuppressed children who are undergoing chemotherapy. These rooms, adjacent hallways and a separate playroom will be HEPA filtered so that the patients do not have to stay in their rooms during a hospital stay.

"We're not spendthrift folks trying to ask for the moon," Conant-Rees said. "In addition to important services that need to be in the hospital, we're getting a place to put our toothpaste and toothbrush. We're getting more countertop space. We're getting a comfortable place to rest and sleep. The sinks in the room are large enough to bathe an infant. There will be tubs in the rooms. We're asking for little things that help to normalize a family's stay."

Conant-Rees said that a child's hospitalization can be a frightening, stressful time for the child and the parents.

"I know firsthand the stresses of trying to care for my son in an congenial hospital setting, where sleep means a few cramped hours on a window seat with a cold draft blowing down my neck," she said. "We need the opportunity to make a cup of tea in the family lounge, to know that play is incorporated into our child's care plan, and the ability to bathe our

child in a real bathtub."

Janet Cross, Director of Child Life for VCH, said PAC members have welcomed the involvement.

"They are increasingly open, honest and candid. I can see their self-confidence growing as they share their expertise with us. The teenagers have told us it was important that all rooms on a unit be the same size and shape so there are no special rooms. The younger kids suggested a 'room service' style of food delivery so they can eat what they want, when they want."

Richie Wyckoff, an 18-year-old PAC member from Smyrna, has been on the PAC since it began in 1998. The Middle Tennessee State University freshman has cystic fibrosis and has one or two inpatient hospital visits a year at Vanderbilt Children's Hospital. He and the PAC members have met twice with the architects so that some of the patients' suggestions could be incorporated into the building plans early on.

"One of the best things is that the rooms are larger and have three separate areas for the staff, patient and the family. It makes it easier when parents need to spend the night," he said. "There's also a lot more freedom inside the rooms. You don't have to stay in your bed or in one chair beside your bed. There's more room to spread out."

Wyckoff said he's appreciated the opportunity to participate.

"It's nice to be able to see our suggestions incorporated into the plans instead of the hospital just being designed and handed to us." ⑤



Alumni Journal

KEEPING IN TOUCH



Looking Forward

Now that we have survived Y2K, what will medical treatment be like for our patients in the 21st century? Will there be fragmented groups of competing physicians and hospitals or will there be an organized network of cooperating health providers? In spite of Medicaid, it has been estimated that as many as 40 million citizens currently do not have health insurance. We all must join together to find an acceptable solution to this urgent need.

Recalling the past

Let's remember the contributions of those who preceded us – contributions that have provided us with many lifesaving discoveries. Many of us in our own careers have seen such developments as safe blood transfusions, wonder drugs, chemotherapy, organ transplantation, joint replacements, significant improvement in anesthesia and innovative surgical procedures including endoscopic surgery. These and other advancements have increased our longevity, significantly lessened human suffering in most of the world and enabled us to enjoy a more productive life.

Medical Alumni Regional Dinners

In March we will travel to Texas to meet with our Medical alumni in San Antonio, Houston and Dallas. At each stop recent achievements and exciting Medical Center plans will be outlined for the future. Later in May we will fly to New York City and Atlanta for similar gatherings. We are always interested in hearing about your activities and enjoy responding to questions concerning old friends and colleagues.

Alumni Travel Abroad

The Medical Alumni Association is sponsoring two overseas excursions this summer. On May 31 we will be travelling to Greece, a land steeped in history and mythology. The second trip is to Provence, France, from June 26 to July 4th. This beautiful area attracted the Romans centuries ago

and they left behind spectacular monuments and many architectural treasures. We hope you will join us on one or both of these trips and bring friends and family. Details are available from our office.

Who Wants to Know? Your Classmates Do and So Do We

By now you should have received your new Medical Alumni Directory questionnaires. Please complete these so that you and your classmates will not have difficulty locating each other. This publication will hopefully be ready for mailing in July.

Reunion 2000 Approaching

Reunion 2000 chairpersons have been appointed for classes ending in 4, 5, 9 and 0. Join us Oct. 19-21 to celebrate the 125th anniversary of the founding of our Medical School. There will be an outstanding scientific program led by nationally and internationally acclaimed experts. Make plans to join us for the social events and the homecoming football game with the University of South Carolina. ♾

Sincerely yours,

George W. Holcomb, Jr., M.D.
Executive Director,
Medical Alumni Affairs

VUMC tests implantable device to restore paralyzed larynx

by Barb Cramer

Doctors at Vanderbilt University Medical Center have developed a new implantable device that helps patients with paralyzed vocal folds breathe on their own.

The new device for bilateral paralysis of the larynx is an Implantable Pulse Generator (IPG) that allows a patient to speak and breathe normally. The device was recently implanted — for the first time ever in the United States — in a Missouri woman.

"We are excited about the possibilities with this electrical pacing device," said David L. Zealear, Ph.D., associate professor of Otolaryngology and director of research in the department. "The idea is to restore the opening function of the larynx to allow inhaling and exhaling necessary to normal breathing. We are able to restore that function."

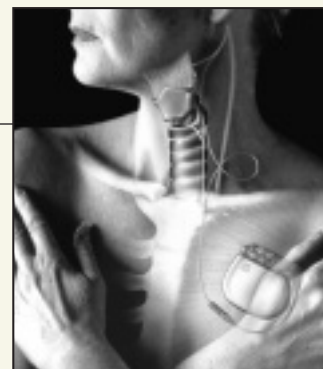
With the device, Zealear says, an electrode is inserted next to the opening muscle of the lar-

ynx sandwiched between the cricoid cartilage and the muscle.

"It involves electrical stimulation of the critical laryngeal muscle that has been paralyzed. The stimulation is done at the precise moment that the patient inhales, allowing the patient to take a breath," Zealear said.

The lead wire from the electrode is then brought subcutaneously through a tunnel to an incision below the clavicle. A pocket is made at that incision site and the stimulator is placed in that pocket. It can be re-programmed through the skin by using a microprocessor, Zealear said.

"When the stimulus is discontinued, the muscles passively relax back to their midline position to allow normal voice production and airway protection."



Zealear says about 6,000 patients are stricken with bilateral laryngeal paralysis each year in the United States. The condition is created primarily when the two nerves that serve the larynx become paralyzed due to neck surgery.

"Both the opening and closing functions are lost on both sides. The patient can't breathe and is in a life threatening situation. For acute paralysis, the patient must have an emergency tracheotomy," Zealear said.



Breast cancer marker identified

by Cynthia Manley



DANA JOHNSON

Women with a benign breast disease whose cells lose the ability "to hear" signals instructing them not to divide are at increased risk of later developing breast cancer, Vanderbilt-Ingram Cancer Center researchers have found.

In the Dec. 15 issue of the *Journal of the National Cancer Institute*, the scientists reported that a reduction in expression of a receptor for transforming growth factor beta (TGFβ) occurs early in the progression from hyperplasia to malignancy in some women.

"This is the first time we've found credible evidence of a biologic marker of increased breast cancer risk in women with unequivocally benign breast disease," said William

Dupont, Ph.D., professor of Preventive Medicine.

A laboratory test to determine which levels of expression of this receptor might be used in the future to reassure women at no increased risk or to guide decisions about screening and preventive measures in women whose risk is elevated, Dupont said. In addition, the findings suggest a new angle for scientists to explore in developing prevention strategies.

This research builds on more than two decades of work by Dupont, Dr. David Page, and their colleagues with a group of nearly 10,000 women who underwent biopsies revealing benign breast disease at three Nashville hospitals over a 30-year-period.

Thus far, indicators of breast cancer risk identified through this work have been based on histology — how the cells look under the microscope in terms of shape, size, distribu-

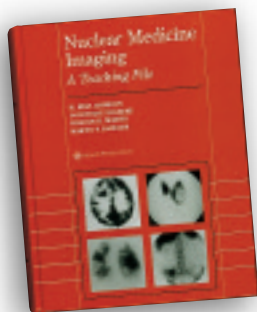
tion and so forth. This latest work focuses on differences in risk among women with the same diagnosis of benign breast disease based on histology.

"Finding molecular markers of risk in women who are still very far away from developing breast cancer has been difficult," Dupont said. "Breast cancer is a disease with a very long memory. Things that happen during a woman's second decade of life — age of first menstruation, age of first pregnancy — can affect a woman's risk of developing breast cancer decades later."

The work was supported by the National Cancer Institute and the Vanderbilt-Ingram Cancer Center.

BOOK CORNER

Spring Book Reviews



Nuclear Medicine Imaging A Teaching File

By Dr. M. Reza Habibian, assistant professor of Radiology and Radiological Sciences, VUMC; Chief, Nuclear Medicine/Ultrasound Service

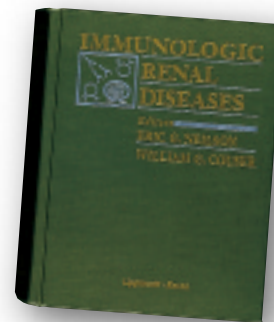
VAMC; Dr. Dominique Delbeke, associate professor of Radiology and Radiological Sciences and clinical director of the division of Nuclear Medicine/PET, VUMC; Dr. William H. Martin, assistant professor of Radiology and Medicine and co-director Nuclear Cardiology; and Dr. Martin P. Sandler, professor and vice-chair of Radiology and Radiological Sciences and director of Nuclear Medicine/PET, 1999, Lippincott Williams & Wilkins, 912 pages.

Nuclear Medicine Imaging: A Teaching File covers the gamut of procedures performed in most departments. The book is composed of chapters that are based on organ systems. A brief overview of each topic is presented, and the bulk of the teaching is in actual case presentations. This book focuses on the clinical information that is available from nuclear medicine imaging studies. The presentation of the images with a brief history permits readers to determine the findings and come to a diagnosis before the findings and diagnoses are described in the text. Each chapter integrates the imaging studies that have been available routinely with the newer imaging studies that are only now becoming available.

Immunologic Renal Diseases

Edited by Dr. Eric G. Neilson, Hugh J. Morgan professor and chair of Medicine, VUMC and Dr. William G. Couser, Department of Medicine, University of Washington School of Medicine, Seattle. 1997, Lippincott-Raven Publishers, 1258 pages.

This book was brought about on the editors' beliefs that the subject of immunologic renal injury warrants more attention than can be provided by a single chapter or section in a general textbook on renal disease. The book was designed to provide comprehensive information to a physician with a patient with immune renal injury to the kidney. Chapters 2-34 contain what is currently known or suspected of the immunologic mechanisms which underly human renal injury and their consequences on renal structure and function. Chapters 37-56 cover the clinical manifestations and recognized disease entities that result from those processes, including discussions of the pathogenesis, pathology, clinical presentation and current treatment of each of them. The two sections of the book are joined by chapters 35 and 36 which review the animal models that have been so useful in defining much of what we know about this subject. Leading investigators and clinicians in the field author the chapters.



VITAL SIGNS

Faculty News • Alumni News

Faculty News

Dr. Harvey W. Bender Jr., professor of Cardiac and Thoracic Surgery, Emeritus, has been named president-elect of the American College of Surgeons. He will assume the position in October.

Dr. Fred H. Bess, professor of Hearing and Speech Sciences and associate director of the Vanderbilt Bill Wilkerson Center for Otolaryngology and Communication Sciences, received the highest award given by the American Speech-Language Hearing Association.

Dr. James P. Bracikowski, assistant professor of Medicine, has been appointed director of medical management for the Vanderbilt Medical Group. His responsibilities include the medical management of risk contract, support of the development of integrated provider networks with Vanderbilt and the community and educational programs for faculty and residents.

Dr. Roy L. DeHart has joined the faculty to direct the newly created Vanderbilt Center for Occupational and Environmental Medicine. He was previously professor and chair of the Department of Family and Preventive medicine and director of the division of Occupational and Environmental Medicine at the University of Oklahoma. He visited VUMC as an occupational medicine consultant a decade ago, returned in January 1998 where he was invited to direct the new effort.

Dr. Raymond N. DuBois, Mina Cobb Wallace Professor of Cancer Prevention and director of Gastroenterology, has been named co-chair of a National Cancer Center Institute panel to outline priorities in colorectal cancer research.

Dr. John H. Exton has been named a Fellow of the American Association for the Advancement of Science (AAAS). Exton, a professor of Molecular Physiology and Biophysics and Pharmacology and investigator of the Howard Hughes Medical Institute, is

the second VUMC scientist elected to the rank of AAAS Fellow. He joins F. Peter Guengerich, Ph.D., professor of Biochemistry and director of the Center in Molecular Toxicology.

Dr. Deborah C. German, Senior Associate Dean for Medical Education at VUSM, has been named the national vice-chair of the Group on Student Affairs (GSA) of the Association of American Medical Colleges. She will become vice-chair in 2000, then in 2001 will chair the committee that oversees the functions of the admissions offices, student records, counseling programs, issues of promotion, residency applications and medical school testing, such as the USMLE.

T. Mark Hodges, professor of Medical Administration, Emeritus, was recently presented the Marcia C. Noyes Award by the Medical Library Association. The award is presented annually to "an individual who has made a lasting and significant contribution to the profession of health science librarianship." Hodges was director of Vanderbilt's Medical Library from 1962 until his retirement in 1995. Eileen Cunningham, also from Vanderbilt, won the award in 1949.

Dr. Brenda P. Nicholson, assistant professor of Medicine, has received a five-year Clinical Association Physician award from the National Institutes of Health to pursue clinical breast cancer research. The award is part of NIH efforts to promote the career development of young patient-oriented investigators.

Dr. David L. Page, professor of Pathology and Preventive Medicine, has been honored by the Susan G. Komen Foundation for his profound contributions to the understanding and definition of breast cancer risk. He received the Komen Foundation's Award for Scientific Distinction at the organization's annual luncheon in Dallas in October.

Dr. Martin P. Sandler, professor of Radiology and Radiological Sciences, has been appointed to the newly created position of vice-chair-

man for Clinical Services of the department and director of the Radiological Clinical Service. In this expanded role, he is responsible for all radiological clinical services at VUMC, including Vanderbilt University Hospital, Vanderbilt Children's Hospital, The Vanderbilt Clinic and the institution's evolving clinical imaging network.

Dr. Noel B. Tulipan, associate professor of Neurosurgery, was honored in the health care provider category at the 18th annual Recognition Reception of the John F. Kennedy Center and the Mayor's Advisory Committee for People with Disabilities in Nashville in October. The event was held to honor significant contributions to the disabled community by individuals and organizations.

Alumni News

'39

Dr. E. S. C. Ford, MD'39, and his wife, Joanne, are living in Mukilteo, Wash. in a home with a wonderful view of the Puget Sound and the San Juan Islands. They are getting ready to plant a new rose garden of 100 or more hybrid tea roses.

'41

Dr. Caroline Williams Nichols, MD'41, retired in 1991 and resides in Savannah, Ga.

'51

Dr. Clarence E. Gossett, 'MD'51, HS'51-'52, is living in Jonesboro, Ark. and has retired.

'54

Dr. Joseph E. Johnson III, 'MD'54, is senior vice president of the American College of Physicians-American Society of Internal Medicine and has been elected president-elect of the International Society of Internal Medicine. He will take office in 2000 at the organization's International Congress in Cancun, Mexico.

Dr. James B. Threlkel, MD'63, served as the second vice-president of the Southeastern

Surgical Congress at the annual scientific meeting at the Wyndham Palace Resort at Lake Buena Vista, Fla. He served as chief resident of General Surgery and Chief Resident of Thoracic Surgery while at Vanderbilt. He is retired as the chairman of the surgical section, and as president of the Medical Staff at Winter Haven Hospital.

'63

Dr. Spencer P. Thornton, HS'60-'63, completed his term as president of the American Society of Cataract and Refractive Surgery in April 1999. He was named one of the "Best Doctors in America" by the 1998 Woodward and White publication of that name and was named "one of the top 100 Ophthalmologists in America" by Ophthalmology Times in 1997. In 1996, he was named "American Ophthalmologist of the Year" by Ocular Surgery News.

'63

Dr. David E. Jenkins Jr., FA'63-'70, '73-'81, lives in Louisville, Ky. He is semi-retired and is clinical professor of Pathology and Medicine at the University of Louisville.

'64

Dr. Joseph A. Cook, MD'64, is serving as program director of the Program for Tropical Disease Research with the Edna McConnell Clark Foundation, one of the largest foundations in the country. In the last 28 years, the foundation has made grants of \$403 million. The program for Tropical Disease Research seeks to develop the means to control the two major causes of blindness – trachoma and onchocerciasis.

Dr. James A. O'Neill Jr., HS'59-64, FA'71- , was installed as president of the Southeastern Surgical Congress at the annual scientific meeting in February. The group represents more than 3,000 general surgeons in the southeast and the territories of Puerto Rico and the District of Columbia. O'Neill is currently director of the section of Surgical Sciences and the John Clinton Foshee Distinguished Professor of Surgery at VUMC.

'69

Dr. Keith W. Hagan, MD'69, has served as president of the Baptist Hospital medical staff in Nashville since 1998. He was recently elected to the Baptist Hospital Inc., Board of Trust.

'76

Dr. Richard D. Pinson, MD'76, has founded Well Being 2000, P.C., a new Tennessee-based professional corporation offering personal health management and "health coaching" to clients around the country. The company is based in Nashville. Pinson is an active Nashville physician, serving on the medical staff of Centennial Medical Center, Baptist Hospital and Middle Tennessee Medical Center. He is also the author of "Self-Health: the Perfect Health Plan." and helped organize Clinical Research Associates in Nashville. Pinson was the 1976 Founder's Medalist for the Vanderbilt University School of Medicine.

'78

Dr. William D. Payne, HS'76-'78, was elected treasurer of the Mississippi Chapter of the American Academy of Pediatrics for 1999-2001. Payne is in private practice at the Madison Ridgeland Children's Clinic in Ridgeland, Miss. The Mississippi chapter of the AAP is made up of approximately 300 physicians.

Dr. Sally E. Self, MD'78, lives in Charleston, S.C. and has been named to the Lander University Board of Trustees. She is associate professor of Pathology at the Medical University of South Carolina.

'80

Dr. Arthur C. Fleischer, HS'76-'80, F'80, FA'80-, was awarded the Fry Memorial Award from the American Institute of Ultrasound in Medicine for his significant contributions to clinical applications in ultrasound. He received the award at the 43rd annual meeting in March 1999 in San Antonio.

Dr. George (Whit) Holcomb III, MD'80, HS '80-'86, FA '89-'99, has been appointed surgeon-in-chief and chairman of the Department of Surgery at Children's Mercy Hospitals and Clinics in Kansas City. He holds the Katharine B. Richardson Chair in Pediatric Surgery. Holcomb is the author of Pediatric Endoscopic Surgery, published in 1993, and has authored nearly 100 publications and book chapters. He is also an editorial consultant for The Journal of Pediatric Surgery and serves on the editorial board of Pediatric Endosurgery & Innovative Techniques.

'81

Dr. F. Bradford Meyers, MD'81, and his wife, Gretchen Geist-Meyers, a registered nurse, continue in solo family practice in Jefferson, Wis. He is the last solo, independent physician in the area. The couple are co-founders of PACE (Parents Advocating Curricular Excellence) in the Jefferson School District and co-coached the 1999 Odyssey of the Mind team to the state competition. They have two children, Elise, 12, and Cedric, 10.

'82

Dr. Steven Bennett, MD'82, is practicing ophthalmology in Eden Prairie, Minnesota and has been appointed clinical associate professor in the department of ophthalmology at the University of Minnesota Medical School.

'84

Dr. Cathy Ohsiek, MD'84, has transferred to Barksdale Air Force Base in Louisiana as chief of medical staff.

'86

Drs. Thomas C. and Valerie Ravan Andrews, MD'86, are living in Dallas, Texas. Tom is director of Clinical Cardiology Services at Parkland Memorial Hospital/University of Texas Southwestern Medical Center in Dallas and continues his research efforts in vascular function and pre-clinical atherosclerosis. Valerie has focused her surgical oncology practice on breast cancer and is also participating in chemoprevention research. They have two daughters, Elizabeth Healy and Jia Min.

'87

Dr. H. Courtenay Harrison Jr., HS'87, is in an endocrinology/metabolism practice and serves as medical director of the Diabetes Treatment Center at Virginia Beach General Hospital. He and his wife, Terese, have three children.

'88

Dr. A. Nicole Vorhaus Thran, MD'88, and her husband, Dr. Matthew J. Thran, are the proud parents of Bailey, born Feb. 20, 1999. They live in Virginia Beach, Va., where she is an emergency physician at Riverside Regional Medical Center in Newport News, Va.

'91

Dr. Suzanne P. Riva, MD'91, HS'92-'93, opened a solo practice in internal medicine at Baptist Hospital in Nashville in June 1997. She is on the voluntary teaching service staff and works closely with the housestaff. She and her husband, Randy, welcomed their first child, Andrew Blake in 1997.

'92

Dr. Scott R. Gibbs, MD'92, and his wife, Mary, are settled in Huntington, W. Va. He completed a laryngology/neurolaryngology fellowship in New York City in 1998. His wife, Mary, works as a nurse practitioner and they have a daughter, Mary Virginia, who is 3.

'93

Dr. D. Scott Fortune, MD'93, HS'99, has joined the office of Gowda Ear, Nose and Throat in Nashville.

Dr. Astrid Jain, MD'93, lives in Charlotte, N.C. with dog, Oscar, and is a partner with Eastover Obstetrics/Gynecology. She reports that about 20 percent of the Class of '93 attended the wedding of Drew Westbrook and **Annick DeMarque**, MD'93.

'94

Dr. James E. Sinex, MD'94, and his wife, Jenny, have been living in Augusta, Ga. since 1998. He is the attending in the Department of Emergency Medicine at the Medical College of Georgia. Their first child was born late last year.

In Memoriam

Dr. Perry F. Harris, HS'65-'67, FA'67-'68, CF'76-'88, died Sept. 18. He was 69. He was chief resident in otolaryngology while at Vanderbilt. He was in private practice in Nashville, beginning in 1977. He was the chief of the Plastic Surgery Department at Baptist Hospital in Nashville until his death.

Dr. Felix A. Hughes Jr., MD'32, died Oct. 17, 1999 in Memphis, Tenn., 12 days short of his 92nd birthday. Hughes was nationally and internationally known for his pioneer work in lung transplantation and segmental lung resections. He was a founding member of the American Board & Society of Thoracic Surgery and the Southern Thoracic Society. He is survived by three sons: Dr. Felix A. Hughes III (MD'66, HS'67-'70), Virginia Beach, Va.; Michael W. Hughes of Memphis; and Dr. David O. Hughes of Laurel, Miss.;

nine grandchildren, and one great-granddaughter.

Dr. S. Edward Izard, MD'43, died on July 14, 1999. He was 83. He was an associate professor with the Medical University of South Carolina and was consultant to the Veterans Affairs and the Crippled Children's Society. Survivors include his wife, Anne; sons, Charles F. Middleton III, Philip A. Middleton and Edward D. Izard, all of Charleston; nine grandchildren and four great grandchildren.

Dr. Robert E. McClellan, HS'49, died Nov. 1, 1999 in Nashville. He was a clinical associate professor of Urology at Vanderbilt from 1976 until 1992 when he retired from private practice. He was a medical staff member at Centennial, Baptist, Vanderbilt and Saint Thomas Hospitals in Nashville and served as chief of Urology at Baptist and Saint Thomas hospitals. He is survived by his wife, Sally; four children, Dr. R. Trigg McClellan, MD'81, of San Jose, John and David, of Nashville, daughter Ann Mashburn; and 11 grandchildren.

Dr. David R. Pickens Jr., MD'44, died Aug. 12, 1999. He served as assistant clinical professor of surgery at VUMC from 1968-1990 and specialized in general surgery in Nashville from 1952-1990. He was past president of the medical staff and chief of surgery at Baptist Hospital. He is survived by his wife, Harriet; a

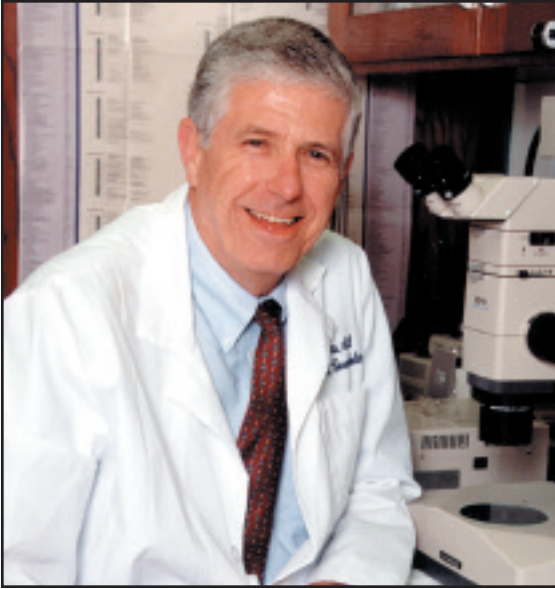
daughter, Mary Anderson; sons, David III, John and Robert; and nine grandchildren.

Dr. Robert W. Quinn, MD, FA'53-'78, died Oct. 11, 1999 at his home in Nashville. Quinn, 87, was former professor and chairman of the Department of Preventive Medicine at VUMC and a director of the Metro Nashville Health Department. In addition to his duties at Vanderbilt where his research focused on the streptococcus bacteria, Quinn was also one of the founders of Planned Parenthood Association in Nashville and served as president of the Middle Tennessee chapter of the American Heart Association and as president of the Nashville chapter of Physicians for Social Responsibility. His survivors include a son, Dr. Robert S. Quinn, a daughter, Judy O'Reilly; and seven grandchildren.

Dr. Louis Rosenfeld, died Oct. 2, 1999 in Nashville. He was 88. A member of the Vanderbilt faculty for 46 years, Rosenfeld's contributions to surgery are numerous but he is also remembered at VUMC for writing *Memoirs of a Surgical House Officer* at Vanderbilt University. A decorated military veteran, he was preceded in death by his wife, Helen Werthan Rosenfeld, who died in 1996, and is survived by his sons, Dr. Robert Louis Rosenfeld and Roger Werthan Cohn, and three grandchildren, all of Nashville.

Drs. William H. Goodson Jr., John D. Hutcherson, and Clarence Thomas Jr., (MD'60), joined forces for a 360-mile bicycle tour of the Natchez Trace in May 1998.





Hal Moses, MD '62, has come a long way from his boyhood in an eastern Kentucky coal-mining town. Today, Moses is an internationally known cancer researcher, whose discovery of transforming growth factor beta as a tumor suppressor opened the door to research into growth inhibitory factors. He is the Benjamin F. Byrd Professor of Oncology, former chair of Vanderbilt's Department of Cell Biology, and past president of the American Association for Cancer Research. He co-chaired the National Cancer Institute's Progress Report on Breast Cancer. He directs the Frances Williams Preston Laboratories of the T.J. Martell Foundation.

“I can envision a time when we can prevent most cancers from ever occurring and cure those we cannot prevent with safer therapies than ever before.”

- *Dr. Hal Moses, internationally known cancer researcher*

And since its inception in 1993, Moses has directed the Vanderbilt-Ingram Cancer Center, consistently recognized as one of the country's leading cancer centers and one of a select few in the Southeast awarded designation by the NCI.

For Moses, getting the medical education that set him on this road wasn't easy. Like so many medical students, Moses simply could not have earned his MD without the help of scholarships. Over 80 percent of Vanderbilt medical students require financial aid, yet Vanderbilt is able to meet less than half their needs. Without financial scholarships, promising future physician-scientists may be unable to reach their potential – and make important contributions to the fight against disease.

Alumni gifts to scholarships not only help today's students but continue to strengthen your alma mater. You can make a gift to the Annual Fund, or to make a larger impact, planned giving may be an attractive option. A gift of long-term appreciated property such as stock or real estate can provide significant tax benefits. If your gift supports a trust or gift annuity, you may also benefit from a life income.

To find out more about estate planning and charitable gifts, contact:

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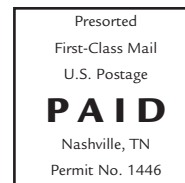
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Provence, France

The Medical Alumni Association is sponsoring a trip to Provence, France June 26-July 4. For more information on this breathtaking area of spectacular monuments and architectural treasures, call (615) 322-6146 or 1-800-288-0266.