

Vanderbilt Medicine

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pain

Undertreated, misunderstood

10

Vicious cycle
of cancer pain

13

The pain
of AIDS

14

A good drug
gone bad

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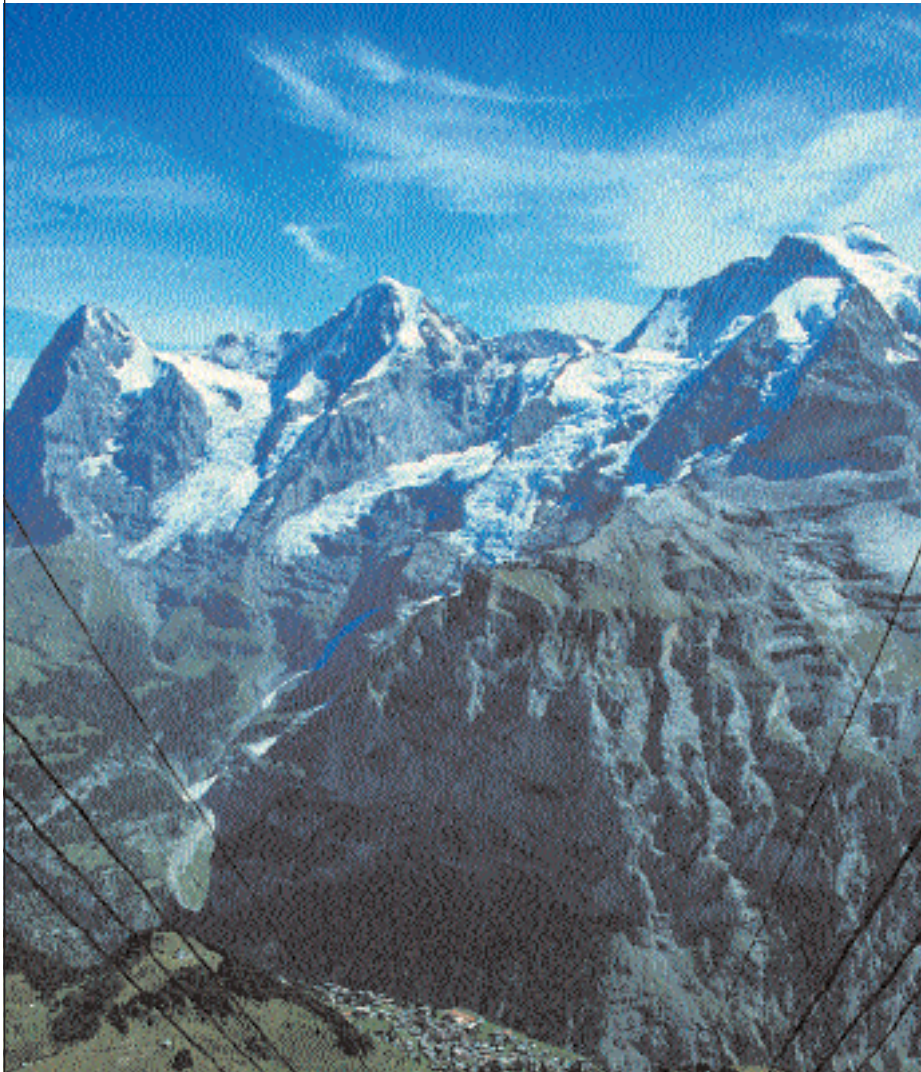
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Swiss escapade



Join the Vanderbilt University Schools of Medicine and Nursing alumni associations and members of the Canby Robinson Society for a winter escapade to Interlaken in the heart of Switzerland. The trip will take place Feb. 26 – March 5, 2002. Accommodations will be at the five-star Victoria-Jungfrau Grand Hotel and Spa. For more information, see page 33 or call 1-800-288-0266.



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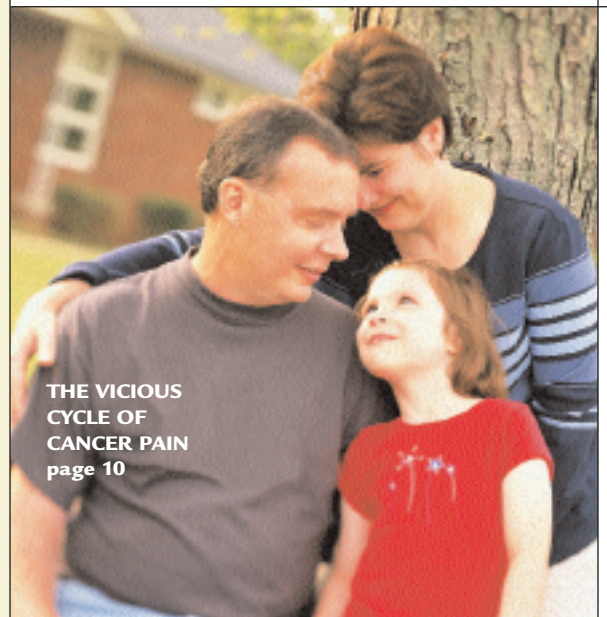
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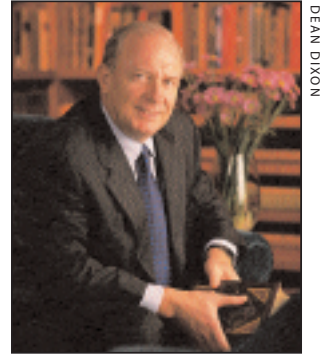
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CYCLE OF
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DEAN DIXON

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

A renewed emphasis on relieving pain

Pain... Say only the word and let it linger for a moment and we are all reminded of a time when the discomfort stretched beyond the tolerable. For those of us who have been fortunate, that moment of pain was short-lived – a sting, a burn or a sprain, a moment of intense discomfort followed by relief within minutes. For others, the pain was longer-lived but has now been overcome. But for some of us,

oddly torn about pain. When its tools of anesthesia and analgesia fail, when there is no obvious source or cause of the pain or when we worry that the long-term consequences of our drugs offer more harm than help... when that happens, we sometimes withdraw care. Or sometimes we blame the patient or question their threshold for pain.

Led by a new consciousness about the

more will physicians and their patients wonder about the “validity” of pain reports.

As clinicians we still recognize that pain is a way of life for many of our patients. For patients with aggressive cancers, patients with AIDS and patients with profound injuries, even a new class of potent pain medications cannot fully offer relief. For these patients we must, of course, ensure that we are doing all we can and that includes counseling, support, alternative therapies and spirituality.

I sense in medicine a renewed commitment to ease pain and suffering. There is a heightened focus on finding new therapies to trump pain. There is an equally heightened recognition that when reach the limits of our science, we haven't reached our limit as clinicians. While we may not be able to cause an end to the pain, we should use all of our skills to help our patients cope with the consequences. **V**

But for some of us, pain is unrelenting. It dampens our productivity, cripples our relationships and narrows the scope of our lives to the search for relief.

pain is unrelenting. It dampens our productivity, cripples our relationships and narrows the scope of our lives to the search for relief. Sometimes there is an obvious cause, disease or injury. In other cases the cause is invisible and mysterious, though, to the sufferer, it is no less real.

The relief of pain and suffering is at the heart of medicine and has been from the moment that the first shaman prepared an herb poultice. Yet medicine remains

consequences of pain, we are developing a powerful new arsenal of tools to attack chronic pain. As we learn more about the chemical cascade that is involved in recognizing, transmitting and registering pain in the brain, we can identify minute molecular targets to interfere with pain signaling and even segregate acute and urgent pain from chronic pain. Our new imaging tools allow us to “watch” pain transmission through the nerves and into the brain. No



New Wilkerson Center approved

The construction of the eight-story Bill Wilkerson Center for Otolaryngology and Communication Sciences and the Musculoskeletal Institute, was approved in September by the executive committee of the Board of Trust.

Construction of the new building, atop the surface parking lot between the Oxford House and Medical Center East, is expected to begin this fall and take 18-20 months to complete.

"The entire staff is extremely pleased that the new building is proceeding as planned," said Dr. Robert H. Ossoff, Guy M. Maness Professor and Chairman, Department of Otolaryngology and Director of the Center. "It is our goal to create the most state-of-the-art facility of its kind in the world; one that can stand as a symbol of hope for our patients, a model for other programs, and the next stage of our development as an integrated health care resource."

In 1997, the Bill Wilkerson Hearing and Speech Center merged with Vanderbilt University Medical Center resulting in the creation of a new entity, the Vanderbilt Bill Wilkerson Center for Otolaryngology and Communication Sciences, which is composed of the Department of Otolaryngology and the Division of Hearing and Speech Sciences. The division of Hearing and Speech Sciences is the home division of the clinics and services provided by the former Bill Wilkerson Center.

The Center treats individuals challenged by the entire range of communication-related and otolaryngological diseases and disorders like deafness, autism, head and neck cancer, accidental brain injury, vocal disorders, sinus diseases, speech and language delays, balance disorders and other debilitating conditions of the head, neck, ear, nose and throat.

This world-class program will be one of the most comprehensive clinical, educational and research-focused programs in the country and integrate services currently



housed in four separate locations.

"This will create a synergy of knowledge and research to better benefit our patients," said Ossoff. "It also allows for more efficient patient care. With more than 50,000 patient contacts a year, it is vital that we have coordination and integration of services that are not now possible."

The Center will occupy five floors in the nearly 300,000 square-foot-building, which will also consist of 12-15 labs, including an anechoic chamber. This chamber is specially designed to eliminate echo and reverberation, allowing for pure sound. The 2,500 square-foot chamber will be placed within three floors of the new building to ensure complete isolation. Currently, Vanderbilt houses the only in-house chamber in the country.

Programs that will be offered in the new site include the Speech-Language Pathology Clinic, which includes the Mama Lere Home and the Center for Childhood Deafness, the John S. Odess Otolaryngology and Head and Neck Surgery Clinic, the Audiology Clinic, the Pi Beta Phi Rehabilitation Institute, the Vanderbilt Voice Center, the Hearing and Speech Graduate Education Program, the Otolaryngology Resident Program, research facilities and administrative offices. The new building will also be the home of the Musculoskeletal Institute.

- JESSICA PASLEY

Khan fights cancer with \$1 million gift

Wasif N. Khan, Ph.D., assistant professor of Microbiology & Immunology, has received one of the largest American Cancer Society research grants ever awarded to an individual investigator at Vanderbilt. With the four-year, \$1 million grant, Khan and colleagues will study the signaling pathways that control immune cell growth, and what goes wrong to lead to immune cell cancers like Hodgkin's lymphoma.

Khan's studies stem from his fascination with the regulatory controls that limit multicellular organisms and their organs to a defined size. Tumors, he said, manage to escape these controls and grow to unlimited sizes, so understanding the normal controls should provide new clues for improved cancer treatments. Khan focuses on cells of the immune system, because it is the body's most dynamic "organ," he said.

"Our bone marrow produces millions and millions of immune cells everyday, and only a small percentage of these live because the system has to maintain its normal size and cell number," Khan said. "The immune system is ideal as a model for understanding cell growth and cell death."

Khan's research focuses on B cell - the group of immune system cells that produce antibodies to fight against infections. These cells, in particular, provide a good analogy to tumors, he said. When a B cell recognizes an infectious agent such as a bacterial cell or virus, that single B cell gives rise to a whole population of identical B cell clones that produce antibodies to fight the infectious agent. Similarly, a tumor gets its start from a single cell, Khan said.

"In the immune system, a process of massive expansion of one cell clone can happen everyday," he said. "And when the infection is gone, these cells are eliminated by an active program of cell death to return the system to its normal state. Why can we regulate cell growth and death in this system, but not in the case of a tumor?"

Khan believes the answers to this question lie in understanding the complex signaling networks inside cells. "That's where the biochemical key is to how cells regulate growth."

- LEIGH MACMILLAN

helping students handle stress



PHOTOS BY DANA JOHNSON

Long known for its focus on students and its strong student-faculty relationships, the medical school has a new wellness committee and a series of events and programs geared toward helping students deal with the stress that occurs in a busy medical school setting. BY NANCY HUMPHREY

Stein Bronsky's first year at Vanderbilt University School of Medicine was difficult. First year medical students are expected to learn huge amounts of information – an overwhelming task for many. But Bronsky thought he was alone in the stress he experienced – a feeling that contributed to an addiction to painkillers.

What he didn't know was that many other medical students were having trouble coping too.

They too felt alone.

Through the efforts of Bronsky and some of VUSM's key leaders, the medical school is no longer taking it for granted that its medical students can deal with first-year stress on their own. Although it will soon be required that all medical schools offer medical student wellness programs, to help future physicians maintain balance in their lives and develop healthy life habits and positive coping skills, VUSM is jumping on

the bandwagon early. Long known for its focus on students and its strong student-faculty relationships, the medical school has a new wellness committee and a series of events and programs geared toward helping students deal with the stress that occurs in a busy medical school setting.

"Vanderbilt has always been very proud of our student community and our student-to-student relationships. This will only strengthen that community," said Dr. Bonnie M. Miller, Associate Dean for Medical Students.

At one of last year's meetings of the Group on Student Affairs of the Association of American Medical Colleges (AAMC) meeting, the Liaison Committee for Medical Education (LCME) presented information on the need for student wellness programs. The presentation suggested that it would soon become mandatory for medical schools to organize such programs. Miller and Dr. Deborah C. German, Senior Associate Dean for Medical Education, who attended the presentation, decided that VUSM would become proactive by developing a student wellness committee. The medical center also offers a Center for Professional Health for physician wellness for its residents and faculty.

"We want to help our students develop healthy life habits that they can use when they are physicians. We want them to maintain balance and positive coping mechanisms throughout medical school," Miller said.

“We’d like them to maintain an even keel – exercising and eating right and not getting stressed. The best way to deal with stress is to not become overly stressed to begin with,” she said.

Last year, the wellness committee surveyed all students about their needs, printed laminated cards with important campus phone numbers for crisis situations, sponsored a mandatory first-year retreat and hosted several brown bag luncheons. The topics included medical relationships, substance abuse and depression.

This year, the committee is again handing out the phone numbers as refrigerator magnets to all students. In addition, the medical school, which has long paired first- and second-year students in a student-to-student advisory program, now has organized student peer groups, groups of 16 (four from each class), who are encouraged to meet at least once a month for an activity. The groups receive funds from the medical school to carry out their activities.

“We’re doing something we’ve always done, providing a lot of support for our students, but this is in a more active, formal fashion,” Miller said.

Miller said she hopes the younger students in each group will talk to the third- and fourth-year students about their concerns.

“It’s difficult to be a first-year student,” Miller said. “Medical school may seem very rigid. There’s little flexibility in the curriculum for the first two years. Classes begin at 8 a.m., whether you’re a morning person or not. There’s a great deal of coursework and it may be a huge adjustment for some students. Most of our students are super achieving people who have never encountered stumbling blocks. When they encounter the challenges of the first year, they may feel inadequate, like they are the only ones to ever have trouble. We feel it is

helpful for new students to talk to senior students who have faced the same challenges and who have thrived.”

For the second year, the first-year class attended an October retreat with their spouses, partners or significant others. The retreat focused on team building, relationships and coping skills.

“The timing of the retreat is excellent,” Miller said. “It’s a good way for classmates to interact outside of the lecture hall. They have taken anatomy and biochemistry tests and should be eager for advice. At orientation, students may not yet be ready to hear about study skills, time management and positive coping, but after the first several weeks of class, they are.”

Bronsky, who is a fourth-year student this year and current wellness committee member, said the medical school is moving in the right direction.

“At the beginning, I literally thought I was



one of the only people in medical school who was having difficulty transitioning.”

Bronsky believes stress led to back problems. After becoming addicted to painkillers, he took a year off from medical school for rehabilitation.

Bronsky said he believes the student peer groups will help relieve some of the

worry and stress of the first and second years of medical school.

“In the past third- and fourth-year medical students would be lucky to even be able to identify a first-year student, because they are so busy in the clinical part of their education,” Bronsky said. “It has been nice to pair first- and second-year students at the beginning of school, but maybe one of 10 pairings goes on to have a relationship that lasts four years. The peer groups are a major expansion of that program.”

The peer groups will stay together throughout the first year class members’ four years in medical school. Each year, as the fourth-year students graduate, a group of incoming first-year class members will be added to each group. Each group will have three leaders, a second-, third- and fourth-

year student.

Bronsky said he hopes the students will feel comfortable opening up to others in the group.

“Upperclassmen here are willing to openly talk about the difficulty of going through those two years. Vanderbilt is a very student-focused school.”



GETTING A HANDLE ON STRESS
Members of the Class of 2005 enjoy team-building exercises at the first-year medical student retreat.



VUMC among “stellar” U.S. centers

A national survey, released in July by *U.S. News and World Report*, continues to recognize Vanderbilt University Medical Center among the nation’s “stellar” health care providers.

In the 12th annual assessment called “America’s Best Hospitals,” Vanderbilt University Hospital and The Vanderbilt Clinic were recognized among the nation’s best in 11 of the 17 specialty areas surveyed.

“We are pleased that VUMC has again been recognized among the nation’s elite health care institutions,” said Dr. Harry R. Jacobson, vice chancellor for Health Affairs. “This is only one indicator of quality, but national recognition such as this is important in reaching our goal of being

regarded as one of the country’s premiere academic medical institutions.”

Vanderbilt was ranked in the following areas: cancer, 23rd; digestive disorders, 31st; ear, nose and throat, 11th; gynecology, 21st; heart, 33rd; hormonal disorders, 15th;



kidney disease, 12th; neurology and neurosurgery, 45th; orthopedics, 22nd; respiratory disorders, 22nd; and urology, 18th. It was the only center in the region ranked in these specialties, except the heart category, where St. Thomas Hospital was the 49th facility in

the top 50.

The rankings were published in the July 23 issue of the news magazine. They can also be accessed online at www.usnews.com.

This year, the survey sifted data from 6,116 hospitals to arrive at 168 “stellar” centers in 17 specialties, news magazine editors said in a press release.

The rankings use a statistical methodology created in 1993 by the National Opinion Research Center at the University of Chicago, which has revised and carried out since that time.

- CYNTHIA MANLEY

Fetal study first in U.S.

Vanderbilt University Medical Center’s fetal surgery team performed the first “amniotic exchange” in the United States in July for gastroschisis, a developmental abnormality that causes a fetus’ intestines to poke through a weakness in its abdominal wall and into the mother’s uterus. The name of the mother, who had another 12 weeks to term at the time of the first procedure, was not released. She has since delivered.

The mother’s amniotic fluid was becoming increasingly concentrated with urine, a normal occurrence but toxic to the baby’s delicate internal organs turned outward.

To halt the damage, Dr. Joseph P. Bruner, associate professor of Obstetrics and Gynecology and director of Fetal Diagnosis and Therapy, inserted a flexible needle into the mother’s womb, guiding it by ultrasound, while Dr. Erin Harley, a resident, drew all the amniotic fluid out with a large syringe and replaced it with sterile saline solution.

Not only was this the first “amniotic

exchange” performed in the United States for gastroschisis, it was also one of only a handful performed in the world. In June, Bruner began a randomized study of the procedure. Four other couples have been randomized into standard therapy – delivering the babies early and surgically mending the damaged intestines when time allowed.

“We’re just glad to be a part of this,” said the young dad. “We hope that, regardless of our outcome, this improves the treatment for everyone.”

Also participating in the study are Drs. Robert Cywes, assistant professor of Surgery, and George H. Davis, assistant professor of Obstetrics and Gynecology.

Bruner called the procedure, which includes a total of four amniotic exchanges over eight weeks, “deceptively simple.” It can be performed in less than an hour, in most labor-and-delivery settings.

“This is a whole new area never addressed before – altering the amniotic constitution to protect vulnerable fetal body parts from amniotic fluid to treat fetal disorders,” he said.

Gastroschisis is not a life-threatening disorder, Bruner said. But it occurs in one in 4,000 live births in the United States.



MARY DONALDSON

Drs. Joseph Bruner and Erin Harley

Fourteen children born at Vanderbilt in 2000 had the disorder.

Previous Vanderbilt research has shown that at about 30 weeks gestation the amniotic fluid becomes increasingly toxic and harmful to body parts not meant to be exposed to it. With gastroschisis, the intestines “become inflamed, almost as if they had been burned,” Cywes said. They shorten, sometimes by as much as one-third, and can form atresias, leaving gaps in the bowels.

After birth, the exposed bowel requires a “tent” to protect it while it heals enough to allow surgery. - CLINTON COLMENARES

Supplemental health

Answers to longer life not likely found in a pill

Antioxidants abound. According to alternative health promoters, they'll ward off cancer, maintain your youth, reverse the damage of smoking, drop pounds off your gut – there are even antioxidant mouthwashes and facials. BY CLINTON COLMENARES

Antioxidants are available everywhere, tossed in a veritable supplement salad on Web sites and in health food stores with vitamins A, C, E, B-12, ginkgo biloba, selenium, magnesium, bee's wax, something called astaxanthan.

It's confusing out there. What's a well-meaning, health-conscious person to do?

"I don't take supplementary antioxidants," says Dr. Raymond F. Burk, professor of Medicine and director of the Clinical Nutrition Research Unit at Vanderbilt.

Burk, with over 20 years of antioxidant research, recently spent a large amount of time over a two-year period on an Institute of Medicine panel establishing recommendations for antioxidants.

The bottom line based on research findings: Americans get enough antioxidants in their diets without supplements. The amounts required – 90 mg of vitamin C for men, 75 mg of vitamin C for women (more for pregnant women); 15 mg of vitamin E for men and women; and 55 micrograms of selenium for adults – are present and plentiful in food, especially vegetables and fruits.

"More does not necessarily mean better, once a normal amount is consumed," Burk says.

Oxidation in cells can be normal, and is necessary. Our bodies use oxygen in many

molecular reactions. Oxygen allows for the burning of fuel for energy.

But, Burk says, "every once in a while an oxidizing molecule slips out of control and can alter other molecules with which it



doesn't normally react. These endogenous oxidant molecules and others from the environment, such as from cigarette smoke, can cause oxidative stress and oxidative injury. This injury is considered by some to be the cause of aging, Burk says.

Antioxidants – vitamins C, E and selenium – "ride the range" inside our bodies like wranglers looking for maverick molecules. Vitamin E scavenges free radicals in the fat in cells. Vitamin C works against

oxidant molecules in the water phase of cells. Selenium is incorporated into antioxidant enzymes and exerts its effects through them.

Again, Burk says, "there's no evidence that very high intakes of antioxidants will do the body any good." "In fact," he says, "now scientists are beginning to wonder if the converse is true because some evidence has been presented that antioxidant supplements may increase the incidence of certain conditions." Are people who take a lot of

antioxidants doing themselves any good? "We have no evidence that they are," he says.

"We all wish we could be smarter, prettier, younger, stronger," Burk says.

But it's unlikely the answers to our wishes come in a bottle. ♡



pain

Undertreated, misunderstood

Pain.

It manifests in so many different ways.

It can be fleeting or it can be your worst nightmare. It can be significantly eased by medication or helped by nothing.

One Vanderbilt faculty member and chronic pain patient describes it like this: “a burning sensation like being held too close to a roaring fire; a swarm of angry yellow jackets stinging profusely and unrelentingly; lightning-sharp goose bumps like cactus spikes.”

Pain, the most common reason people seek medical attention, comes in many forms and for many reasons.

The American Pain Society estimates that 50 million Americans are partially or totally disabled by pain and that 45 percent of all Americans seek care for persistent pain at some point in their lives.

And one thing that most patients and health care professionals agree on is that pain is undertreated. In managing inpatient pain, there's room for improvement.

Vanderbilt University Medical Center is joining other accredited hospitals and health care institutions in a swift response to new pain management standards set by The Joint Commission on

Accreditation of Healthcare Organizations (JCAHO). The new standards indicate that hospitals are failing in managing patients' pain and that pain requires explicit attention. For example, a patient with breast cancer should not only be treated for the actual illness but for any associated pain.

“In my own history of operating on patients for years, I always assumed my patients did fine (were pain free) but I rarely asked,” said Dr. Lonnie S. Burnett, Frances and John C. Burch professor and former chair of Obstetrics and Gynecology and chair of the Vanderbilt Medical Group Care Improvement Committee.

“My assumption was if they were in pain, they would say, but that's absolutely not true. Patients don't always say. Now, every day when I see patients, I ask them specifically if they're having any pain.”

Janice M. Livengood, associate professor of Anesthesiology at VUMC, is a clinical psychologist and serves as director of Psychological Services at the Vanderbilt Pain Control Center. In 1990, after being rear-ended by a large truck with a trailer, she also became an expert on chronic pain – her own.

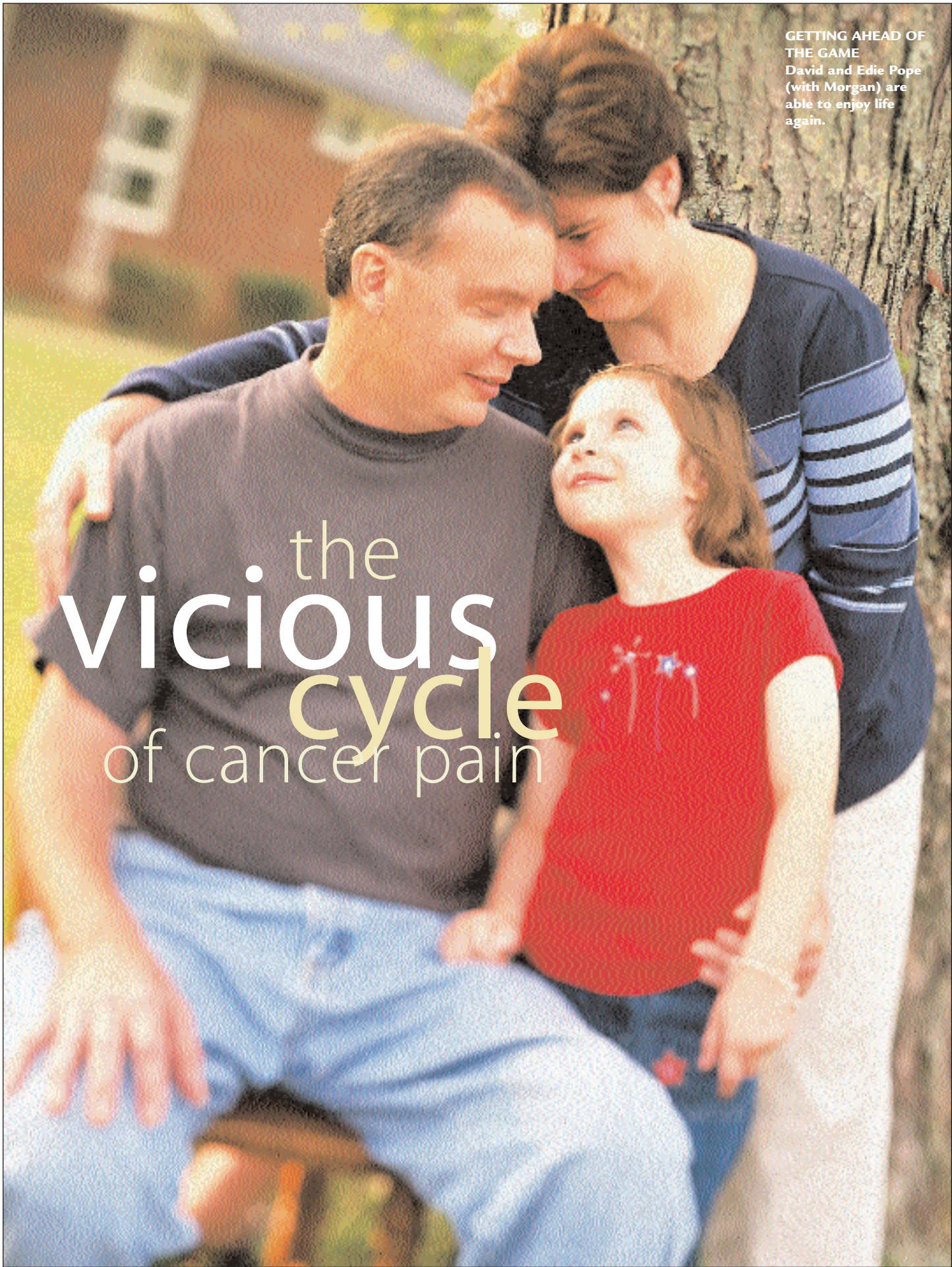
She found herself looking at her arm to make sure she was not experiencing external pressure. She felt as though a blood pressure cuff, pumped as high as it could go, was left on her biceps for several hours, cutting off the circulation and causing indescribable discomfort.

In a journal article published in *The Clinical Journal of Pain* Livengood wrote about her experience with pain.

“I experienced the following symptoms in my left thigh...an intense burning, stinging sensation as though a swarm of angry yellow jackets was stinging profusely and unrelentingly; areas of skin that felt hot and cold simultaneously; and feeling as though soft puffs of cotton containing shards of razor-sharp steel were being rubbed agonizingly slowly over my thigh.”

“As a patient I found myself fearing that no one would believe me if I told them how I actually felt,” she said. “I have never actually disbelieved patients who reported that their pain ‘moved’ or increased after receiving a nerve block, but unfortunately I have doubted them – until I personally experienced these symptoms.” - NANCY HUMPHREY

GETTING AHEAD OF
THE GAME
David and Edie Pope
(with Morgan) are
able to enjoy life
again.



the
vicious
cycle
of cancer pain

David and Edie Pope had been fighting for almost a year – not with each other but together, against the cancer that grew inside David’s chest and threatened his life.

BY CYNTHIA MANLEY

They’d been through chemotherapy. Radiation. Nausea. Hair loss.

The heartbreaking news was that the disease was progressing.

As the lung tumor grew around nerves and blood vessels and bone, the pain grew, too – achy bone pain that never stopped. Burning nerve pain that left his right arm numb. Intense, searing pain that reduced the normally kind man to being rude to strangers, to yelling at his 5-year-old daughter, to breaking down in tears.

The fight was gone. Not that David wanted to die. On the contrary – he dearly loved his wife of eight years and their daughter, Morgan. He wanted to stay with them as long as he could.

But the pain had consumed his life – had consumed their lives – and he just wanted it to stop. It had to stop.

“I was useless,” he said simply. “I was existing. That’s all.”

Then Peggy Krozely, a research nurse at the Vanderbilt-Ingram Cancer Center where David was being treated, suggested they see Dr. John Mulder, recently named clinical director of Vanderbilt-Ingram’s Pain Clinic, a component of the Pain and Symptom Management Program.

Dosages were altered. New medications were added. And for the first time in weeks, David was able to smile, able to enjoy his

daughter’s song-and-dance on the hardwood floors that previously had been intolerable.

For however long God would let him stay, his family had him back.

“I still can’t run and pick Morgan up, but I can fix her bicycle,” David said.

Edie credits the pain clinic team – Mulder, clinical fellow Dr. Jean Lesslie, and nurse coordinator Nancy Yelton – and their philosophy of “getting ahead of the pain” for a quick and incredible change.

“We had just been chasing the pain,” Edie said. “It’s much easier to keep it at bay than stop it once it starts.”

Edie noted that David began his new pain regimen on a Friday evening.

“Keep in mind, he hadn’t driven in a month. It hurt so badly, he wanted to cut his arm off. He said that, and Morgan heard him say that. She was terrified.

“On Saturday morning, he got up, took a shower, drove his stick-shift to breakfast, came home, wiped down the car a bit and fixed the sewing machine.”

The narcotic medication makes David a bit groggy, especially soon after he takes it, but that’s a minor irritant compared to what he’s been through. Dr. Barbara Murphy, a medical oncologist and director of the Pain and Symptom Management Program, says that some patients and families are resistant to adequate pain control with narcotics because of the fear of side effects and

addiction. For Edie and David, though, the fear of losing the fight with cancer outweighed any concern over using narcotics.

“You can get over addiction,” she said. “When you start this cancer fight, you’re told ‘attitude, attitude, attitude.’ Where’s the attitude when you just want the pain to end?”

With start-up funding from Ortho-Biotech, the Pain and Symptom Management Program was launched in 1999 as recognition that cancer patients’ quality of life is equal in importance to their quantity of life.

Over the next two years, the program grew into a multi-disciplinary team of more than 50 people from nursing, oncology, neurosurgery, anesthesiology, psychology, social work, patient and family support and community outreach.

Bolstered by a recent gift from the Ingram Charitable Fund (see page 12), the program will soon expand even further into a center for Palliative and Integrative Medicine addressing physical, mental, emotional and spiritual needs in a coordinated and comprehensive way.

In the pain arena, the program focuses not only on providing state-of-the-art care for cancer patients experiencing tumor- or treatment-related pain, but also on research into mechanisms of pain and new approaches for relieving or preventing it. For instance, Nancy Wells, D.N.Sc., director of Nursing Research, is leading research into how pain

Ingram gift to aid pain program

A \$5 million gift has been made to allow the Vanderbilt-Ingram Cancer Center's program in pain and symptom management to evolve into a center for palliative and integrative medicine to address the physical, psycho-social and spiritual needs of cancer patients and their families in a coordinated and comprehensive way.

The donation from Stephanie and John Ingram, vice chairman of Ingram Industries Inc., brings the total in gifts, pledges and bequests to the Imagine a World Without Cancer Campaign to more than \$104 million.

"A person is not just a tumor to be treated," said Dr. Barbara A. Murphy, assistant professor of Medicine and director of the program since its inception in 1999. "Patients who face cancer have to renegotiate their entire selves, and as a Comprehensive Cancer Center, we are called to do what we can to address the social, psychological, spiritual and physical functioning needs that can make that process more difficult."

The expanded program will be organized into four main areas: pain and symptom control, patient support services, psycho-oncology, and spiritual support, Murphy said. Each of the four will have emphases on research, clinical services and education and training.

"I'm hoping for one of the nation's most comprehensive programs in complementary and integrative medicine," Stephanie Ingram said of her motivation to support the program. "I want to help patients treat not just their bodies, but their minds and spirits as well. And I want to support the research into complementary medicine – not "alternative treatments" – so that this area is truly legitimized."

With the acceptance of evidence-based complementary medicine, Ingram said, barriers to complete healing will be removed, including insurance company denials of coverage and patients' reluctance to share important information with their doctors about herbal supplements or other non-traditional approaches they may be using.

Among features of the expanding program:

- Continued and expanded research into symptom management, such as treatment-induced hot flashes in breast cancer survivors and nutritional deficiencies after treatment for head and neck cancer;
- Continued and expanded investigation into patient support issues, such as patients' and families' "return to normalcy" once treatment is completed;
- Hiring a nurse educator to teach professionals, at Vanderbilt and throughout the community, about symptoms and their control;
- Hiring a clinical psychologist to direct the psycho-oncology program's clinical efforts, and continued research into such issues as cognitive effects of chemotherapy.
- Hiring of a parish nurse and research into spiritual issues related to cancer;
- Increase in availability of evidence-based therapies to complement cancer treatment, including music therapy, exercise therapy, nutrition therapy and counseling, and psychological counseling for patients and families.

In response to the overwhelming response in Nashville and throughout the country, the goal of the Imagine a World Without Cancer Campaign goal has now been formally expanded to \$150 million. For more information, please visit www.vicc.org. - CYNTHIA MANLEY



"I was useless.
I was existing.
That's all."

control can be impacted by patient education and by development of clinical pathways that allow nurses to titrate medication.

The program also focuses on training health professionals, including new physicians and nurses as well as those already in practice, about pain and how to control it. Regular conferences are held to discuss cases. A nurse educator will soon be hired to teach clinicians at Vanderbilt and in the surrounding medical community about symptoms and how to treat them. And a training grant through the Vanderbilt School of Nursing provides for the education of a pre-doctoral student.

For cancer patients, pain can affect everything – body, mind and spirit, Yelton said. "They lose their appetite, they can't think clearly, they can't sleep. It's a vicious cycle."

For the Popes, they are able now to take things as they come. David grew anxious for a recent visit to the clinic to be completed. "It's a sunny day outside, and I have better things to do," David said, smiling. "I think I'm doing very well for the moment." ❧

LIVING WITH PAIN
Ken Bundy has lived
with daily pain for
almost 13 years.

pain
 Undertreated, misunderstood

AIDS patients balance longer lives with pain

BY NANCY HUMPHREY

Longer survival for patients living with the HIV virus has added quantity to the lives of many but the quality of life of many AIDS patients is seriously compromised by pain — pain that is often undertreated in many populations of AIDS patients.

And in many cases, it's pain that is difficult to treat.

Dr. Stephen P. Raffanti, associate professor of Medicine, serves as medical director of Nashville's Comprehensive Care Center, one of the largest freestanding clinics for patients with HIV in the country. The clinic, with a patient base of about 2,000 HIV patients from the Middle Tennessee area, is staffed by Vanderbilt University Medical Center.

Raffanti said that many AIDS patients are living with long-term chronic pain, typically neuropathy complicated by the fact that many HIV medications actually cause neuropathy.

"The epidemiology has changed so dramatically as more and more people are living longer lives with HIV," Raffanti said.

"Up until 1996, the pain issues with our patients were limited by the survival of the patient. Pain was something you dealt with in the final stages. You tried to make your patient as comfortable as possible. Now all bets are off. Beginning in 1996,

with new medications, the survival rate of our patients has improved dramatically."

In fact, prior to 1996, about 100 of Raffanti's patients were receiving home health care in the final stages of their lives. Six months after the introduction of the new medications, the number dropped to five.

Ken Bundy, a patient of Raffanti's since his HIV diagnosis in 1988, has lived with daily pain for most of the 13 years since the HIV virus made its unwelcome entrance into his life. From a fleeting bout of all over muscle aches to the nearly constant peripheral neuropathy pain in his toes and the balls of his feet for the past five years, pain seems to always be around. He takes two different types of pain medications, but only when it becomes more than he can bear.

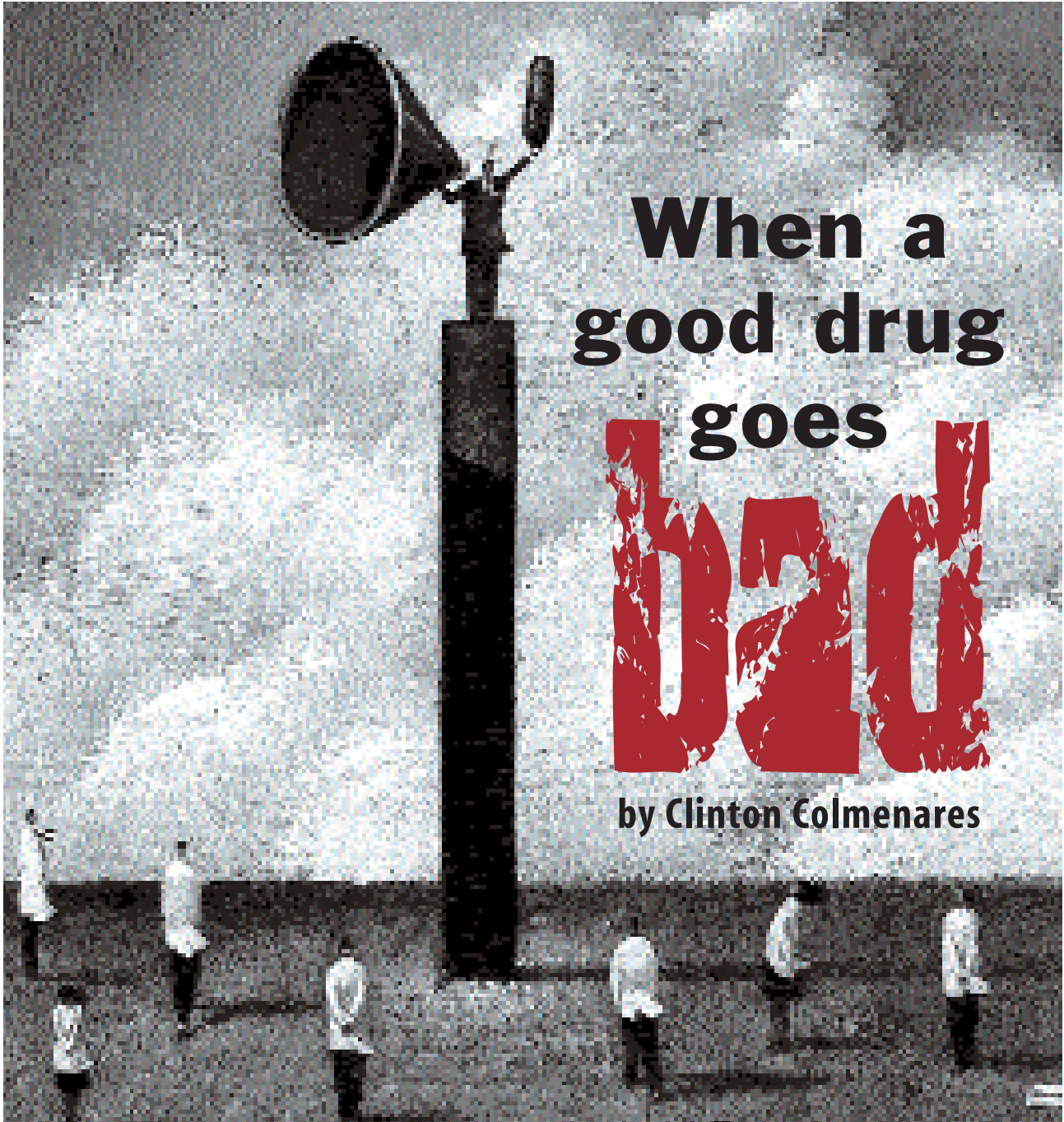
"I try to put up with it. I don't want the medication to make me goofy."

Raffanti said that treating pain in AIDS patients is often a balancing act. "You have to think about interactions. And it's a challenge to get the right dosage." Bundy said that one of his AIDS drugs caused a horrific case of lactic acidosis, all over bone

and body pain. "It was the worst pain of my life. I absolutely couldn't function."

Another problem in treating AIDS pain is that many patients are former substance abusers. Since it's necessary to treat some AIDS pain aggressively with strong narcotics, there's a tendency among some physicians to undertreat these patients.

"We have good guidelines to go by and we keep tight records," he said. "I'd rather err on the abuse side of treating pain, if it's going to make a difference in the patient's pain," Raffanti said. ♡



When a good drug goes

bad

by Clinton Colmenares

It's a drug of irony. OxyContin, an opiate drug that works wonders for pain relief when fairly treated, found itself on the streets, being traded, sold, stolen, and, finally, creating painful situations. It's been crushed to dust and snorted, diluted with water and shot into veins. Once abused it turned, gripping the abusers in a

stranglehold of addiction, snuffing out victims who take too many liberties. Its indiscriminate destruction garnered a warning from the authorities: an FDA "Dear Healthcare Professional" letter is laced with notorious references, "lethal," "abuse and diversion," "death."

Blind to consequences, people are desperate to have it.

“What’s been most impressive is how many people who come into the Emergency Department seeking OxyContin have ‘believable’ stories with ‘appropriate’ documentation, from people from out of town,” said Dr. Corey M. Slovis, professor and chair of Emergency Medicine.

They’ll show up on Friday afternoon, saying they’re in town from L.A. and can’t get in touch with their doctor and their prescription has run out and they have to catch a flight. Even when prescriptions are properly filled, the drug sometimes finds its way to the street – some patients prefer to endure pain while getting top dollar for their pills, reportedly as much as \$1 a milligram.

“We have to be careful and vigilant,” Slovis said. “Nobody gets a prescription without the ED attending physician speaking personally to the patient’s primary care physician.”

“When OxyContin came on line as a long-acting narcotic (in 1996, according to manufacturer Perdue Pharma’s Web site), it was a great prescription for people with chronic pain. It was better than those (previous drugs) with peaks of effectiveness. It’s a long-acting morphine, without a buzz,” said Dr. W. Anderson Spickard Jr., professor of Medicine and Psychiatry and medical director of the Physician Wellness Program, which treats physicians battling chemical substance abuses. The drug is effective in twice-a-day doses, not every few hours like other pain control medication, and it found a place in severe and chronic pain treatment and offered cancer patients some relief.

But in about 1999 someone discovered that when OxyContin is crushed, the time-release mechanism that made it attractive

breaks down, stripping it to a powerful opioid capable of delivering a euphoric high with highly addictive qualities. Like other opioids, it’s different from, say, a cocaine high, said Dr. Donna L. Seger, medical director of the Poison Control Center. “It creates a Nirvana, you just kind of mellow out and nothing really matters.” And when someone ODs, she says, the person’s lungs just stop.

OxyContin’s street effects became apparent just recently, Slovis said. “A year ago we never would have thought about OxyContin for abuse,” he says. “But as its marketing succeeded, so did its word on the street.”

“You dissolve 25 years of good parenting and 2000 years of Christian ethics in two weeks of OxyContin. They get addicted and start stealing and just tear their families apart.”

The abuse and fallout from OxyContin has not reached Nashville with the intensity felt in other parts of the country, especially Appalachian areas, Slovis says.

But Dr. Art Van Zee, a Vanderbilt resident from 1973 until 1975 sees it every day as a family physician at the St. Charles Clinic in St. Charles, Va.

“I’ve been here 25 years,” Van Zee said. “There’s always been a certain degree of drug abuse, people looking for Percocet, Lortabs, Xanax. We always had to be careful,” he said. Maybe he had one patient a year in methadone recovery. Now, it’s a different story.

“I have kids that I gave baby shots to and held in my arms when they were three months old, and took care of their parents and their grandparents. So many of these kids are good kids and from good families. But you dissolve 25 years of good parenting and 2000 years of Christian ethics in two

weeks of OxyContin. They get addicted and start stealing and just tear their families apart.”

Van Zee, who was quoted in a recent *New York Times Magazine* cover story about OxyContin, said Perdue Pharma stepped up its marketing to physicians at a time when the nation was becoming sensitive to the undertreatment of pain. “Perdue saw this increasing concern from all aspects of the medical community about sub-optimal care of pain. They saw it as a business opportunity and enormously marketed OxyContin in ways that no other opioid has been marketed before,” he said.

In the emergency department, physicians struggle with what to prescribe, and how much. “We have to be aware of prescribing enough – not too much, not too little,” Slovis said. “It’s important to titrate medications and

not immediately go to the strongest drug available too quickly.”

A Perdue Pharma Web page was dedicated to public relations pieces spinning good news about the company’s products, before March 2001, when a press release described the manufacturer’s concern about “the diversion and abuse of OxyContin.” After that, listings are of the negative news variety, addressing issues of abuse of the drug.

But the issues of drug abuse and pain control are not limited to OxyContin. “In a vast sea of opiate addictions, OxyContin is just one out of a number of addiction drugs,” said Dr. Paul W. Ragan, associate professor of Psychiatry.

“This is part of a continuing evolution of a drug-seeking culture,” Slovis said. “It’s OxyContin this year, it will be something else next year.”

MAGNETIC ATTRACTION

Vanderbilt
research scratches
the
surface for
answers

Chronic pain not only creates frustration and discomfort, it also generates massive spending – billions annually – on therapies designed, or at least marketed, to halt it.

One type of treatment that has become popular is a magnetic device that straps around knees or aching backs, for example. But their popularity comes despite a lack of scientific evidence supporting their claims.

Like other therapies used before they're fully understood, the devices may polarize consumers, who spend billions on them annually, and physicians, who caution patients against false hope. Researchers of the Vanderbilt Neuromagnetics Group in the Department of Neurology are working on the science of the modality to understand, through conventional scientific data-gathering, its apparent usefulness. And they have lots of evidence from both the clinic and the laboratory.

"Our purpose is to establish a scientific basis for adoption of magnetic therapy into conventional clinical practices," said Dr. Michael J. McLean, associate professor of Neurology and Pharmacology and Director of Neuromagnetics Research.

"The scientific method is the key to establishing whether and how the devices can be made to work for clinical disorders and to designing more effective devices," McLean said. "Qualified medical practitioners will adopt the use of magnetic devices only if there is scientific evidence and positive results from placebo-controlled clinical trials. These are the same types of

evidence we expect before accepting new medications and procedures into widespread clinical practice."

The reputation of magnets suffers from a lack of supporting evidence, especially from the lack of convincing clinical trials, McLean said.

The goals of the Vanderbilt Neuromagnetics Group are threefold: to clearly demonstrate significant biological effects relevant to chronic disorders, such as pain and epilepsy; to determine the characteristics, or components of magnetic fields that interact with the biological system; and, to determine a mechanism or mechanisms of transduction of the magnetic field into biological effects.

"We have evidence in all three categories that lead us to a testable working hypothesis that certain properties of the field produced by magnetic devices change the shape (conformation) and function of proteins such as ion channels and enzymes. Currently we are working toward proof of the molecular mechanism," McLean said.

The group is also involved in clinical trials, including one for pre-marketing approval by the Food and Drug Administration, getting the magnets closer to approval for prescribed therapeutic use.

The Incas and ancient Asian civilizations used magnets medicinally, but the

by Clinton Colmenares

study of pain has only become scientifically based in the past 15 years, McLean said.

Today, the research of the Vanderbilt Neuromagnetics Group is moving forward with several facts under its belt. For starters, neuropathic pain (pain due to nerve injury) and epilepsy share highly excitable neural circuits, including the brain's limbic system. Anti-epileptic drugs are used to treat both disorders because the drugs have molecular mechanisms of action that involve neurochemical and biophysical targets common to both.

"Magnetic fields appear to act on some of the same targets, like a drug at a distance," McLean said.

Neuropathic pain, he said, is an unpleasant perception due to nerve injury that occurs in the absence of a stimulus, such as a broken bone. The result is inappropriate activity of pain pathways in the nervous system. The abnormal activity occurs not only at the wrong time, but stimuli that are not ordinarily painful become painful and persistent. Conduction of the activity to centers in the limbic circuit of the brain links emotion, the so-called suffering component of pain, to behaviors we recognize to be associated with pain. The difficulty in treating a perception rather than a broken bone is that two people respond to the same stimulus in different ways because of their perception of what the stimulus is, McLean says. "When pain reaches a certain intensity and duration, it may be debilitating even though there's no reasonable explanation of the decrease in function."

The magnets influence how those enzymes align along the pathways changing their neural functions and the firing of neurotransmitters sending "pain signals" to the brain. "If you decrease firing along the pathway, the meaning of the pain is less, and patients become functional again."

In studies at Vanderbilt, four magnets of alternating polarity in a square array cre-

ate an especially effective static magnetic field. This array was discovered and patented by Dr. Robert H. Holcomb, assistant professor of Neurology. The devices are about as big as a silver dollar and can be taped conveniently to the pertinent areas of patients with pain.

Clinical studies are mostly uncontrolled, but some placebo-controlled studies have been completed or are in progress. For different types of pain, between 30 percent and 90 percent of patients achieve significant benefit, "enough to make patients want to continue using the devices," McLean said.

Pharmaceutical therapies for neuropathic pain generally are no more effective and some classes of drugs can cause serious side effects, such as gastritis and bleeding ulcers. Also, drugs are costly – hundreds of

dollars per year with treatment extended over years – compared to a one-time cost for a medical evaluation and the purchase of devices at about \$500, McLean estimates. Using medications and magnetic devices together can be particularly effective in some cases.

Holcomb and McLean said the magnetic devices often relieve or eliminate chronic pain without affecting normal protective pain mechanisms, such as pain sensation from burns or trauma. They hope to explain this through their research. Even so, they stress that the devices are far from being a panacea. Despite the encouraging signs of success, the Vanderbilt group continues to look below the surface, continually gathering data to explain how magnetic fields might work and how to use them better. ▼

Qualified medical practitioners will adopt the use of magnetic devices only if there is scientific evidence and positive results from placebo-controlled clinical trials.



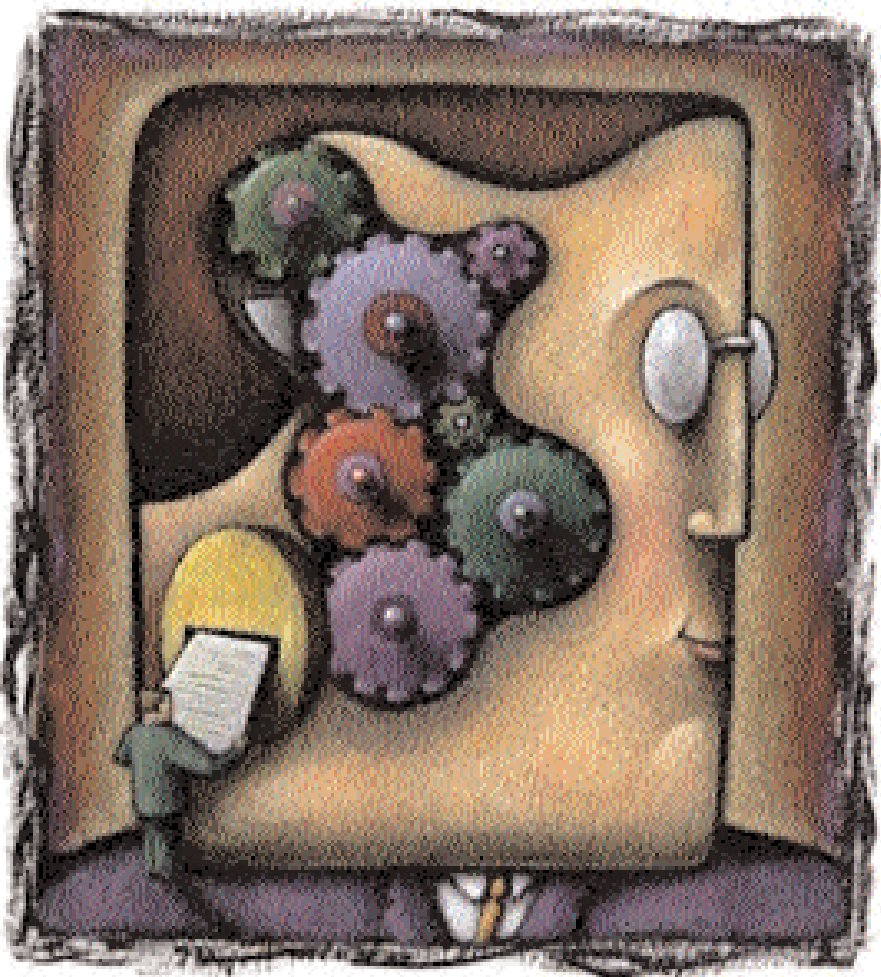
DANA JOHNSON

an overloaded system

We've all heard how endorphins – the body's equivalent of morphine – can push an athlete through a wall of pain and on toward seemingly superhuman achievement. This naturally occurring opioid substance – and others similar to it – helps each of us get through more mundane episodes of pain, toothache, sprained ankle, and childbirth, to name a few.

But these chemicals are not always evenhanded in how they perform.

by MARY BETH GARDINER



In sufferers of chronic pain, the body's pain control system appears to malfunction, with demoralizing physical and psychological consequences.

"Clinically, the problem is that we don't know yet why patients with chronic pain develop endogenous opioid system dysfunctions," said Stephen P. Bruehl, Ph.D., assistant professor of Anesthesiology and principal investigator of a four-year NIH-funded study on the subject.

"One possibility," he said, "is that there is some susceptibility even before they develop chronic pain, something inherent about the way their pain control system works that makes them more vulnerable.

"It could also be that under the right circumstances – for example, during healing after an injury and acute pain due to tissue injury – some people's natural pain control system gets overloaded. The situation goes on long enough that the system starts to fail somewhat and greater pain is felt, which then stresses the body even more. A vicious cycle starts where the system is not able to actively

keep up with what's happening in the body.”

Whether the dysfunction exists before pain occurs or is a result of pain overload is one of the areas of focus of Bruehl's study, which compares people having chronic lower back pain with people who are healthy and pain-free. The research is based on the observation that the average healthy person has an inverse relationship between resting blood pressure level and sensitivity to pain. People with higher blood pressure tend to be less pain-sensitive.

In animals, there is evidence that this relationship between pain and blood pressure happens, in part, because of endorphins. To date, little work has been done to determine if endorphins are involved in the same phenomenon in humans. The work that has been done, however, suggests at least partial opioid mediation.

Defining the differences

Those enrolled in the study undergo controlled stimuli causing temporary pain; for example, applied pressure on a finger or an inflated blood pressure cuff left on for up to five minutes. Enrollees rate the pain twice, once after they've gotten a placebo – salt water – and a second time after they've taken a drug called naloxone, which temporarily locks the body's opioid receptors. Any endorphins circulating in the body would be ineffective for the short term.

Bruehl expects that healthy people getting the placebo will show the predicted relationship between cardiological function and pain; that is, higher blood pressure and lower pain sensitivity. After administration of naloxone, that relationship should disappear if opioids are participating in the effect. In people with chronic pain, it is predicted that no significant relationship between blood pressure and pain will be seen after the placebo, and that naloxone will cause no change at all.

Ethnic differences of pain

Dr. Stephen Bruehl's four-year NIH-funded study has not yet met its goal of enrolling 120 chronic back pain patients and 60 healthy controls, but the data already generated have revealed some interesting ethnic differences.

It appears that the degree to which healthy controls rely on endogenous opioids for pain control differs between African Americans and Caucasians. There is some indication in existing literature that African Americans are more sensitive to pain when presented with exactly the same stimuli in lab studies, and that they tend to report more severe pain in clinical settings. Bruehl is currently preparing a spin-off grant proposal to explore the possibility of differences in endogenous opioid systems between the two populations.

Bruehl and his collaborators continue to seek out participants for the current study. There is one caveat to signing up, however. Anyone taking narcotics on a daily basis could not be included in the study since the drug would mask deficits in the body's natural pain system. For more information, call (615) 936-2499.

If the findings support his hypothesis, Bruehl said, it could be that the chronic pain patients are not relying on endogenous opioids for pain control in the same way that those who are pain-free do. The study results could be applied only to the blood pressure/pain relationship, or could be interpreted in the context of whether the naturally occurring pain-killing systems that use opioids are working properly.

If more were known about the mechanisms underlying chronic pain, treatment could more effectively address the problem.

Resetting the system

If more were known about the mechanisms underlying chronic pain, treatment could more effectively address the problem. Currently, opinion among caregivers is divided over the use of opioid medications in pain relief. Some believe that long-term therapy with opioid analgesics such as

morphine creates problems because the body can adapt, developing drug-tolerance.

Bruehl speculates that endogenous opioid dysfunction might occur only in a subset of chronic pain patients, and that it is in these patients that pharmacological opioids might prove effective, since they would be replacing natural pain-killers that were missing.

“In terms of treatment, the most important issue for me,” he said, “is to find a way to reset the endogenous opioid system to allow it to function more effectively.” From his point of view as a psychologist, Bruehl considers evidence in the literature that some non-pharmacological treatments, such as relaxation therapy and aerobic conditioning, may exert their effects through activation of endogenous opioids. If so, such behavioral modifications could help correct the dysregulated pain control systems found in these patients.

“Any treatment that improves opioid system functioning should contribute to a restoration of normal cardiovascular/pain regulatory relationships,” Bruehl said, “potentially leading to improved ability to manage both chronic and acute pain.”

Slicing through chronic pain with molecular tools

Dr. Ronald G. Wiley is trying to develop a new kind of scalpel—one so sharp and exact that it will cut only a single nerve cell fiber in the midst of many. The new tool doesn't involve metal blades or precision lasers; in fact, it isn't really a scalpel at all. Instead, it consists of molecules, targeted toxins that seek out and destroy only select classes of nerve cells.

by Leigh MacMillan

Wiley and colleagues hope that such toxins — directed against pain-signaling neurons — will someday be available as a treatment for chronic pain. And although killing neurons that carry chronic pain signals to the brain may seem drastic, the strategy could offer hope to the millions of pain-suffering Americans who have no other options.

“We have a terrible time treating patients with chronic pain,” said Wiley, professor of Neurology and Pharmacology and chief of Neurology at the Nashville Veterans Affairs Medical Center. “It can be nearly impossible to provide relief without side effects that sacrifice quality of life.”

In search of new options

Chronic pain is perhaps the most costly public health problem in America, according

to the National Institute of Neurological Disorders and Stroke. And it will only get worse as the Baby Boomers age, Wiley said.

Chronic pain can result from an initial insult like a sprained back or a serious infection, or there may be an ongoing cause like cancer or arthritis. Some of the most difficult to treat chronic pain, Wiley said, is neuropathic pain — pain resulting from injury to the nervous system.

The strongest narcotic pain medications usually offer only minimal relief, and they come with a grab bag of side effects, including sedation, nausea, anorexia and poor concentration. “The side effects that patients with short term, acute pain can tolerate become enormous problems when we try to treat chronic pain,” Wiley said. “We need better alternatives.”

In the worst pain cases — when other treatments fail — physicians may turn to

surgery. The idea is simple: cut the nerve endings and relieve the pain. But pain neurons are mixed in with neurons responsible for all other sensations and for movement, making it next to impossible for even the most skilled neurosurgeon to cut only the pain neurons.

This is where Wiley's neurotoxins come in. If the toxins kill only the neurons involved in chronic pain signaling and leave the rest of the surrounding neural network intact, Wiley and others theorize that they should offer pain relief without side effects. Studies in rats have supported this idea, launching efforts to move the toxins toward clinical trials.

Neurons fall like Troy

To kill pain neurons, Wiley and colleagues borrow a strategy from the ancient Greeks. They conceal a toxin with

normal neurotransmitter molecules, allowing it to enter nerve cells undetected.

This Trojan horse approach relies on a pain transmitter called substance P. Nerve fibers bringing pain messages from the periphery release substance P in the spinal cord, where it interacts with receptors studding the surface of a set of spinal cord neurons. These neurons receive the pain message and deliver it to the brain, and in doing so, they take substance P inside the cell. By linking the deadly toxin saporin to substance P, Wiley and Douglas A. Lappi, Ph.D., of Advanced Targeting Systems in San Diego, tricked this select group of pain neurons into opening the door to their own demise.

Substance P-saporin is remarkably effective, Wiley said. When it is injected into the spinal cord of rats, the toxin kills pain-signaling neurons and alters pain responsiveness. Toxin-treated rats respond normally to the mild pain of a heated surface. But they do not respond at all to tests of increased pain sensitivity, a phenomenon called hyperalgesia.

Hyperalgesia, Wiley said, is a significant aspect of chronic pain. "It's the idea that pain begets pain. If you have a chronic source of pain, it tends to upregulate pain sensitivity, making stimuli that previously were only mildly or not at all uncomfortable now excruciatingly painful." In patients with neuropathic pain for example, a light touch can be extremely painful, he said.

Insight into pain


The rat studies are supportive of the notion that substance P-saporin destroys neuronal pathways that transmit chronic pain messages, while leaving normal sensation intact. Could it be a useful treatment for patients? Wiley and others believe so.

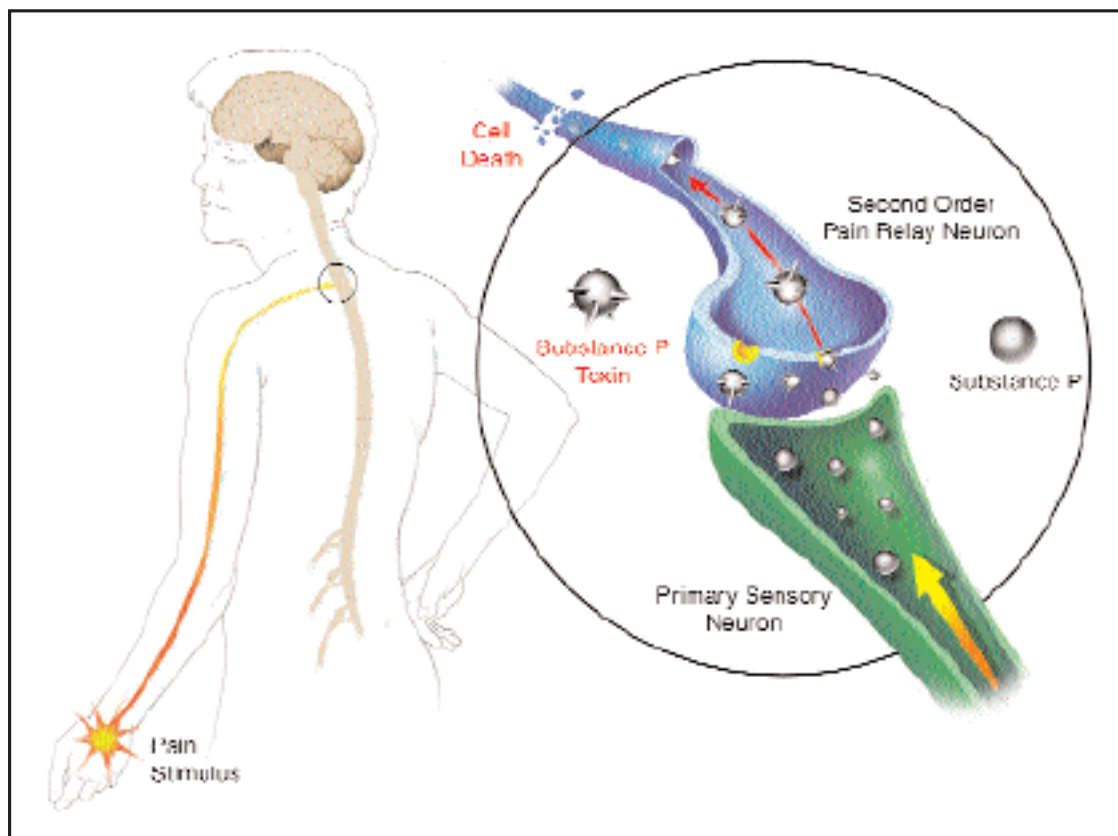
To move forward, Advanced Targeting Systems, in which Wiley has a financial interest, is pursuing toxicology testing of substance P-saporin. Wiley and collaborator Charles J. Vierck, Ph.D., at the University of Florida, will test the toxin in primates. Both efforts will inform decisions on clinical trials, which could begin in as little as five years, Wiley said.

No matter the outcome of these studies, substance P-saporin has already provided a valuable tool for investigating pain pathways, Wiley said. And his group is now working with saporin linked to other

pain transmitters. They recently developed dermorphin-saporin to kill neurons with the mu opiate receptor, the site of action for the widely used painkiller morphine. Dermorphin-saporin offers opportunities to study how morphine works to relieve pain and may itself become a treatment option for severe and chronic pain.

Wiley is excited about where things are headed.

"These toxins have novel, previously never available, therapeutic potential," he said, "and as tools, they are a big step forward in our ability to study the neurobiology of pain. In the next few years, they will extend our understanding of how the pain system works." 



DOMINIC DOYLE



**UNIDENTIFIED
PATHOLOGY**
Cassie Poteete suffers
from RAP, the most
common recurrent
pain in children.

Cassie Poteete is a seventh grader at Neely's Bend Middle School in Nashville who enjoys cooking shows, school and playing on the seventh grade volleyball team.

But the past four years have been a rough road for the petite blonde. Her school days have not all been so happy. Since third grade Poteete has suffered from recurrent abdominal pain, a painful ailment that affects 10 percent to 15 percent of children and adolescents. First described in 1950, RAP is the most common recurrent pain in children, most common in eight to 12-year-old children. RAP is diagnosed by three or more episodes of abdominal pain, usually without an organic cause, occurring over a period of three months or longer. The pain is severe enough to interfere with a child's normal activity. In fact, most of the RAP patients seen at Vanderbilt University Medical Center have had episodes of serious abdominal pain for more than a year, affecting school attendance and school performance.

"What we have is a functional symptom, a real symptom, without an identifiable, underlying organic disease," said Lynn S. Walker, Ph.D., professor of Pediatrics. It is believed that both physical and psychosocial causes contribute to functional symptoms such as recurrent abdominal pain.

"It's like a charley horse or a headache. It hurts. It's real. But there's no disease we can identify," Walker said. "But pain is caused by multiple factors and the absence of disease does not mean you can't have pain."

"Cassie's stomach started hurting in the third grade," said her mother, Laura. "It happened daily and it hurt all day long. She missed three weeks of school and we

real pain

without an obvious cause

BY NANCY HUMPHREY

took her to her doctor three times. Finally, during the third week her doctor sent us to Vanderbilt.”

Since then, the abdominal pain has recurred several times, sometimes worse than others. She is continuing visits to Vanderbilt to meet with Walker but is doing much better, her mother said.

RAP is a large umbrella that covers several functional conditions that involve abdominal pain – irritable bowel syndrome, functional dyspepsia, functional constipation, and functional abdominal pain, Walker said.

“For a long time, after we had determined that RAP wasn’t usually associated with organic disease, it was thought to be caused by psychological factors alone, but there’s an increasingly better understanding now that multiple factors – biological, psychological, and social – contribute to functional pain and pain in general.”

Walker and her group have been studying children with RAP since the early 1980s. They have followed two groups of children for five years and have learned that about a third of the children go on to have abdominal pain well into adolescence and young adulthood. And still no organic cause for the pain has been found.

“It’s a significant problem for some children,” Walker said. “There are numerous doctor’s visits, many of them to rule out disease, as well as numerous school absences and work absences by parents.

A recent study by Walker and collaborators from the Department of Psychology

and Human Development at Vanderbilt University looks at the relationship between symptoms and stressors. They found that the relationship was significantly stronger for children with RAP than it was for a group of well children who were also studied.

“Both groups have experienced stress at school and both groups of children report emotional symptoms when they are stressed, but RAP patients also experience abdominal pain and other physical symptoms when they are stressed.”

Walker’s research has also found that children with RAP have families with significantly more health problems than other families, leading investigators to believe that one contributing factor may be more attention and concern is paid to the abdominal pain when it is in a family with more health problems. Focusing children’s attention on their pain may make it more difficult for them to cope with the pain.

Walker said that RAP is as difficult for the parents as it is for the child who is experiencing the abdominal pain.

“It’s really difficult to have a diagnosis that’s so ambiguous in terms of its cause,” she said. “If parents are just told, there’s no disease; this is normal; it can be frustrating. What’s more helpful is to help parents understand that functional pain is real and there are strategies that parents and children can use to cope with the pain and limit its interference with their daily lives.”

RAP is a large umbrella that covers several functional conditions – functional constipation, irritable bowel syndrome, functional dyspepsia, and functional abdominal pain

Imaging pain in the brain

The use of functional magnetic resonance imaging to show pain is an area being studied at Vanderbilt University Medical Center and other institutions.

Dr. Howard R. Mertz, associate professor of Medicine, has studied fMRI as a useful technique to measure central nervous system blood flow changes in patients with irritable bowel syndrome, a disorder of abdominal pain or discomfort associated with bowel dysfunction. There is no underlying organic disease associated with IBS.

IBS affects about 12 percent of Americans and two to three times more women than men. Patients with IBS seem to have a low pain threshold and are more sensitive to pain. The exact etiology of irritable bowel syndrome is unknown, but stress, depression, hypersensitivity to certain hormones, and pressure from gas, diet, and medications may be contributing factors.

Mertz said that prior to his study, positron emission tomography (PET) imaging suggested specific central nervous system abnormalities in visceral pain processing in IBS patients. Previous PET scans have showed that the anterior cingulate cortex (ACC), prefrontal insular cortex and thalamus, all important components of the brain’s pain processing system, are important in pain perception. Studies of visceral pain have suggested that these same brain centers are important to sensation. So the fMRI study was launched to see if fMRI detected CNS activity. It did.

In IBS patients, pain led to a greater activation of the ACC than did non-painful stimuli. So the study concluded that IBS patients activate the ACC to a greater extent than controls in response to painful rectal stimulus. The information gained from the study will help in determining the proper medication to give IBS patients and is also another step in using fMRI to image pain, Mertz said.

restoring rhythms

BY NANCY HUMPHREY

The most common cause of death in the western world is cardiovascular death. And arrhythmias cause most of those cardiovascular deaths.

Until now, the standard of care has been treating a type of these potentially lethal arrhythmias – ventricular tachycardias – with internal defibrillators (cardioversion) that provide an immediate high-energy shock. It gets the job done but is extremely painful for the recipient.

As a means of avoiding cardioversion, investigators at Vanderbilt University Medical Center tested the efficacy of using anti-tachycardia pacing for spontaneous rapid ventricular tachycardia in patients with coronary artery disease. The deadly arrhythmias may cause the heart to become unable to pump adequate blood through the body and may result in a heart rate of 160 to 240 beats per minute.

The multi-center study was led by Dr. Mark S. Wathen, assistant professor of Medicine and director of the Electrophysiology Lab at Vanderbilt, and funded by Medtronic.

“People who have these arrhythmias have them suddenly and without explanation,” Wathen said. “Sometimes the patient knows when they’re happening but often they’re asymptomatic.”

The Vanderbilt study does not address the asymptomatic group, but instead the group of patients who often become short of breath, extremely fatigued and suffer from excessive sweating and chest pains.

The trial was designed to see if the fast

rhythms could be successfully pace-terminated instead of shocked. Previous data showed the faster the rhythm the more difficult it is to pace the rhythm back. In fact, most data showed that pace terminating in this group of patients was effective 35 percent to 40 percent of the time.

But Wathen saw something in the data that most didn’t and proceeded with the Vanderbilt study. He found that pace terminating in patients whose heartbeats ranged between 188 and 250 beats per minute was effective 89 percent of the time.

“A couple of things were critical to that success,” Wathen said. “These were only coronary artery disease patients. We knew



the mechanism of their arrhythmias. It was a re-entrance circuit and the pacing recipe I had devised was specifically dedicated to that mechanism of rhythm. This constitutes 80 percent of most arrhythmia patients anyway. We don’t know about the non-coronary artery disease patient, but it will probably translate to all patients. We’re studying that right now.”

A center for pain

The Vanderbilt Pain Control Center, a multi-disciplinary pain center, directed by Dr. Benjamin W. Johnson Jr., associate professor of Anesthesiology, is involved in many aspects of pain research from testing new pain medications to evaluating new technologies for the treatment of pain patients.

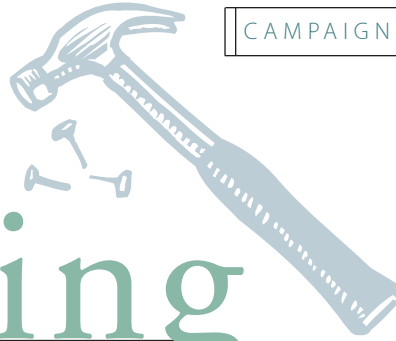
Johnson said that the Vanderbilt center is involved in studying all different types of pain, from neuropathic pain that begins deep within the nervous tissue, such as post-stroke pain, which sometimes occurs in just half of a patient’s body, to fibromyalgia, which can cause a total body pain.

But despite all of medicine’s advanced technology, pain is still measured by simply asking patients to rate it on a scale from one to 10.

“We hope one day to be able to look at a scan of a patient’s brain and see if they have pain or not and if so, what type of pain. That will be a truly objective measurement of pain, but for now, the best we can do is a rating between one and 10, one being no pain, 10 being excruciating pain.

“It’s amazing this is all we have. It’s actually very humbling.”

building & growing



SCHOOL OF MEDICINE



VANDERBILT UNIVERSITY

School of Medicine Campaign

The Vanderbilt University School of Medicine's Campaign for Scholarship Endowment was officially launched on Sept. 20. Led by Dr. Robert D. Collins, MD '51, Dr. Judson G. Randolph, MD '53, and Robert E. McNeilly, CRS president, the goal is to establish a \$50 million dollar endowment to provide tuition relief for all students at the Vanderbilt University School of Medicine. For more information on this effort, see page 30.

Cancer campaign exceeds initial \$100 million goal

The "Imagine a World Without Cancer" Campaign has surpassed its initial \$100 million goal, and the bar has now been raised higher with a \$150 million objective that will fully fund the Vanderbilt-Ingram Cancer Center's 10-year strategic plan.

The campaign was launched in 1999 with a lead pledge from the Ingram Charitable Fund for \$56 million, which supported the plan's first phase. The total of gifts, pledges and bequests to date brings the total to more than \$103 million.

"This is not your typical bricks-and-mortar campaign but rather one that is all about the people and the programs needed to find the cures for cancer," said Ingram, who serves as chairman of the campaign as well as Vanderbilt-Ingram's Board of Overseers. "Dr. Hal Moses' plan focuses resources into the most promising areas of cancer research. From the beginning, we knew we ultimately wanted to fund this plan in its entirety. It is clear now that the entire investment needed is within our reach."



Dr. Hal Moses and Susan Holt, director of development at Vanderbilt-Ingram, greet Frances Preston in the lobby of the cancer center's Frances Williams Preston Building.

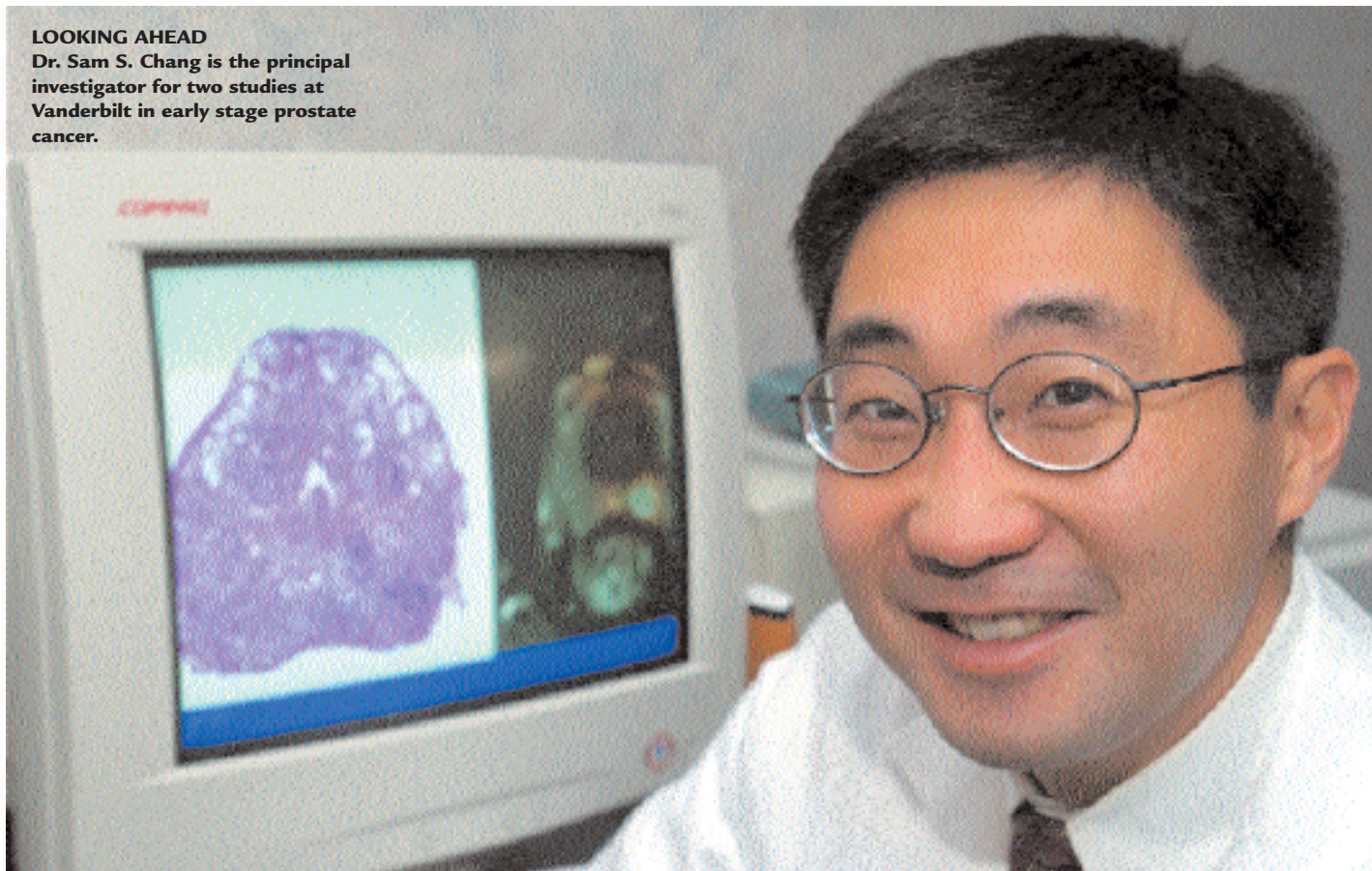
DANA JOHNSON

good news that's getting better

DANA JOHNSON
VANDERBILT

LOOKING AHEAD

Dr. Sam S. Chang is the principal investigator for two studies at Vanderbilt in early stage prostate cancer.



When it comes to prostate cancer, there's good news and there's even better news.

The good news is that incidence of the disease has leveled off at about 185,000 news cases per year, after rising dramatically in the late '80s and early '90s with the advent of the PSA (prostate-specific antigen) test.

Better news is that virtually all men who are diagnosed early can be cured, and that over the past 20 years, the survival rate for all stages of the disease has increased.

BY CYNTHIA MANLEY

Investigators at the Vanderbilt-Ingram Cancer Center and elsewhere are working toward even better news in the future. Among areas of focus: the quest for new imaging scans that could possibly replace surgical biopsy for diagnosis and use of “chemoprevention” agents to delay the disease, slow its growth or prevent it altogether.

“In the radiographic field, nothing has yet replaced surgical biopsy for diagnosis, but there are studies going on to try to develop a more specific imaging technique,” said Dr. Sam S. Chang, assistant professor of Urologic Surgery.

Chang, a 1992 graduate of Vanderbilt University School of Medicine, joined the Vanderbilt faculty last year after surgical and urology residencies at Vanderbilt and a urologic oncology fellowship at Memorial-Sloan Kettering Cancer Center. He is principal investigator for two studies at Vanderbilt in early stage prostate cancer.

The first involves an experimental three-dimensional imaging technique, combining the Hawkeye imaging system with a nuclear medicine scan called Prostatecint (Cytogen Incorporated, Princeton, N.J.). This scan uses an antibody called prostate-specific membrane (PSMA). The clinical trial, which has been recently approved by the Institutional Review Board, will test how well tumors can be mapped out using this technique in patients slated to undergo surgical removal of the prostate, as well as in those patients with metastatic disease.

“We’ll be comparing our pathological whole-mount specimens – about 20 slides showing the pathology of the entire prostate – to map out the total tumor volume and compare that to what was detected using the Prostatecint scan,” said Chang.

CaPCURE, the private research support organization, has awarded Chang one of its Young Investigator Awards. It will be used to fund another study examining

This work is in the early stages, but we’re hopeful that, if this drug has an effect, we can give it to someone considered at high risk for prostate cancer and either prevent it or at least delay its onset.

rosiglitazone. The drug, which is FDA-approved for use in diabetes, has been shown in cell lines and animal studies to slow the growth of prostate cancer.

“We’ll be looking at gene expression differences in the tumor before we give the drug and then after several weeks of the drug,” Chang said. “We’ll also be looking at PSA levels and aggressiveness of the tumor. This work is in the early stages, but we’re hopeful that, if this drug has an effect, we can give it to someone considered at high risk for prostate cancer and either prevent it or at least delay its onset.”

Chang’s colleagues, Dr. Joseph A. Smith Jr. and Dr. Michael Cookson, are lead investigators in two large prostate cancer chemoprevention trials, one testing the drug finasteride and the other, called SELECT, a recently launched trial testing the nutrients vitamin E and selenium.

The finasteride study, called the Prostate Cancer Prevention Trial and led by the NIH, began in 1993 and enrolled over 18,000 men before accrual was closed. Recently, the trial was extended so that men who, after the initial seven-year follow-up, have a negative biopsy can continue to receive the drug they had been receiving, whether placebo or finasteride. It will be another several years before investigators know which patients received which drug and the data analysis between the two groups begins.


SELECT, a 12-year initiative, aims to enroll more than 32,000 men within the first five years of the study. Men may be

eligible if they are at least 55 years old (50 for African American men), have never had prostate cancer or any other cancer except non-melanoma skin cancer, and are in generally good health.

Also still in development are screening guidelines. The American Urologic Association and the American Radiologic Association both recommend universal screening with PSA testing and digital rectal examination beginning at age 50 (or age 40 for African American men or men with a brother or father who has had prostate cancer). The American Cancer Society does not yet endorse universal screening but believes it should be individualized for each patient, Chang said.

A total PSA over 4 is a flag for a biopsy, which has also improved over the years in detection rates as more samples are taken in areas most likely to harbor cancer. Some physicians, including those at Vanderbilt, also consider other PSA measurements in addition to total PSA. These include levels of “free PSA,” the proportion of antigen that is not bound to a particular protein; age-specific PSA; PSA velocity; and PSA density.

“The recommendation is to consider biopsy at a PSA level of 4 or higher, but about 15 percent of prostate cancers occur in cases of a PSA of 2.5 to 4,” Chang said, noting this is particularly true for younger men.

“The most recent recommendation that is being considered is lowering the PSA threshold to 2.5 instead of 4. It’s still controversial, but it’s being discussed.” 



Stem cell research gets a boost at VUMC

A new program at Vanderbilt will draw on diverse strengths across campus to stimulate growth in one of the hottest areas of science – stem cell research.

Research using human embryonic stem cells – those isolated from human embryos before they have implanted in the uterus – has fueled national debate on whether federal funding should support such studies.

“The time is obviously ripe for all groups interested in stem cell research and organogenesis (the development of organs) to combine talents and resources to move Vanderbilt to the forefront,” said Brigid L.M. Hogan, Ph.D., Hortense B. Ingram Professor of Molecular Oncology and director of the recently launched Stem Cell and Organogenesis Program.

“There is quite a lot of stem cell-related research going on at Vanderbilt, and we believe that by bringing together disparate groups we can build a program that will be more than the sum of its parts.”

“I am personally thrilled that Brigid has agreed to lead this exciting research program,” said Lee E. Limbird, Ph.D., associate vice chancellor for Research. “Brigid has established herself as a world leader in developmental biology and as a thought leader in the implications of stem cell biology. Society will be well served by her undertaking this important initiative”

The Stem Cell and Organogenesis Program is open to investigators interested in any type of stem cells or the processes of tissue and organ formation. “There are dozens of possible research topics of interest to program participants,” said Hogan, also an investigator of the Howard Hughes Medical Institute. “The tent is very wide for this program – it will include researchers studying stem cells in any system, any organism, any tissue.” Hogan hopes that the program will spark new research initiatives by bringing together diverse research groups – investigators interested for example in basic cell biology, development, genetics, organ and tissue transplantation, and bioengineering. - CLINTON COLMENARES

Research focuses on newborn pulmonary hypertension

Complications during birth can send an infant into respiratory distress, which can become a severe condition called persistent pulmonary hypertension of the newborn (PPHN). The condition is common, affecting about one in 500 newborns, said Dr. Marshall L. Summar, associate professor of Pediatrics in the division of Medical Genetics and Molecular Physiology & Biophysics.

Summar, Dr. DeLinda Pearson, a fellow in Neonatology, and colleagues have now discovered a link between the ability to generate the compound nitric oxide and development of PPHN. Their findings, reported June 14 in the *New England Journal of Medicine*, suggest strategies to prevent the life-threatening pulmonary hypertension in at-risk newborns.

At the center of the story is nitric oxide. In the body, nitric oxide is synthesized from the amino acid arginine. Summar theorized that low supplies of arginine and its precursor citrulline would result in low supplies of nitric oxide, and that these conditions might predispose an infant to PPHN.

Summar has focused 12 years of research on the urea cycle, a metabolic pathway that rids the body of waste nitrogen. Arginine is an intermediate product of the urea cycle, and Summar and colleagues had identified genetic variants in the urea cycle enzyme carbamyl phosphate synthetase I (CPSI) that reduce the amount of arginine produced. PPHN, he thought, represented a condition where the genetic changes might make a difference.

Summar and Pearson collaborated with Dr. William F. Walsh, professor of Pediatrics and director of Nurseries, Dr. Brian W. Christman, associate professor of Medicine, and Sheila Dawling, Ph.D., associate professor of Pathology, to test this idea. They enrolled 65 near-term newborns with respiratory distress in the study, which assessed blood amino acid and nitric oxide metabolite levels and determined the genetic form of CPSI. Of the 65 infants, all patients in the Neonatal Intensive Care Unit at Vanderbilt Children’s



Dr. Marshall Summar

Hospital, 34 developed PPHN and the remaining 31 served as controls.

The investigators found that infants suffering from PPHN had lower levels of citrulline, arginine and nitric oxide metabolites compared to infants with respiratory distress who did not develop PPHN. Genetic variants of the CPSI enzyme differed in the entire group of infants, relative to the general population and specifically for patients who developed PPHN.

“The ability to generate nitric oxide seems to be dependent on what capacity these infants have in their urea cycle, which in turn depends on a genetic change that affects the function of the cycle,” Summar said. “It’s a change that isn’t going to cause a problem during everyday wear-and-tear. But under the severe stress conditions of the newborn period, these infants can’t process enough material through the urea cycle, can’t make as much nitric oxide as they need, and go on to develop pulmonary hypertension.”

There is likely a threshold level of nitric oxide required to make the transition from fetal circulation to normal circulation, Summar said, and infants who develop PPHN don’t make that threshold. “It’s probably due to several factors, one of which is the urea cycle not working quite right.” - LEIGH MACMILLAN

President's Corner

ANNE RAYNER



As my term begins to wind down I am particularly aware of three developments involving the Canby Robinson Society and Vanderbilt University Medical Center.

First, it is with keen anticipation that I look forward to the leadership of Dr. Bill Stoney who will become our next president in January.

Second, I am full of

appreciation for the active, dedicated board members who have served with me in furthering the mission of the Canby Robinson Society.

Third, this year and last, it has been my pleasure to receive heart-warming letters from the young men and women who have been selected for Canby Robinson Society scholarships. These are uniformly top-notch individuals who typically are very high academic achievers and who have also participated in original research or some vital and unusual social assistance program. I am continually amazed at how much they have experienced already in their young lives. They express how honored they are to come to

Vanderbilt, how committed they are to completing the hard work that lies ahead of them, and, for some, how the scholarship has enabled them to act on their dream of becoming a physician.

What a marvelous combination at VUSM – a marvelous combination of top-flight medical education, extraordinary young doctors-in-training, and the leadership of our new Dean Steve Gabbe. I have been truly privileged to be a part of such a wonderful group. **CRS**

Robert E. McNeilly Jr.
President,
Canby Robinson Society

Coltons honor late son-in-law with Cancer Center gift

The Vanderbilt-Ingram Cancer Center (VICC) has received a \$50,000 gift for its Pain and Symptom Management Program.

Jesse and Patricia Colton and their daughter Elizabeth are giving the donation in memory of Elizabeth's husband Brian Walls, who died of cancer on July 3 in New York City. He was 46.

Walls was diagnosed with a cancer of unknown origin and was treated at Memorial Sloan Kettering Cancer Center, where, according to his family, he received excellent care for what proved to be an extremely painful type of cancer.

"Brian experienced incredible pain for six months, and the pain management center at Sloan Kettering was very helpful," Patricia said. "They answered his calls immediately and checked on him every day to see how he was doing."

After Brian died, the family knew it wanted to make a donation in his memory

and felt strongly about donating to Vanderbilt because of their strong ties to the school and to Nashville. The Coltons, Canby Robinson Society members who reside in Nashville, and Elizabeth, who still lives in New York City, are all graduates of Vanderbilt University. Colton is also a graduate of Vanderbilt Law School.

"Brian loved Nashville and always enjoyed visiting there," Elizabeth said. "When we decided to set up a memorial for him, I was taken on a tour of the cancer center. I was told they were raising money for the pain center, and that clicked with me."

"I think physicians are realizing how important pain management is, particularly for cancer patients because their fight to conquer pain often leaves them so weak."

The gift will be used to establish the Brian Scott Walls Cancer Research Fund.

In recognition of the generous gift, a conference room in the Vanderbilt-Ingram Cancer Center's Preston Building will be named in honor of Walls. **CRS**



DANA JOHNSON

Jesse and Patricia Colton

Christie scholars gain hands-on pediatric experience

Medical students eager to transfer their knowledge from the classroom to the examining room had an opportunity to do so as participants in the Amos Christie summer program.

Nine second- and third-year students received scholarships provided by the Dr. Amos U. Christie Society, the estate of the late Darlene Hoffman, a longtime supporter of Vanderbilt Children's Hospital, and several practicing physicians. The scholarships allow students to receive hands-on experience in the field of pediatrics with a paid stipend. This year's recipients were Jeanne Vogt, J.P. Norvell, Andrea Legath, Elise Cornet, Amanda Cooper, Philip Ciampa, Robert Peck, Jeffrey Venstrom and volunteer Bitt Battle.

Second-year medical student Elise Cornet, a CRS scholar, worked at the Vanderbilt University Children's Hospital for six weeks in three different rotations: newborn nursery, pediatric acute care clinic and adolescent medicine. She then spent an elective two-week rotation in a rural clinic in Merida, Venezuela.

At Vanderbilt, Cornet shadowed pediatricians and learned about the types of cases they see and the diagnoses and treatment plans associated with each case.

"After a few days in each rotation, the doctors would let us take histories and perform physical exams," she said.

In Venezuela, Cornet was paired with an American physician and saw patients in a free clinic that provided care in general medicine and ophthalmology.

"We were so blessed to be able to interact so closely with the VUMC doctors and to see patients on our own," Cornet said. "The children were all so unique and special, and working with them confirmed my interest in pediatrics."

Third-year medical student Rob Peck, also a CRS scholar, had the opportunity to pursue his interest in public health and infectious disease when he spent five weeks in Haiti. Working at GHESKIO, a clinic in downtown Port-au-Prince, he performed research on voluntary counseling and testing for HIV and cared for HIV patients. He will present his abstract at a conference in the spring. Peck then spent one week at the Albert Schweitzer Hospital in Central Haiti.

"It was an awesome opportunity to see the magnitude of the need for basic healthcare in places like Haiti," he said. "It was a great opportunity to learn how to take advantage of basic things like antibiotics and HIV testing, which are hard to come by in developing countries, and use them efficiently." **CRS**

-KATHLEEN WHITNEY



Rob Peck



Elise Cornet

SCHOOL OF MEDICINE



VANDERBILT UNIVERSITY

Medical Scholarship campaign progresses

Last spring, the 104 medical students who walked across the stage of Langford Auditorium represented a combined total of more than \$8 million of medical school debt. The average indebtedness per VUSM graduate was \$95,000, with 12 students owing more than \$150,000. The problem of medical student debt is national in scope, and many of our peer institutions are responding with levels of scholarship support that we cannot match. This, in turn, affects our ability to compete for students with the finest medical schools in the country. Medical student debt impairs the ability of young physicians to choose their career path and may deter them from entering research fields and engaging in humanitarian service.

VUSM is responding to this challenge with an aggressive campaign to raise \$50 million for scholarship endowment led by Drs. Robert Collins, MD'51 and Judson G. Randolph, MD'53, and Robert E. McNeilly, CRS President, with the full institutional support of Dean Steven G. Gabbe and Vice-Chancellor Harry R. Jacobson. The campaign committee recently held their fall kickoff, and the following is a campaign progress report from this meeting.

(continued on page 32)



Top row: William Oldham, Ngyuen Ha, Stephen Settle. Bottom row: Jennifer Bhansali, Lola Blackwell, Cassie Gyuricza

New CRS scholars embrace education

Cassie Gyuricza will never forget the day the call came. She was volunteering at a church in Atlanta providing emergency services for the indigent. She didn't typically receive personal phone calls at work and was surprised when a co-worker told her the phone was for her.

On the other end was Dr. Deborah C. German, senior associate dean for Medical Education at Vanderbilt University School of Medicine, calling to tell Gyuricza that she had been selected to receive a full four-year Canby Robinson Society scholarship to Vanderbilt Medical School. Her response was, "Are you kidding?"

"I didn't know that full merit-based scholarships were available and hadn't thought about the possibility of being awarded one," Gyuricza said.

She soon realized it was not a joke, and a scene of celebration erupted at

the church as she shared the news with her boss and the homeless gentleman sitting at her desk.

"I was touched by the heartfelt congratulations that this man was able to bestow on me when he himself had so little," she said.

Gyuricza, who is from Fairfax, Va., said the CRS scholarship is the primary reason she is able to attend Vanderbilt Medical School. She said she is deeply grateful to the Canby Robinson Society, which aids and honors medical students every year by giving four-year, full tuition scholarships on the basis of demonstrated leadership and scholarship activities. In addition to Gyuricza, the newest CRS scholars are Will Oldham, Ngyuen Ha, Steve Settle, Jennifer Bhansali and Lola Blackwell.

For military brat Will Oldham the scholarship helped him finalize his decision to attend Vanderbilt. He had been accepted to the MD/Ph.D. program

here and was trying to decide between staying in Chapel Hill, N.C., or moving to Nashville.

"The personal phone call from Dean (Steven) Gabbe, among other things, made me feel as if Vanderbilt wanted me as much as I wanted to go there," he said.

Lola Blackwell of Fairview, Tenn., had already decided to come to Vanderbilt before she heard anything about the scholarship.

"In some ways, that made receiving it even more meaningful because I knew that this school was my first choice regardless of any financial incentives," she said.

Californian Stephen Settle already had a Ph.D. under his belt when he decided to attend medical school.

"Receiving the Canby Robinson Scholarship will make it possible for me to pursue my career goals and realize my dreams. I am very grateful for the opportunity." **CRS**

-KATHLEEN WHITNEY

Medical scholarship cont.

- Two working committees have been established: a committee to solicit members of the community and a committee to solicit alumni.
- The campaign case statement and collateral materials have been developed.
- The scholarship campaign is now an official component of the University's upcoming capital campaign.
- A method for tracking bequests for endowed scholarships has been established.
- Class "agents," or representatives, are being recruited from each graduating class to facilitate communication and enlist support from fellow classmates.
- Key lead gifts have been identified.

In the coming months, we look forward to sharing with you further developments in this important endeavor. If you would like to find out how you can become involved in the Campaign for Scholarship Endowment, please contact Sarah Reynolds, Development Officer, VUSM Scholarship Campaign, at (615)343-4399. **CRS**

-ROBERT C. COLLINS, M.D.

TOMMY LAWSON



Enjoying the annual CRS dinner are (left to right) Jeff and Jennifer Hoffman, Amy Cooper and Dr. William Cooper.

TOMMY LAWSON



Attending the annual CRS dinner were: Mary Hance, Annette Eskind, Bob McNeilly, and Irwin Eskind (seated).

Save the date



Canby Robinson Society Dinner

Saturday, May 18, 2002



GEORGE W. HOLCOMB JR., M.D.
*Executive Director
 Medical Alumni Affairs*



alumni journal

Far into the glories of autumn, our students are eagerly pursuing their medical education.

In late August, Dean Steven Gabbe welcomed the Class of 2005. This class of 104 members, from 38 states, consists of 47 percent women, seven from foreign countries and from 16 different colleges and universities. As usual, this is a well-rounded, extremely well-educated incoming class, with average MCAT scores of 11.1 and a grade point average of 3.75. Eight are enrolled in the M.D./Ph.D. program and one seeks an M.D./J.D. degree.

OTHER NOTABLE CHANGES

With the retirement of Dr. James A. O'Neill, Jr., leadership of the Section of Surgical Sciences has been assumed by Dr. R. Daniel Beauchamp, the new director of the Section, and Dr. C. Wright Pinson, chairman of the Department of Surgery. Dr. O'Neill will remain in a somewhat less-intensive role as an advisor with Planning and Development of Surgical Services for Monroe Carell, Jr. Children's Hospital at Vanderbilt. Also, he will revise his Pediatric Surgical textbook, be responsible for development of Post-Graduate Education Programs for the Meharry-Vanderbilt Alliance and continue his clinical work.

Dr. Jeffrey R. Balsler became chairman of the Department of Anesthesiology on Sept. 1, when Dr. Charles Beattie stepped down. We are fortunate that Dr. Beattie will remain on the

faculty and continue to play an active role in resident education.

Dr. Robert L. Macdonald has been appointed chairman of Neurology. He replaces Dr. Gerald Fenichel who stepped down after 32 years, but will continue his clinical work at Vanderbilt.

MEDICAL ALUMNI

GROUP TRAVELS

The medical alumni who traveled to Spain in June enjoyed visiting several famous towns in the culturally rich and historic area of Andalusia. We marveled at the magnificent Moorish architecture of the famous Mosque in Cordoba and the Alhambra fortress and palace in Granada and visited Madrid.

In August, another medical alumni group traveled to Paris, cruised down the Seine, and visited Vernon, LesAndelys, Rouen, Caudebec and the port village of Honfleur. We were profoundly inspired as we toured the Normandy beach landing area and finally London.

TRAVEL OFFERING FOR 2002

The next group trip will be a winter escapade to Interlaken in the heart of Switzerland, Feb. 26 – March 5 for a reasonable cost of \$1,495, including airfare, accommodations at the Five Star Victoria-Jungfrau Hotel and other extras. If you failed to receive a brochure, please notify this office at (800) 288-0266.

VANDERBILT MEDICAL

WEB SITE VISITS

We hope you will add the Medical Alumni Affairs Web site to your bookmark list. It can be located at (<http://www.mc.vanderbilt.edu/alum-affairs/>). Then click on calendar of events to learn more about future events.

Also, we are anxious to receive your new e-mail addresses, which were not previously submitted for publication in the new Medical Alumni Directory. Please let us know if your mailing address changes.

To obtain access to the weekly Vanderbilt Medical Center newspaper, *Reporter*, visit www.mc.vanderbilt.edu/reporter

MEDICAL ALUMNI

REUNION 2002

The next Medical Alumni Reunion is scheduled for Oct. 25-26, 2002 so please save these dates. Be on the lookout for more specific information in future mailings. Graduating classes ending in 1, 2, 6, 7 and Qinq classes of '52 and '53 will be the designated classes but former residents and other class members are also welcome.

ANOTHER DAY OF INFAMY -

SEPT. 11, 2001

As the despicable events of Sept. 11 unfolded before our eyes on TV, we thought of our alumni in the affected areas and hoped none were involved in this tragedy. We keep our alumni and all our fellow citizens in our prayers at this time.

Be assured that the Medical Center has developed a response plan for managing mass casualties and was on standby to accept burn patients, if necessary. ♡

Best regards,

George W. Holcomb, Jr., M.D.

Executive Director

Medical Alumni Affairs

Faculty News • Alumni News

Faculty News

***Dr. Jeffrey R. Balsler, MD'90**, has been named chair of the Department of Anesthesiology. He assumed the post Sept. 1. Balsler, 39, James Tayloe Gwathmy Physician-Scientist Professor, replaced Dr. Charles Beattie, who has been professor and chair of the department since 1994.

Dr. Richard D'Aquila now leads the Division of Infectious Diseases in the Department of Medicine at VUMC as the Addison B. Scoville Professor of Medicine. D'Aquila comes to VUMC from Harvard Medical School and Massachusetts General Hospital where he has served as an expert on anti-retroviral therapy and the molecular genetics of HIV. His laboratory and clinical research focuses on HIV pathogenesis during anti-retroviral drug therapy.

Dr. James E. Crowe Jr., assistant professor of Pediatrics, has been recognized as the 2001 recipient of the Young Investigator Award from the Society for Pediatric Research. Crowe, honored for his work on defining fundamental mechanisms underlying pathogenesis and immunity associated with respiratory syncytial virus (RSV) infection and immunization, has been at Vanderbilt since November 1995. The society has given the award since 1983.

***Dr. Michael H. Ebert**, professor and chair of Psychiatry, has announced he is stepping down as chair. He will remain on the faculty and is serving in his current capacity during the search for his successor. He has been chairman of Psychiatry and psychiatrist-in-chief since 1984.

***Dr. Steven G. Gabbe**, dean of the Vanderbilt University School of Medicine, traveled to the University of Florida in May as the AOA Visiting Professor and delivered a speech at the AOA Spring Banquet entitled "The Alphabet of Academic Medicine – Building a Career in Academic Medicine." Gabbe also has co-edited the fourth edition of *Obstetrics: Normal and Problem Pregnancies*, published in August.

Dr. Barney Graham has left VUMC to become director of Clinical Studies and tenured investigator at the Betty Bumpers Vaccine Research Center of the National Institutes of Health. As director of clinical studies, Graham oversees the design of clinical trials and selection of vaccine candidates and will develop the infrastructure for the clinical trial program at the VRC. He also serves on the VRC Executive Committee, which analyzes the priorities of the Center, and evaluates potential vaccine candidates.

***Dr. Doyle G. Graham**, professor and chair of Pathology, has stepped down as chair but will remain on the VUMC faculty. He came to Vanderbilt in 1995 from Duke University where he had been professor of Pathology, director of Neuropathology and the Integrated Toxicology Program and Dean of Medical Education.

***Dr. Daryl K. Granner**, Joe C. Davis Professor of Biomedical Science and director of the Vanderbilt Diabetes Center, received a Distinguished Alumni Award for Achievement from the University of Iowa in June. Granner earned his B.A., M.S. and M.D. degrees from the University of Iowa, then served on the faculty for 14 years. The achievement award is presented annually for "significant accomplishments in business or professional life or for distinguished human service."

Heidi E. Hamm, Ph.D., has been appointed Earl W. Sutherland Jr. Professor and Chair of Pharmacology.

***Tadashi Inagami**, Ph.D., Stanford Moore Professor of Biochemistry, has received a National Institute of Health Method to Extend Research in Time (MERIT) award to continue his career-long search for the molecular culprits involved in hypertension, heart failure, and vascular diseases. His search has already yielded valuable drug targets for the treatment of these diseases.

Dr. Robert L. Macdonald has been named VUMC's chair of Neurology. He replaced Dr. Gerald Fenichel who stepped down after 32 years as chair of the department. Macdonald, an internationally recognized investigator, was Russell N. DeJong Professor of Neurology and professor of Physiology at the University of Michigan School of Medicine.

Dr. Denis M. O'Day, George Weeks Hale Professor and Chair of Ophthalmology and Visual Sciences, has announced he will step down as chair on Feb. 1. He came to Vanderbilt in 1972 as an assistant professor in Ophthalmology and built a thriving department at VUMC. He was instrumental in the development and opening of the Tennessee Lions Eye Center at Vanderbilt Children's Hospital in 1997, the year he received the Special Recognition Award from the American Academy of Ophthalmology. The award recognized his contributions to education, patient care and clinical research in Ophthalmology. He will continue on the faculty.

***Dr. R. Stokes Peebles Jr.**, MD'86, HS'86-89, F'95-'98, was awarded the 2001 Education and Research Trust Faculty Development Award at the annual meeting of the American Academy of Allergy, Asthma and Immunology in March. Peebles, assistant professor of Medicine in the division of Allergy, Pulmonary and Critical Care Medicine, was nominated because of his unique and extensive understanding of basic immunology and his passion to learn more about the underlying causes of allergy and asthma.

***Dr. C. Wright Pinson**, professor of Surgery and surgical director of the Vanderbilt Transplant Center, has been named chairman of the department and H. William Scott Professor of Surgery. Pinson leads the largest department within the Section of Surgical Sciences, headed by Dr. R. Daniel Beauchamp, director of the Section of Surgical Sciences and J.C. Foshee Distinguished Professor of Surgery.

Dr. Ronald R. Price, professor of Radiology and Radiological Sciences and director of the Division of Radiological Sciences, has been elected a fellow of the American Association of Physicists in Medicine. The AAPM is an educational non-profit organization devoted to the discipline of physics in medicine.

Dr. L. Jackson Roberts II, professor of Pharmacology and Medicine, has received a coveted Method to Extend Research in Time (MERIT) award from the National Institutes of Health for his research on the role of free radicals and oxidative injury in human disease. MERIT awards recognize and reward consistently high grant performance by providing up to 10 years of continuous funding without competitive review.

Virginia L. Shepherd, Ph.D., professor of Pathology, received a Distinguished Alumni Award for Service from the University of Iowa College of Medicine in June. Shepherd, who received her B.S., M.S. and Ph.D. degrees from the University of Iowa, was one of three alumni honored by the College of Medicine for her outreach activities.

***Dr. Corey M. Slovis**, professor and chair of Emergency Medicine, has been named "Medical Director of the Millennium" by Grady Health Systems in Atlanta. Slovis worked at Grady for 15 years – completing his residency there in 1980, then becoming the first full-time EMS medical director and fire surgeon for the city of Atlanta, a job he held until 1989. Under his watch, the system evolved from providing basic paramedic services to one utilizing advanced medical services.

***Dr. Joseph A. Smith Jr.** was elected president of the Society of Urologic Oncology at the annual meeting in Anaheim in June. Smith is the William L. Bray professor and chair of the Department of Urologic Surgery.

***Dr. Dan M. Spengler**, professor and chair of Orthopaedics and Rehabilitation, was chosen as second president-elect of the American Orthopaedic Association during the June meeting in Palm Beach. Founded in 1887, the

AOA is the oldest orthopaedic association in the world and has a select membership of approximately 900.

Alumni News

'38

Dr. Fennell P. Turner, MD'38, is retired from his surgical practice in Auburn, Maine. He is 87 and enjoys walking and reading. He has one great grandchild, Weston Fennell Goodwin.

'42

Dr. Gameel B. Hodge, MD'42, was featured in an article in the Spartanburg Herald-Journal in September of 2000. The article, entitled "Icon of the Medical Community," looked back on Hodge's five-decade career in Spartanburg, S.C.

'55

Dr. Angus W. Graham Jr., MD'55, lives in Bradenton, Fla. and still has an active radiology practice. He has a JCAHO-accredited Diagnostic Center.

'58,

***Dr. Oliver N. Massengale, HS'58**, retired from 35 years of pediatric practice in Portland, Ore. in 1998. He left Vanderbilt in 1959 and finished his residency at the University of Colorado Medical Center, where he remained on the faculty until moving to Portland in 1963.

***Dr. Thomas A. Waltz, MD'58, HS'58**, has joined the board of directors of BW Healthwire, Inc. Research. He is an internationally recognized expert in the field of adult and pediatric neurosurgery and is currently the head of the division of Neurosurgery at Scripps Clinic.

'61

Dr. Sorrel S. Resnik, MD'61, lives in Miami and has been nominated to be president-elect for the American Academy of Dermatology. He was a member of the board of directors from 1996-2000 and was on the executive board from 1997-2000.

'65

Dr. Robert M. Carey, MD'65, F'70-'71, was awarded the Irving Page/Alva Bradley Lifetime Achievement Award

in Hypertension by the Council for High Blood Pressure Research of the American Heart Association. He is the Dean and James Carroll Flippin Professor at the University of Virginia School of Medicine in Charlottesville and won the 2000 Distinguished Achievement Award from The New York Hospital/Cornell Medical Alumni Council and the Lifetime Achievement Award from the Consortium for Southeast Hypertension Control in 2001. He received Vanderbilt University School of Medicine's Distinguished Alumnus Award in 1994.

'69

Dr. Larry D. Scott, MD'69, HS'69-'71, spent the 2000-01 academic year on sabbatical from the University of Texas Medical School in Houston where he is a professor of Medicine. He obtained a Master's degree in bioethics at Case Western Reserve University in Cleveland, Ohio.

'74

***Dr. William Bedford Waters, MD'74**, has joined the University of Tennessee Graduate School of Medicine in Knoxville as professor in the department of surgery. He is also on the staff of University Urology. He was previously associate chief of urology at the Hines Veterans Affairs Medical Center in Illinois and was associate director of the department of urology at Loyola University Stritch School of Medicine.

'80

Dr. Leo M. Hattrup, MD'80, served as personal physician to the chairman of the Joint Chiefs of Staff from 1990 until 1992, received his MPH from Harvard in 1993, and then served as squadron commander at the Air Force Flight Test Center at Edwards Air Force Base from 1995 until 1997. From 1997 until 2000 he was chief of aerospace medicine for Pacific Air Forces in Honolulu. He is currently chief of combat medical support for the U.S. Air Force, in the office of the Surgeon General in Washington, D.C.

'81

Dr. James F. Graumlich, MD'81, is associate professor of Clinical Pharmacology and Medicine at the University of Illinois College of Medicine. After 20 years of service as

a medical officer and flight surgeon, he retired from the U.S. Army Reserves. He is a Fellow of the American College of Physicians and is an elected member of the Board of Directors of the American Society of Clinical Pharmacology and Therapeutics. He resides with his wife and two sons in Peoria.

'82

Dr. Samuel H. DeMent, MD'82, CF'89-00, has been named president-elect of the South Carolina Society of Pathologists.

'83

Dr. (Lt. Col.) Lee E. Payne, MD'83, has been promoted to the rank of Colonel, USAF, Medical Corps, effective May 14, 2001. He was reassigned from his current position as Deputy Commander, 31st Medical Group, Aviano Airbase Italy to the Commander 39th Medical Group Incirlik Airbase Turkey in June 21, 2001.

'87

Dr. John Gazewood, MD'87, is assistant professor of Family Medicine at the University of Virginia. He co-directs a required course for first year medical students, the practice of medicine and is pre-doctoral program director for his department. He recently received an award for excellence in resident teaching.

Dr. Theodore T. Miller, MD'87, was awarded the 2001 Editorial Fellowship by the Radiological Society of North America and will spend time as an apprentice editor at the editorial offices of Radiology, Radiographic and the RSNA. He serves as director of the North Shore Imaging Associates, P.C., in Great Neck, N.Y., is associate professor of Clinical Radiology at NYU School of Medicine and is chief of Musculoskeletal Imaging at North Shore-LIJ Health System.

'92

Dr. Scott R. Gibbs, MD'92, is in private practice in Otolaryngology with River Cities ENT Specialists, Inc. He and his wife, Mary, a nurse practitioner for Marshall University Physicians and Surgeons, have a son, Campbell Hanson Gibbs on Feb. 15.

'98

Dr. Joel Corvera, MD'98, has finished three years of general surgery at Emory University and is taking two years off to conduct research in Emory's cardiothoracic research lab. After completing two more years of General Surgery, he will start a cardiothoracic surgery fellowship.

'99

Dr. Ajith Nair, HS'98-'99, is medical director of a multi-disciplinary pain clinic, Kentuckiana Pain Specialists.

'00

Dr. Michael R. Konikoff, MD'00, is a second-year resident at Cincinnati Children's Hospital. He and his wife are expecting their first child in January.

Dr. Joseph C. Soto, MD'00, is currently a resident in Otolaryngology-Head and Neck Surgery at the University of Colorado. His wife, Caulley Fonvielle Soto, MD'01, began her pediatrics residency at the University of Colorado in July.

'01

Dr. Joseph W. Castelli, HS'97-'01, has joined the obstetrics and gynecology department at Murfreesboro Medical Clinic.

Dr. Brad S. Chesney, HS'97-'01, has joined the obstetrics and gynecology department at Murfreesboro Medical Clinic

Dr. Roy L. Hood, HS'95-97, F'98-'01, has joined Murfreesboro Medical Clinic as a gastroenterologist.

Dr. Frank H. Boehm, MD'65, FA'72-present, has published a collection of essays entitled *Doctors Cry, Too*, dealing with issues surrounding doctors, patients and their loved ones. Boehm is professor of Obstetrics and Gynecology and director of Maternal-Fetal Medicine at VUMC. Topics include faith, happiness, depression, forgiveness, death and dying, infertility and parenting. For more information, visit www.doctorscrytoo.com

In Memoriam



Dr. John R. Bowman, MD'51, died May 20 in Plantation, Fla. He was 78. He served as chief of the Physical Medicine and Rehabilitation at the Veteran's Administration Hospital in Dublin, Ga. from 1961 until 1968, then was a house physician at Memorial Hospital in Hollywood, Fla., until his retirement in 1987. He is survived by his wife of 55 years, Yvonne; daughters, Carol and Janet; and two grandchildren.

Dr. Andrew J. Causey, MD'43, died Sunday, May 13 in Statesville, N.C. He moved to Statesville with his family in 1956 to establish a medical practice, which continued until his retirement in 1986. During his medical practice he served as chief of staff at Iredell Memorial Hospital and as president of the Iredell County Medical Society. He is survived by his wife, Willie; a son, Andrew; two daughters, Cherry and Jeannie; and four grandchildren.

Dr. William J. Darby, FA'44-00, professor of Biochemistry Emeritus, former chair of the department, a member of the National Academy of Sciences, and one of the leading nutrition researchers of the 20th Century, died June 6. He came to Vanderbilt in 1942 and made it his home for most of his career. In the 1940s and 1950s, Darby, Dr. John B. Youmans, a pioneer in nutrition research, and their associates, became among the first researchers to emphasize detailed physiologic studies that essentially revised the standards of assessing nutritional status. His research was also critical to the understanding of folic acid. He is survived by his wife Elva and their three sons, William J., James Richard, and Thomas Douglass.

James T. Davis, Ph.D., FA'67-73, died on Aug. 11. He was former assistant professor of biochemistry at Vanderbilt and was pastor emeritus of Franklin Community Church. He is survived by his wife, Peggy, daughters, Joy, Patricia, Sharon, fourteen grandchildren and five great-grandchildren.

Dr. Emma Sloop Fink, MD'36, died Aug. 11 in Asheville, N.C. She was 92. A family physician from 1938 until 1989 in Crossnore, N.C., Fink was one of the founding members of the North Carolina Association of Family Physicians, which was established in 1948. In 1976 she earned the title of Fellow of the American Association of Family Physicians and worked tirelessly to develop the Avery County Health Department. She is survived by her children, Adele, Laura and Gus, six grandchildren and three great-grandchildren

***Dr. Roy Glenn Hammonds**, MD'44, HS'44, died July 5 in Nashville. He was 80. Hammonds was co-founder of the Miller Medical Group, where he practiced medicine for 38 years, retiring in 1989. He was the medical director for this group from 1981 until 1989 and served as chief of surgery at Baptist Hospital during the 1950s. He is survived by his wife, Martha; daughters, Lindsay and Nancy; a son, Glenn; step-daughter, Martha; five grandchildren, two step-grandchildren and one step-great-granddaughter

***Dr. H. Campbell Haynie**, MD'37, CF '72-'81, died on Sept. 10 in Nashville. He was 90. He was a specialist in internal medicine at Ohio State University Hospitals and the State of Tennessee. He is survived by a son, Robert, and two grandsons.

Dr. Lucius D. Hill, HS'48-'49, died Jan. 26 in Seattle. He attracted international recognition for his surgical procedure for correction of esophageal reflux.

Dr. Richard Gail Hofmeister, MD'49, died July 25 in Chattanooga. He was 78. He moved to Chattanooga in 1951 and served a two-year residency at Erlanger Hospital. He owned and operated Rivermont Medical Center for 33 years before retiring in August 1987. He is survived by his wife, Eleanor, two sons, William and Scott; daughter, Rebecca; stepchildren Sterling Miller Jr. and Ansley Meyer; 15 grandchildren and three great-grandchildren.

***Dr. Leslie B. Huffman Jr.**, MD'54, died on Aug. 28 in Holland, Ohio. He was 72. He started a private practice of family medicine in Toledo and Maumee in 1956 and founded Fallen Timbers Family Physicians Inc. in 1975. He served on the staff of Medical College Hospital, St. Luke's Hospital and The Toledo Hospital and was a clinical professor of Family Medicine from 1976 until 1990, when he became professor emeritus. He was the recipient of the Distinguished Citizen Award from the Medical College of Ohio in June 1987. He is survived by his wife, Carol; a daughter, Debra; sons, Bernard and James; five grandchildren and one great-grandchild.

Dr. F. Beachley Main, HS'54-'55, '58-'61, died July 29. He was 72. He practiced thoracic and cardiovascular surgery in Anaheim, Calif. and retired in June 2001. He was a surgeon in Fort Worth, Texas, and is survived by his wife, A. Kathleen Main, three sons, F. Beachley Jr., Charles and Russell, two daughters, Karen and Liz, and four grandchildren.

***Dr. William T. Myers**, MD'43, died in September. He was a surgeon in Ft. Worth, Texas and is survived by his wife, Gloria, and six children.

Dr. Jack C. Sallee, MD'42, died on May 15. He practiced in Wilmington, Del. as an allergist for 32 years and retired in 1985. He is survived by Ellen, his wife of 60 years, two sons, and two grandchildren.

Dr. Frank C. Womack, MD'41, HS'41-'47, FA'53-'54, died on May 14 in Nashville. He is survived by his wife, Agnes, a son, Thomas, a daughter, Melissa, and four grandchildren.

Wanted: Memories

Got memories?

Send them to Dr. John E. Chapman, Dean Emeritus of Vanderbilt University School of Medicine and associate vice-chancellor for Medical Alumni Affairs.

As part of Chapman's plans for the enhancement of the medical alumni program, he is asking alumni to help create a storyboard of each class by sending in "Vanderbilt memories." He plans to use the information at alumni-focused activities including alumni meetings, regional dinners, reunion events and during homecoming.

If alumni haven't already done so, responses can be sent to him at: medalum@mcmail.vanderbilt.edu

Responses can begin in the following ways:

- A funny thing happened to me on the way to becoming a Vanderbilt physician...
- A serious learning experience happened to me on the way to becoming a Vanderbilt physician...
- Who was your most influential teacher/mentor at VUSM and why?



Second-year medical student Erik Musiek catches a football at the Dean's Picnic.



Dr. Deborah German gives her traditional "Good Doctor" speech before the White Coat Ceremony.



Nicole Longanecker rides on the shoulders of Nishant Sekaran at the Dean's Picnic.



2005 Welcoming Class of



First-year student Alison Frank shakes Dean Steven Gabbe's hand after receiving her white coat.



Identical twins Kimball (left) and Howard Christianson, from Provo, Utah, played football at the University of Utah.

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