The Greatest Evil
Our eternal fight against chronic pain

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The dramatic effort to stop a child’s seizures

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Cover: Ann Johansson

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BRAVE NEW WORLD. How UCLA leads the way in this era of healthcare reform and innovation.

HIS OCTOBER, I had the honor of chairing the annual meeting of the National Academy of Sciences’ Institute of Medicine (IOM). This event commemorating IOM’s 40th anniversary was aptly titled, “Advancing Health through Innovation,” and the presentations reflected the nation’s focus on healthcare reform. Listening to these presentations, I was reminded of the many important ways we at the David Geffen School of Medicine at UCLA and UCLA Health System are transforming care and helping achieve the goals of the new Patient Protection and Affordable Care Act (PPACA).

A major goal of this seminal legislation is to improve the quality of healthcare. In this area, UCLA is recognized as a leader in pioneering innovations, and for good reason. Already, we are spearheading efforts to reduce hospital readmissions for individuals with heart problems with a telemedicine-enabled home heart-failure monitoring program. We’ve also developed a pediatric medical-home model to care for children with complex medical conditions.

As part of PPACA’s effort to expand the healthcare workforce, we’ve developed a groundbreaking program that prepares unlicensed medical-school graduates from Spanish-speaking countries, residing here legally and working in low-level healthcare jobs, to pass medical board exams that allow them to compete for residency-training positions in family medicine. In return, these bilingual, bicultural physicians commit to practice in underserved communities in California for at least two-to-three years.

One of the most challenging PPACA goals is to establish more effective financial models for delivering care. UCLA has been no less of a leader in shaping novel approaches to make care affordable. We have developed “bundling” payment structures for kidney-transplant surgery, and we are working on similar strategies for orthopaedic surgeries.

While UCLA is already widely recognized for the excellence and breadth of its programs, and for the extraordinary quality of the patient-centered care we provide, we know that continuous improvement in the quality of the healthcare we deliver requires ongoing and effective innovation.

What does innovation mean? To some, innovation means inventing new ways of diagnosing and treating disease or new ways to ensure a healthier population. To others, it means adopting the best of advanced medicine and implementing it broadly across all of the patients and communities we serve. UCLA excels at all these, and while we continue to discover new solutions for the future, we must also become even better at transforming the care we deliver.

That is why we created the UCLA Innovates HealthCare Initiative, which is designed to promote and nurture innovation that continually improves the quality of care delivered locally and globally. To lead this initiative, we have recruited one of the nation’s top healthcare experts to serve as our chief innovation officer. This initiative and leadership will enable us to focus UCLA’s ongoing innovation programs, and take advantage of new opportunities, including many presented by the new healthcare-reform law.

Leaving the IOM meeting, I spoke with two of our faculty, and we agreed that UCLA is indeed uniquely positioned to continue to play a leadership role in building the future of healthcare. As we exited, we shared a sense of great pride about our achievements and promise. I know that you – alumni, friends and supporters – are as proud as we are of the important work undertaken by the remarkably gifted faculty, staff and students of our distinguished institution.

Vice Chancellor, UCLA Health Sciences
Dean, David Geffen School of Medicine at UCLA
Gerald S. Levey, M.D., Endowed Chair
One of the most difficult aspects of working at the nanoscale is actually seeing the object being worked on. Biological structures like viruses are invisible to standard optical microscopes and difficult to capture in their native form with other imaging techniques. A multidisciplinary research group at UCLA has now teamed up to not only visualize a virus but also to use the results to adapt the virus so it can deliver medication instead of disease.

In a paper published in August 2010 in the journal *Science*, the UCLA scientists reveal an atomically accurate structure of the adenovirus that shows the interactions among its protein networks. The work provides critical structural information for researchers around the world attempting to modify the adenovirus for use in vaccine and gene-therapy treatments for cancer.

Lily Wu, M.D., Ph.D., associate director of the UCLA Institute of Molecular Medicine and co-lead author of the study, and her group have been attempting to manipulate the adenovirus for use in gene therapy, but the lack of information about receptors on the virus’ surface had hampered their quest. Trying to visualize the adapted viruses “was like trying to piece together the components of a car in the dark, where the only way to see if you did it correctly was to try and turn the car on,” Dr. Wu says.

To achieve their goal, Dr. Wu and her collaborators teamed up with the California Nano-Systems Institute at UCLA to use cryo-electron microscopy to produce atomically accurate 3-D models of biological samples such as viruses.

“This breakthrough is a great leap forward,” Dr. Wu says. “If our work is successful, this therapy could be used to treat most forms of cancer.”

The structure of the human adenovirus reveals complex interactions among protein networks.

What DNA Reveals about Autism

The world’s largest DNA scan for familial autism has uncovered new genetic changes in autistic children that are often not present in their parents. Identified in less than 1 percent of the population, these rare variants occur nearly 20 percent more in autistic children.

Published in the June 2010 online edition of the journal *Nature*, the findings by an international consortium of scientists from more than 60 countries emphasize the need for larger study samples to illuminate the diverse genetic causes of the brain disorder.

Using blood samples from 996 elementary school-age children diagnosed on the autism spectrum, the scientific teams combed the children’s DNA for rare deletions and duplications. In particular, they hunted for changes in the genetic information that a child inherits from each parent.

“We discovered two striking things. First, the rare variants interfered nearly 20 percent more in the genes of autistic children than in healthy children,” said Daniel Geschwind, M.D., Ph.D., director of the UCLA Center for Autism Research and Treatment and one of the study’s lead investigators. “Second, we found a number of disruptions that are new – the autistic child is the first in his or her family to carry that variant. This finding suggests that tiny genetic
Arresting Arrhythmias

VENTRICULAR ARRHYTHMIAS – abnormal rhythms from the lower chambers of the heart – are typically treated using a combination of medication, implanted defibrillators and catheter ablation; however, for a small subset of patients, such as those who experience a ventricular electrical storm (three or more episodes within a 24-hour period), such arrhythmias pose serious medical emergencies and require further treatment.

In a study published in the June 2010 issue of Circulation, cardiologists at the UCLA Cardiac Arrhythmia Center used two newer therapies to control these life-threatening arrhythmias. One is thoracic epidural anesthesia, which is applied with a small catheter between discs in the upper spinal cord and can be used as a bridge to catheter ablation or cardiac transplant. The other is left cardiac sympathetic denervation, an additional treatment for select patients that involves endoscopic interruption of the nerves that come out of the spinal cord and give rise to fibers that reach the heart.

They found that the methods may effectively reduce signals from the central nervous system to the heart, which can control or stop the arrhythmias. The procedures were well-tolerated and may provide a new approach in treatment by helping modulate the central nervous system.

The next step is further evaluation in randomized clinical trials. A large study is currently being led by the team at UCLA, in collaboration with researchers at the Mayo Clinic and centers in Italy and India.

errors may occur during formation of the parents’ eggs and sperm, and these variations are copied in the creation of the child’s DNA. The finding parallels what takes place in chromosomal disorders like Down syndrome.”

The researchers’ next step will be to uncover patterns by identifying groups of disrupted genes that work together in the body to establish key functions or biological processes. The results may reveal clues to where genes go awry and increase autism risk, offering hope for common treatments.

5,000th Liver Transplant

THE DUMONT-UCLA TRANSPLANT CENTER performed its 5,000th liver transplant, becoming only the second program in the world to achieve this milestone. The landmark surgery was performed by Ronald W. Busuttil, M.D., Ph.D., and his team on September 26, 2010. Dr. Busuttil also did the first successful liver transplant at UCLA in 1984, establishing what would become the largest and most active liver-transplant program in the country.

“These 5,000 liver transplants reflect the work of our incredibly dedicated team,” says Dr. Busuttil. “I could not be more proud of what we have accomplished together thus far – saving lives. That’s what it’s all about.”

To watch a video commemorating this landmark achievement, go to: www.transplants.ucla.edu/5000th
Cigarette taxes are used as a key policy instrument to get people to quit smoking, so understanding if people will really quit is important.

A study published online in the American Journal of Public Health suggests that increasing cigarette taxes could be an effective way to reduce smoking among individuals with alcohol, drug or mental disorders. The study by UCLA researchers found that a 10-percent increase in cigarette pricing resulted in an 18.2-percent decline in smoking among people in these groups.

“Whatever we can do to reduce smoking is critical to the health of the U.S.,” says Michael Ong, M.D., Ph.D., assistant professor of medicine. “Cigarette taxes are used as a key policy instrument to get people to quit smoking, so understanding if people will really quit is important. Individuals with alcohol, drug or mental disorders compose 40 percent of remaining smokers, and there is little literature on how to help these people quit smoking.”

The researchers based their work on data from 7,530 individuals from the 2000-01 Healthcare for Communities Household Survey. Of those, 2,106 people, or 23 percent, had alcohol, drug or mental disorders during the previous year. Of that group, 43.8 percent were smokers – a much higher proportion than among the rest of the population. Though the researchers found that people with alcohol dependence did not cut down on cigarettes when prices rose, people with binge-drinking problems, substance-use disorders and mental disorders were significantly more likely to quit smoking if prices rose, as would occur with an increase in cigarette taxes.

Our Genes, Ourselves

In one of the first efforts of its kind, UCLA researchers have taken mammalian genome maps one step further by showing not just the order in which genes fall in the genome but also which genes actually interact. The findings, published in the August 2010 issue of Genome Research, will help researchers better understand which genes work together and shed light on how they collaborate to help cells thrive or die.

The scientists used human genome maps developed several years ago for the worldwide Human Genome Project, as well as maps for dogs, cats and mice. They found substantial overlap and commonalities between gene interactions and networks across all four species, thus creating the first complete and comprehensive genetic-interaction maps for mammalian cells.

“Current genetic maps show the order of genes and where they physically reside, like a street map of homes,” says study author Desmond Smith, M.D., Ph.D., a professor of molecular and medical pharmacology. “We took it one step further and were able to map which genes interact when they leave their homes and go to work.”

Some genes were found to have more extensive interactions than others, which may be helpful in finding specific drug targets to fight diseases such as cancer. Dr. Smith compared the gene networks involved in promoting disease to the criminal world. “The most well-connected gene represents someone powerful, like Al Capone, surrounded by his gang of mobsters. If we don’t have a drug to target this main gene, there may be an existing drug that will effectively knock out a second-in-command, launching a flank attack that would cripple the primary gene’s actions.”

Hike Tobacco Tax, Curb Smoking for Some Groups

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Hand-Transplantation Center Opens

UCLA HEALTH SYSTEM has created the first hand-transplantation center on the West Coast – and one of only a handful of such centers in the United States.

“Many patients who have lost one or both hands find that prosthetic devices are not enough to help them get back the life they had enjoyed previously because they lack the sense of touch of a human hand,” says Kodi Azari, M.D., surgical director of the hand-transplantation program. “In these cases, hand transplantation can offer a unique opportunity to regain dynamic function and the feel of a real human hand.”

The first modern-era hand transplantation was performed in France in 1998, with the United States following the next year. Worldwide, more than 50 patients have had the procedure, 12 of them (including four double-hand-transplant recipients) in the United States.

Both the preparation for the surgery and the procedure itself are complex and require a large team. The UCLA Hand Transplantation Program involves a partnership among UCLA’s transplantation services and hand surgery, plastic and reconstructive surgery, orthopaedic surgery, psychiatry, pathology, anesthesia, internal medicine, radiology, neurology, ethics and rehabilitation services working together pre-operatively.

The procedure requires as many as 10 specialized surgeons collaborating for eight-to-12 hours to fix the bones and repair the arteries, veins, nerves and tendons, as well as to repair the skin. This type of multi-tissue transplant presents immunological and functional challenges. “You don’t see your liver or your kidney, but you see and use your hand every day,” Dr. Azari says.

Neither transplantation nor hand reattachment is new; what is new is combining the two fields into one reconstructive transplantation. Says Dr. Azari, “This is a new direction – transplantation not to save lives, but to improve the quality of lives.”

For more information about the UCLA Hand Transplantation Program and to watch a video with Dr. Azari, go to: www.handtransplant.ucla.edu

Stress Gets under Our Skin

EVERYONE EXPERIENCES SOCIAL STRESS, whether it is job-interview jitters, party angst or stage fright while delivering a speech. UCLA researchers have discovered that how our brains respond to social stressors can influence the body’s immune system in ways that may negatively affect health.

In a study published in the August 2010 online edition of Proceedings of the National Academy of Sciences, George Slavich, Ph.D., a postdoctoral fellow at the UCLA Cousins Center for Psychoneuroimmunology, and Shelley Taylor, Ph.D., professor of psychology, show that individuals who exhibit greater neural sensitivity to social rejection also exhibit greater increases in inflammatory activity to social stress. This characteristic in turn can increase the risk of a variety of disorders, including asthma, rheumatoid arthritis, cardiovascular disease, certain types of cancer and depression.

But why would neural sensitivity to social stress cause an increase in inflammation?

One possible explanation suggested by the authors is that since physical threats have historically gone hand in hand with social threat or rejection, inflammation may be triggered in anticipation of a physical injury. Inflammatory cytokines – proteins that regulate the immune system – are released in response to impending (or actual) physical assault because they accelerate wound-healing and reduce the risk of infection.

Watching Cancer Killers in Action

RESEARCHERS AT UCLA’S JONSSON COMPREHENSIVE CANCER CENTER created a large, well-armed battalion of tumor-seeking immune-system cells and used positron emission tomography (PET) to watch in real time as they traveled throughout the body to locate and attack dangerous melanomas.

The gene-therapy work, done with melanomas grown in mice, employed a crippled HIV-like virus as a vehicle to arm the lymphocytes with T-cell receptors, which caused the lymphocytes to become specific killers of cancerous cells. A reporter gene, which glows “hot” during PET scanning, also was inserted into the cells. It allowed researchers to track the lymphocytes as they made their way to the lungs and lymph nodes and then specifically homed in on the tumors wherever they were located in the body.

“We’re trying to genetically engineer the immune system to become a cancer killer and then image how the immune system operates at the same time,” says Antoni Ribas, M.D., associate professor of hematology-oncology and author of the study in the July 2010 online edition of Proceedings of the National Academy of Sciences.

By imaging the genetically engineered T cells as they seek out and attack the cancer, the scientists can closely examine the processes of the immune system as it fights malignancies, which could result in better monitoring responses to therapy in melanoma patients. Dr. Ribas and his team are working now on creating a vector, or vehicle, to insert the T-cell receptors and reporter gene into the lymphocytes in a way that is safe to use in humans.
MARGARET STUBER, M.D., LYNN GORDON, M.D., Ph.D., and M. INES BOECHAT, M.D.

Women make up half of medical-school graduates, but when it comes to leadership in academic medicine, their numbers lag. What can be done to change that?

THE NUMBER OF WOMEN GRADUATING from the nation’s medical schools has steadily increased over the past several decades, yet their ranks among the leadership of these institutions continue to lag. According to a report in 2009 by the Association of American Medical Colleges, women composed 48 percent of students entering medical schools in 2008-09 – an increase of 12 percent over the previous 10 years. And while their numbers throughout the strata of leadership were up overall during that period – in some instances more than 100 percent – they still remained significantly below those of their male peers: 18 percent of full professors, 21 percent of division chiefs or section heads, 13 percent of department chairs and 12 percent of deans.

To better understand some of the challenges facing women in academic medicine, UCLA Medicine invited three senior faculty members who have participated in a unique leadership-training program for women through Drexel University College of Medicine to engage in a conversation about the issues. They are Margaret Stuber, M.D., the Jane and Marc Nathanson Professor of Psychiatry and Biobehavioral Sciences in the Jane and Terry Semel Institute for Neuroscience and Human Behavior at UCLA; Lynn Gordon, M.D., Ph.D., professor of ophthalmology and associate dean for diversity affairs in the David Geffen School of Medicine at UCLA; and M. Ines Boechat, M.D., professor of radiology and pediatrics, chief of pediatric radiology and former chair of the UC Committee for Affirmative Action and Diversity. Dr. Stuber moderated the discussion.

“WE NEED TO EDUCATE our young colleagues that there are many paths, and that leadership comes with some advantages and benefits of which they may not be aware.”
- Lynn Gordon, M.D., Ph.D.

MARGARET STUBER: Both of you have held leadership positions within the David Geffen School of Medicine at UCLA. Can you reflect on the ways in which being a woman in healthcare has either helped or hindered you throughout your career and as you’ve taken on leadership roles?

LYNN GORDON: It is tough for women to attain leadership positions, and I think that’s borne out by all the literature and by the statistics of the limited numbers of women in leadership in academic medicine across the country. Now, I don’t think for a minute that anyone gets up in the morning and says, ‘Oh, I want to choose a man or I want to choose someone with purple hair’ for a particular position, but there are unconscious biases that exist and are prominent in the academic arena, in medicine and in many other fields. And just a slight disadvantage at every step creates an accumulation of disadvantage that at the end can become very great.

Personally, my career has been like a pinball. I’ve been lucky enough to be bounced off of the right bumpers and wind up in the right slots at the right time, but it has been very circuitous. I didn’t go into academic medicine when I finished my training; I
went into private practice, in part to have increased flexibility with my children for five years, and then I came back to academia. I feel fortunate that I have encountered mentors, both men and women, who at various points along my trajectory gave me specific advice and encouragement. I don’t think that there’s a single recipe for success; there are many paths. And in some ways, it’s believing in yourself that you can do a job, that you can do a task, and it’s that willingness to put yourself out on a limb to go for it.

When we did a study in 2007 of diversity on the University of California campuses with health sciences, it became clear that the situation for women and minorities had not changed significantly in 20 years. And although half of the students in our medical schools are females, they are not representative at that scale in the faculty positions, particularly among ladder faculty. It makes one realize that we have significant work to do to change this scenario, and there’s an opportunity here because of a 10-year window of time with a high turnover of faculty due to retirement and possible changes in the composition of the faculty. That presents a unique opportunity to hire more women and minorities. And there is now, I believe, within the academic medical community the desire to actively promote change.

MS: How is this change to be brought about?
IB: I think it happens through changes in training and through education of faculty members and search committees, so that people are made aware of these unconscious biases that Lynn referred to. It’s not that we as women don’t have them ourselves, we do, but being conscious of them and going through a process of education, of consciously trying to change it, is what is important.

LG: There’s this wonderful article, “Women’s Health and Women’s Leadership in Academic Medicine Hitting the Same Glass Ceiling,” and there was an example involving the National Institutes of Health Director’s Pioneer Awards and about subtle cues and how they impact and create bias. The article describes how in the first round of the process, no women were selected. On review of the published criteria for the award, it stated that the NIH was looking for scientists who were willing to take risks. But we know from the social literature that risk-taking is not typically a female trait, and it was hypothesized that perhaps having this statement about risk-taking placed women at a disadvantage in terms of receiving the grant. Changes were made in the instructions, including, and I’m quoting from the article, “elimination of the word risk both from the solicitation and from the review criteria.” And since then, women have been among the recipients in each subsequent year.

MS: We started out talking about the bias of people who are selecting or interviewing or searching for leadership roles, but what you’re also describing are characteristics of the individual or his or her responses to internalized bias. Talk more about what we should do if women are reluctant to take on a leadership position or a position that feels risky.

LG: That’s a really important question because I think
what we hear from a lot of younger women faculty members, or even young women in medical school or in residencies, is that they don’t necessarily want to do things the way we did. There are generational differences in priorities and how people approach their lives, and I think that we need to educate our young colleagues that there are many paths, and that leadership comes with some advantages and benefits of which they may not be aware, and that it may also not take the toll that they fear in terms of their personal and family lives. And I think we also can do a better job institutionally to provide resources, to both women and men, so they can create a work/life balance that is comfortable and still allows them to succeed at the highest level.

ib: Becoming more aware about how people perceive you is very helpful when facing a leadership position or a change in job or deciding about how to progress along the path of your academic career. It is important to identify possible derailing situations of which you may not even be aware. That is something that younger faculty should keep in mind. And also that it’s not such an impossible task to reconcile family and work and be successful.

MS: Let’s talk a bit about some of the kinds of subjective, nebulous things that create glass ceilings for women.

LG: There was a study on letters of recommendation and adjectives used to describe men or women, and the adjectives that were describing men were much more powerful adjectives, ones that we typically associate with leadership. The adjectives that were describing women who, on the face of the matter, would have equivalent qualifications were adjectives that we as a society don’t tend to associate as much with leadership. So just having those descriptors skewed in a gender way led to lower success in terms of women being hired for those positions.

ib: Even the analysis of CVs was biased in that
direction. A CV from a woman needed to be much stronger than one from a man to be considered to be a similar level.

**MS:** How important is mentoring in helping to guide women toward leadership roles?

**LG:** Very important, and it should start early on, even before they enter medical school. Nurturing these young women is critical to help them to figure out what their goals are, to give them the tools and information and the resources they need to choose a research career if that is what they want, or to choose a clinical career in academia if that is what they want, or to choose a leadership path if that is what they want.

**IB:** The most important thing is to help the person you are mentoring to recognize and believe in what she can accomplish. That recognition is what will keep her going and gives her the internal strength to move toward a higher goal. A good mentor not only will give the mentee tools to progress, but also help nurture feelings of self-esteem and confidence to achieve her goals.

**MS:** About 50 percent of current medical school students are female, yet that’s not being reflected in new hires of faculty. How much of the reluctance of women to enter academic medicine is a generation issue as opposed to a gender issue?

**LG:** In terms of balancing family and career, I think the distribution of family responsibilities by this new generation is even more equal than in the past. So, from that point of view, it should make it easier for women. But the older generation – the generation that is doing the hiring to fill positions in the academic medical setting – has to accept these new values. That’s why I say that when we do the hiring, there is a responsibility for accepting these generational changes and working with them.

**IB:** There also is the issue of debt. Physicians have tremendous debt when they finish college and medical school. So entering an academic career may be not so attractive. I think the NIH has recognized that there are so many problems related to the increase of diversity in the work force that they created an award to look for innovative solutions for this problem. I am very curious to see what proposals are selected for this NIH Director’s ARRA Funded Pathfinder Award to Promote Diversity in the Scientific Workforce and what their results will be.

**MS:** We have mentioned that the leadership in academic medicine is a little older. Is it possible to change the perspectives of the people currently in power who are in their 50s, 60s or even 70s?

**LG:** I think we can. If you look at the leadership in academic health centers or medical schools, they are incredibly bright, talented, hard working, energetic people. And I think by persuasive education and presenting data, you do get changes. Can we change everyone’s perspective? No. But we can change the perspective of many of them.

**IB:** If we didn’t believe that it could be done, we wouldn’t be here.

**LG:** That’s right. People can change over time, especially smart people, and these are all very smart people, and they want what’s best for their institutions.

**IB:** By mentoring and training the women who have already shown leadership potential and demonstrated their capabilities, giving them further tools and resources, we are working to both educate the current leadership and provide new leaders for the future.
Only 10 months old, Thomas suffered from seizures almost all his life. Now, his family has come 3,000 miles to UCLA in the hope of freeing him from the convulsions that threaten his future.

It is before dawn on a clear Friday morning in September when Susanna and Santiago, a young couple from New York, push a stroller with their 10-month-old son through the glass doors of Ronald Reagan UCLA Medical Center, moving from the darkness outside into the light of the gleaming facility.

For seven months, they had tried everything from anticonvulsant drugs to a high-fat, low-carbohydrate diet to control their child’s epileptic seizures. “The hardest part was trying all the drugs and the diet, and every one of them failed,” Susanna says. “Once you get to the end of that list, that’s a pretty dark moment.”

Now they are about to try something radically different. At 7:30 a.m., they hug their baby, Thomas, and cry as anesthesiologist Oren Bernstein, M.D., wheels him toward Operating Room 7 for surgery to remove portions of the left temporal, occipital and parietal lobes of his brain. Stopping at a red line on the floor, Dr. Bernstein turns to the parents and tells them, “Here’s where you guys can get one last good-bye.”

They kiss Thomas, who looks back at them with large brown eyes. “Bye, Thomas,” Susanna says sweetly, holding his plush monkey, Mr. Jimenez. As Thomas moves down the corridor, the brown-haired bruiser looks very small in the middle of the hospital crib.

Thomas seemed fine when he was born, on October 26, 2009. But three months later, the seizures, termed infantile spasms, began. When the spasms worsened, a pediatric neurologist, who noticed white “ash-leaf”-looking spots on the child’s tummy, diagnosed Thomas with tuberous sclerosis complex (TSC), a rare condition caused by genetic mutations that can lead to abnormal growths in the brain, kidneys, heart, eyes and skin.

Tuberous sclerosis, named for its potato-like tubers in the brain, occurs in about one-in-5,000 live births. TSC varies from person to person, and some people don’t even know they have the condition. But Thomas suffered two-to-three focal seizures and infantile spasms each day, and imaging tests identified some 30 tubers throughout his brain.

Of the hundreds of children with intractable epilepsy that neurosurgeon Gary W. Mathern, M.D., has operated on, 80 percent remain seizure free, but TSC is different. “Unlike other epilepsy surgeries, where you’re hunting for a target, these kids present with multiple targets,” says Dr. Mathern, neurosurgical director of UCLA’s Pediatric Epilepsy Program. “You have to figure out which targets to go after.”

Before deciding what they might do for their son, Susanna and Santiago (their last name is being withheld at the family’s request) read hundreds of articles about TSC, often while riding the subway from Brooklyn to their jobs in Manhattan. One surgeon’s name kept popping up in the literature: Gary Mathern in Los Angeles. Under Dr. Mathern, UCLA has emerged as a major center for treating patients with TSC. Using specialized, non-invasive tests to first identify the areas producing the seizures, and then surgically removing them, his multidisciplinary team has achieved a 68-percent seizure-control rate. And the younger the child, the better is the chance of taking advantage of the...
brain’s ability to reorganize itself.

At UCLA, neuroradiologist Noriko Salamon, M.D., Ph.D., has refined the use of MRIs and PET scans for TSC. “Many times, we don’t see structural abnormalities in the MRI, or the abnormalities are subtle,” she says. “In Thomas’s case, there were so many abnormalities. Which one do you go after? That’s the problem.”

The team, which includes pediatric neurologists Joyce Wu, M.D., director of UCLA’s TSC Clinic, and Raman Sankar, M.D., also evaluated electromagnetic activity, or dipoles, from deep within Thomas’s brain with magnetoencephalography (MEG) done at UC San Francisco. The test pointed to tubers on the left side of his brain as the main seizure driver. But the MEG also recorded right-sided seizures.

“We don’t know how those will behave after surgery,” Dr. Sankar says before the operation. “You’re always hedging some bets and making some judgment calls. In the end, not everything is easily explainable. It comes down to your intuition that’s honed by both science and experience.”

Three days before Thomas’ surgery, Susanna and Santiago meet with Dr. Mathern. They are braced for his “doom-and-gloom” informed-consent meeting. Parents have compared Dr. Mathern to a chewy chocolate bar: tough at first, but ultimately warm and comforting.

Thomas arrives for the meeting in his brown-and-white cow pajamas and matching socks. Dr. Mathern coos as Thomas babbles and scoots on the floor. But he is blunt as he explains the risks of surgery, including death. But doing nothing also has risks: Seizures could cause death or stall brain development, leaving Thomas with an IQ below 50. Dr. Mathern explains everything, from the parts of the brain he would remove to whether or not the surgery might alter Thomas’s princely good looks. “This is Hollywood!” he says. “Looks count.”

Dr. Mathern flashes MRIs, PET scans and EEGs on a monitor. The PET images show large dark-blue areas, indicating poor metabolic activity. “It’s essentially almost stone cold,” he says, pointing to the left temporal region. Moreover, an EEG recorded numerous subclinical seizures from the same area while Thomas slept.

Dr. Mathern recommends targeting the temporal, occipital and a little of the parietal lobe on the left side in the hope that this will quiet the seizures coming from the right side. But because of the tuber load in both hemispheres, he worries about language acquisition. “My guess is you’re going to struggle with language with him,” Dr. Mathern says, urging the concerned parents to consider language therapy or teaching Thomas sign language.

Susanna and Santiago agree to proceed, though not without tears. “This is one of the toughest decisions that a parent is ever going to make,” the surgeon says, handing Susanna a tissue.

After the meeting, Susanna, 31, a witty, analytical woman, is upbeat and defiant. “We’re here because we haven’t given up,” she says. “Very rationally, I think he could be okay. I know Dr. Mathern says he might not talk. I’ll be damned if this kid doesn’t talk!”

“Friday is going to be tough,” adds the soft-spoken Santiago, 30. “Yes, there are risks. He could die on the operating table. But for the life that we envision for him, it’s better to have this surgery.”
Friday is a beautiful late-summer day. Susanna and Santiago wait on the patio outside the hospital for any news from the O.R. Meanwhile, the windowless operating room buzzes with noises: beeps of the equipment monitoring Thomas’s vital signs, muffled voices, whirs of machinery. A white board lists the schedule for Thomas’s “left craniotomy” and notes that a unit of Santiago’s blood is in the fridge. On one wall are posted paper printouts of Thomas’s MRIs and PET scans, which Dr. Mathern studies throughout the long hours.

Dr. Mathern says he was drawn to neurosurgery because “you have to figure out the puzzle. Epilepsy surgery is one of the few procedures where you purposely go in to remove portions of someone’s cortex,” he says. “It is, in essence, the purest form of brain surgery. And if you do it on these individuals with intractable epilepsy, you can often turn around their lives.”

Just after 9 a.m., Dr. Mathern performs a “time-out” to ensure that the members of the O.R. team—neurosurgery resident Justin Dye, M.D.; medical student Joshua Lucas; nurses Nancy Fukumoto, Maria Okuda Lorawell and Julie Byrd; anesthesiologists Ihab Ayad, M.D., and Dr. Bernstein; and neurodiagnostic technician Andrea Duran—are ready to begin the operation.

“Identify the patient,” Dr. Mathern says.

“Thomas,” a nurse responds.

“The left side of the head is the proper side of the head,” Dr. Mathern confirms.

Turning to Dr. Bernstein, Dr. Mathern emphasizes the importance of monitoring blood loss.

“We’re on it,” Dr. Bernstein assures.

“We’re going to start,” Dr. Mathern says at 9:30 a.m. “Let the family know.”

It takes 40 minutes to cut through the scalp and skull. As Drs. Mathern and Dye drill through the bone, blood dribsbles out, and Dr. Bernstein reminds nurse Fukumoto: “The blood is in the fridge if we need it.”

By 10:10 a.m., Drs. Mathern and Dye pry the skull flap to the side, exposing the pink, smooth dura surrounding Thomas’s brain. The surgeons cut through the thin yet tough membrane as Lucas, the medical student, rinses the site with saline from a rubber bulb. By 10:50 a.m., Dr. Dye rolls back the dura, revealing the pale white cortex laced with red arteries.

As if on cue, neurodiagnostic tech Duran positions monitors 10 feet from the operating table: a motor/sensory monitor to map the area and electocorticography (ECoG) equipment to record abnormal brain activity. For Dr. Mathern, surgery is about process, not miracles. “If you’re sitting there in awe, you’re not paying attention to the details,” he says. “In neurosurgery, the details count. A perfectly good operation can be screwed up by inattention to one little detail.”

With Thomas’s brain exposed, Dr. Mathern gently prods a spongy white area. “That swollen area almost screams tuber,” he says. Meanwhile, pediatric neurologist Jason T. Lerner, M.D., and fellow Shaun Hussain, M.D., enter the O.R. and join Duran near the monitors. At 11:15 a.m., Dr. Mathern places a suture in the dura to mark the central focus between the motor and sensory cortex.

Now they turn their attention to the ECoG. The nurses turn down the lights. As Dr. Mathern places electrodes on Thomas’s cortex, the monitors glow and crackle with spikes and waves, revealing slow activity. Dr. Mathern calls out numbers as waves flow across the

The procedure to try to stop Thomas’s seizures began around 9 a.m. and did not conclude until more than five hours later. “You want to avoid chaos,” Dr. Mathern says. He and his team have been together long enough that everyone knows precisely his or her role. “The process,” he says, “needs to be structured, ordered.”
“Sixteen is bad. Seventeen is bad. Eighteen is bad. That’s about all I would go for. I would vote primarily for a tuber resection.”

Dr. Lerner translates: “Eleven through 20 are the meaty part of the tuber, the other numbers are kind of on the edge.”

“Hello!” Dr. Mathern says suddenly, looking at the monitors. “I think this thing is driving it. Look at that! It’s substantial. Those are your spasms. Based on prior experience, that’s about all I would go for. I would vote primarily for a tuber resection.”

Dr. Lerner concurs. “Right now, we’re going to do surgery on the tuber itself and the immediate area around it,” he says. “After he’s done, we’ll come back and look at the area superior to the tuber [with the ECoG] and see if that’s still as active as it looks, or if the tuber was causing it to go bad.”

The nurses turn up the O.R. lights. Dr. Mathern marks the area for resection and snaps a “before” picture with his Nikon Coolpix.

At 11:45 a.m., Dr. Mathern carefully removes two pieces of tuber tissue, the first mid-temporal, the second occipital. My Huyhn, a senior research assistant, catches the tissue in a vial and whisks it across the street, where neurophysiologist Carlos Cepeda, Ph.D., is waiting to peer at 400-micron-thick slices of tissue using infrared electron microscopy.

Dr. Mathern is a surgical-scientist at heart, and he believes his work is about discovery as much as high-level clinical care. “We’re trying to learn what is wrong with the tissue, what causes the seizures, so we can hypothesize potential mechanisms for treating it,” he says.

Since 1999, the National Institutes of Health has funded Dr. Mathern and Dr. Cepeda’s efforts to understand epilepsy at the cellular level, examining abnormal electrical activity and the effects of drugs such as rapamycin on neurons.

Back in the O.R., Drs. Mathern and Dye begin removing a large rectangular piece of cortex. They use a bipolar scalpel, which allows them to coagulate the blood vessels with electricity while they cut through the brain tissue. The tool emits a “Bzzzzt!” of electricity. Air bubbles trapped in the tissue burst, sending out a “Pop!” Throughout, steady “beeps” represent Thomas’s heart rate, 103 beats per minute.

“This is how you find where your borders are,” Dr. Mathern says, instructing Drs. Dye and Lucas. He relies on experience and touch to decide how deep to cut. “It’s like Braille,” he says. “The tuber is harder, the edge is firm.”

Dr. Mathern guides Dr. Dye as together they slowly resect the temporal and occipital lobes. “Don’t rip,” Dr. Mathern says to the younger surgeon, pushing the tissue with a curved black tool. “I want you to have control.”

Dr. Lerner has updated the waiting family after the ECoG. But just before 1 p.m., nurse Laurie Ann Colton, hoping to give Susanna and Santiago more information,
coming to do the ECoG. The process needs to be structured, ordered."

But even if everything goes perfectly, Dr. Mathern cannot predict the outcome. “We target the area. Our data say we have a two-thirds chance this will work. You have to wait and see,” he says.

Nearly 12 hours after they arrived for the surgery, Susanna smiles as she receives a phone call telling her they can come up and see Thomas. Santiago holds Thomas the Train balloons from a friend as they hurry into the elevator to the pediatric ICU on the fifth floor. Thomas, swathed in his head dressing, opens his eyes as they enter. “You have a bigger hat than before,” Susanna says, holding out his monkey, Mr. Jimenez. “You’ve got all these ladies taking care of you.”

It is like the final scene from *The Wizard of Oz*, with Drs. Mathern, Dye, Lucas, Bernstein and Ayad and several nurses surrounding the crib. One nurse hands Santiago an envelope filled with Thomas’s hair.

“Hey cutie,” Dr. Mathern says to the baby. “You look like a million bucks.”

Thomas, oblivious, sucks his thumb and flashes his winning smile. Susanna and Santiago, grateful the ordeal is over, lean down and kiss their son.

The first 48 hours are indeed tough. “His heart rate was up,” Santiago says. “He was trying to figure out what was going on, he was upset and mad.”

During that first week, Thomas has a couple of seizures and fights off a fever. But eight days after surgery, he is discharged. Despite the ups and downs, Susanna and Santiago look very relaxed when they bring Thomas to Dr. Mathern’s office for a follow-up two days later. Thomas is sound asleep, but the scar on his head is clear evidence of what he’s been through.

As Dr. Mathern predicted, it would be a long road. A follow-up EEG shows no seizures, clinical or sub-clinical, although Thomas screamed the moment the EEG-tech touched his head. Two days later, however, Thomas suffers some clinical spasms. Another EEG suggests the new spasms are coming from the right side, but there are still no seizures coming from his left hemisphere, a good sign. Dr. Sankar prescribes zonisamide to try to control the spasms.

Before returning to New York, Susanna, Santiago and Thomas visit the set of the TV show *90210*, where Thomas gets to pose for a picture with the cast. “This is Hollywood,” as Dr. Mathern says. Back home, Susanna and Santiago plan to take leaves from their work to care for Thomas.

It will take time before it’s clear if the surgery has put an end to Thomas’ seizures, and Dr. Mathern will see the family again next year for an evaluation. So far, a month after the operation, things appear to be going well, and Susanna reports that Thomas is doing wonderfully with his therapy in New York, babbling more and with greater focus. “His personality is different.

He has more energy,” Susanna says. “He’s a completely different kid now.”

As usual, Dr. Mathern takes a wait-and-see approach. “The goal,” he says, “is seizure freedom. The only way to know is to be patient.”

**LYNDON STAMBLER** is a freelance writer and teaches journalism at Santa Monica College.

To view a slideshow of photographs about Thomas’ surgery, go to: www.uclahealth.org/Thomas-surgery
In his sleeveless T-shirt showing off a prowling panther on one arm and assorted symbols on the other, Michael doesn’t pull any punches when he talks to the UCLA medical students who are trying to help him on the streets of West Hollywood, and what he describes “blows their minds.”

“People drawing up water out of a toilet to inject drugs. Straight men having sex with men for money. It’s a shock to them, but that’s good,” Michael says, his blue-grey eyes gleaming in the waning light on this crisp evening in September. “They’re going to be doctors – they need to deal with things like that.”

Michael speaks from his own experience. Somewhere in his 40s, he has a nearly toothless grin and an engaging and excitable nature. He has been homeless off and on since he was a teenager and says he has shot crystal meth nearly every day for the past eight years. He is struggling to stay clean now so he can be approved for needed heart surgery, and a large measure of his motivation comes from these very students. “Part of what made me start to care was the young people who come here and volunteer, talking to me and treating me properly,” Michael says.

Being listened to. Treated with respect. For a population that is most often shunned – the homeless and transient men and women...
who populate the city’s backstreets – those two things are worth the world. And when listening and respect come with a healthy dose of medical care, so much the better.

For 10 years, students with the UCLA Mobile Clinic Project have been taking it to the streets, putting up their makeshift M.A.S.H. every Wednesday evening near the same street corner – Sycamore Avenue and Romaine Street – just a few blocks from Hollywood’s historic Walk of Fame. A box truck that the group leases from the university carries folding chairs and tables to set out on the sidewalk. Tarps and poles create spaces for exams that require privacy. Medications – both over-the-counter and prescription – are dispensed from an improvised pharmacy in the back of the truck, and there are supplies of donated clothing, shoes and blankets to hand out to anyone in need.

UCLA’s Coach John Wooden said: “You can’t live a perfect day without doing something for someone who will never be able to repay you.” If ever there was a group of young people who have taken that principle to heart, it is the students who volunteer with the UCLA Mobile Clinic Project.

Jeremy DeMartini is among them. “It’s easy to get caught up in the competitiveness of medical school and forget that the reason you’re going through this is to help people. Every day, our ‘clients’ (they are never referred to as patients) are overlooked and scoffed at by people who pass by them on the streets. I can imagine the frustration and despair this would bring,” says the second-year student in the David Geffen School of Medicine at UCLA. “It is little wonder that they are so appreciative when we give them an outlet to share their experiences, feelings and hopes, which are not unlike everyone else’s.”

Each week, the students see a dozen or so clients, many of whom are initially drawn to the location by the warm meals that are provided nightly by the Greater West Hollywood Food Coalition. In addition to the first- and second-year medical students who, under the watchful eye of an attending physician, provide basic care for acute and chronic issues...
such as foot problems, respiratory tract infections, hypertension and diabetes, undergraduates act as caseworkers, taking social and medical histories.

All the students are attentive to their clients, taking time to get to know them and learn about not just their health issues, but also their personal lives and the challenges they confront every day. The project has expanded over the years to also include law school students providing legal counseling and has set up services at three other locations in Santa Monica.

Like Michael, many of the clients come back to this West Hollywood street corner week after week. Spencer is 69 and all smiles under a rumpled beige hat, a single braid dangling from his white beard. He's been coming to the Mobile Clinic Project since it began in 2000, and he happily volunteers to help break in the first-timers. The clinic helped him get his blood sugar under control; now Spencer likes to help teach nervous students how to draw his blood.

Daniel is a middle-aged man who suffers from chronic schizophrenia. He says he experiences headaches when his hypertension isn’t controlled, and he believes the clinic is the one place where he can get his meds. Homeless off and on for the last 15 years, he declares, “I feel safe here.”

Every effort is made to encourage clients with serious chronic conditions to receive ongoing care from a regular physician, often referring them to community clinics that have agreed to work with the project. “We don’t want to take patients away from existing and working systems of care,” says Walter G. Coppenrath III, M.D. ’04, who helped to launch the Mobile Clinic Project’s medical services when he was a student and now is the program’s lead attending physician. For urgent matters, clients are given cab vouchers or bus tokens – and in the most emergent situations, placed in an ambulance – to get to a hospital.

But addressing the clients’ health complaints really is the easy part, Dr. Coppenrath says: “The medicine is simple. The situations are complex.”

For these clients, the context of their lives is as important – sometimes more so – as their medical conditions, Dr. Coppenrath says. To tell a homeless person he or she should apply ice for 20 minutes to reduce swelling is to be blind to his or her living circumstances. Assuming a homeless client is going to follow up on a plan of care is not always realistic.

“The social history is a huge component of providing care in this community,” says Mojdeh Toomarian, medical-student coordinator for the West Hollywood site. “You have to learn about the challenges the client faces in his or her day-to-day living.”

Diffidence is not an option. “At first you’re afraid of offending,” says Lauren Wolchok, a second-year student. “You wouldn’t ask most people, ‘Do you hear voices?’ But in this population, which has a high prevalence of paranoid schizophrenia, people don’t react like you were wrong to ask them. The same applies to sexual history – it’s important, and you can’t be embarrassed to ask about it.”

What Wolchok and other students quickly learn is that most of the clients – accustomed to being ignored by the people who pass them daily on the streets – welcome the opportunity to open up about their lives. At the end of one night, a client gave Toomarian a bracelet he had found as a token of his thanks. “He said, ‘It was really nice that you talked with me for two hours,’” Toomarian recalls. “That’s when I realized that although we are limited as to how much medical care we can provide, we do a lot simply by listening.”

The rapport built with clients through these conversations serves another important purpose. “This is a population that used to be called service-resistant,” says Dr. Coppenrath, a family-practice physician. “That’s a misnomer. They’re resistant to the types of services they’ve had in the past.” Virtually every Mobile Clinic Project client has had unsettling experiences with the healthcare system – whether it has been waiting 24-to-36 hours to be seen in the emergency room or having a physician tell him or her to lose weight and stop doing drugs, oblivious to their daily challenges.

Part of the project’s mission is to provide a bridge for the population to reconnect with the network of social, legal and medical services that...
are available to help them. That step is done by gaining trust and lowering the barrier to the service. So when a medical-student volunteer shows up wearing a freshly pressed white coat, he or she is quickly told to lose it. “A white coat out here creates a barrier,” Dr. Coppenrath says. “When you remove that cloak, it changes the relationship. It becomes people helping people: ‘I have knowledge, you have stories to tell me, let’s work together.’”

Harm-reduction is at the core of the project’s approach. “We don’t judge or criticize,” says Jessica Howard-Anderson, medical-student coordinator for one of the project’s clinics at a service-access center for the homeless in Santa Monica. Instead, students work with clients to reduce their risk factors. Substance abusers, for example, aren’t coaxed to quit but might be counseled on the importance of using sterile needles. As clients learn that the students aren’t there to scold and are interested in building a relationship unconditionally, they become more trusting and likely to return for follow-up visits.

Because the clinic doesn’t refuse care to clients who are under the influence or otherwise belligerent, there can be uncomfortable moments. A hand-lettered sign entreats: “Mobile Clinic is a safe place. Please keep weapons, drugs & alcohol at least 2 blocks away.” Safety precautions are in place, as is a de-escalation protocol that all volunteers learn before going to a site. Whenever a volunteer feels unsafe or threatened, he or she asks for the “blue thermometer,” setting off a chain of events in which the student is removed from the situation and a veteran coordinator intervenes. But such cases are rare. “The population is self-policing,” says Koy Parada, Ph.D., who was a doctoral student in the UCLA School of Public Health, where the concept for the project originated, and today remains involved as a faculty adviser. “If there’s a problem, long-time clients often will defuse the situation themselves before it escalates.”

At the end of the evening, the students and their supervisors gather under their portable lights for a debriefing. The group invariably includes at least one student who is beaming in the aftermath of a meaningful client interaction. It is a powerful, formative experience that will help to shape many of these students’s future careers. “This makes me to want to become a physician who will listen when others do not,” DeMartini says.

Ele Lozares-Lewis, M.D., hasn’t forgotten her experience as a project volunteer six years ago. It was pivotal in her decision to pursue a career in family medicine working with underserved populations. Dr. Lozares-Lewis is currently a third-year resident at Santa Rosa (Calif.) Family Medicine Center. Working with the homeless population as a student “wasn’t easy emotionally, but it felt comfortable,” she recalls. “The population was so grateful for any help we could give them.”

For Dr. Lozares-Lewis, the experience also had a significant dose of déjà vu. She had been planning on studying film production when her life spiraled out of control in the 1990s. Hooked on speed, she lived for five years out of abandoned warehouses and ate from soup kitchens in San Francisco as she struggled to put her life back together. She vowed that if she succeeded, she would do something to give back to the community. She did succeed and came to study neuroscience at UCLA, where the Mobile Clinic Project gave her that opportunity.

Her story is emblematic of a reality that comes as a surprise to many medical students interacting for the first time with the homeless population: “They learn that a lot of the clients they see are not all that different from them or their family members,” Dr. Lozares-Lewis says.

But if interacting with some of society’s most neglected individuals reminds students not to lose their empathy amid the rigors of medical school, it can also force them to grapple with the reality that despite their best efforts, dramatic success stories are all too rare. More typical, sadly, are the stubbornly self-destructive clients who struggle with mental illness or fight a losing battle with sobriety, if they fight at all. Many are severely depressed. It’s heartening for the project volunteers when they are able to find shelter for clients in need, but there are also times when the system fails, and a bed with a roof over it is nowhere to be had.

“With this population, you have to change your frame of reference,” Dr. Coppenrath says. “We can’t fix all of their problems in one visit. We can give them a good night, and maybe a good week. We can try to give them a good month and work toward getting them a good year. “But you need to start small,” he says. “If you go out thinking you’re going to be able to save every person in a single encounter, you’re not going to get very far.”

Dan Gordon is a regular contributor to UCLA Medicine.

For more information about the UCLA Mobile Clinic Project and/or to donate or volunteer services, go to: www.mcp.ucla.edu
OM SPEAR HAS BEEN IN PAIN FOR 36 YEARS. He was 22 when he was riding along the freeway on his motorcycle, and a driver pulled off on the shoulder and suddenly cranked a U-turn in front of him. He slammed into the car, flew over and skidded 300 feet. When he came to rest, he had a severe compression fracture in his spine. He was hospitalized for 10 months.

Spear is 58 now. He has been married for 30 years, has four children and a successful real-estate business in Culver City, and he still hurts. He’s been on the narcotic patch fentanyl and taken the highest doses of oxycontin he could tolerate. There have been more operations than he can count, including what he calls the “big one” at UCLA, in 1998, when doctors ground up part of his hip and used the meal to fuse a vertebra in his lower back to one in his sacrum. He’d heard so many horror stories about failed back surgeries that he fought having one for two years. “It scared the bejesus out of me,” he says.

The operation did help. After six months of physical therapy, he was able to work again. And despite having a degenerative bone disease that causes the spine to buckle and squeeze the nerves like toothpaste from a tube, in many ways Spear feels blessed. His wife, Cyndee, has been a rock. She is a nurse, and “takes on the brunt of the worry about my health,” he says.

“The greatest evil is physical pain,” wrote Saint Augustine, and one of its many associated ills is that it affects the entire family. Between the pain and the opiates Spear was taking to blunt the vice gripping his spine, he wasn’t exactly easy to live with. The painkillers made him sharp, angry. He couldn’t do things with his kids. “I missed a significant portion of their lives,” he says.

But he couldn’t have functioned without the drugs. He also couldn’t have functioned without a caring physician to help him along the way. For Spear, that physician is F. Michael Ferrante, M.D., director of the UCLA Pain Management Center. "In my experience," Spear says, “the difference between doctors and healers is healers have an intrinsic gift. I believe Dr. Ferrante has that.”

And, in fact, healers do make a profound difference. One
study found that the most critical treatment factor affecting outcome was “the intensive involvement of a single physician.”

ONE OF THE CRUEL PARADOXES OF CHRONIC PAIN, whether it is from injury or an illness such as cancer, is that you can’t see it. It’s subjective, a complex perception involving sensation, cognition and emotion, a malady that afflicts some 50-million Americans. Unlike acute pain, which serves to warn you if you bang your toe to stop what you’re doing and pay attention to the injury, chronic pain is useless. It is a signaling in the central nervous system and the brain that’s gone awry, where the nerves keep screaming that the body hurts even after the original assault is healed.

In irritable bowel syndrome (IBS), for instance, one of the most common chronic pain conditions in adolescents and children, the sensory signaling is heightened so much that eating hurts. “Children will be brought sometimes from one gastroenterologist to another, and despite all the usual tests looking for disease, everything looks normal,” says Lonnie Zeltzer, M.D., director of the Pediatric Pain Program at Mattel Children’s Hospital UCLA, and the author of a book for parents on chronic pain. “Often people go from doctor to doctor, or they’re sent to a psychologist. They can often feel, ‘The doctor thinks I’m crazy,’ without recognizing that pain signaling can take place in the brain.”

Why some people are able to endure chronic pain while others cannot is a mystery. But it is believed one’s experience with pain is an interplay of genetics, the intensity of the original acute pain and cultural and psychological differences. “It can affect you on a purely somatic basis. Many people are hopeless. There have been studies to suggest that people who have spirituality have a tendency to do better,” Dr. Ferrante says.

“We know that all pain is real,” says Dr. Zeltzer. “There are chemicals in the brain and central nervous system involved, and there are many ways that emotions and experience influence chronic pain.”

And because it is subjective, pain is troubling for many doctors. “I don’t think the medical community understands the complexity of pain patients,” says Dr. Ferrante.

This is especially true in the case of children and adolescents. In a recent article in Science Daily, pediatricians reported that the dearth of options available for managing children’s pain is one of the most difficult aspects of providing care. At the UCLA Pediatric Pain Program, Dr. Zeltzer and her colleagues are working to change that reality. “We think about chronic pain in children from a family perspective, from a developmental and a biopsychosocial one,” she says.

Founded in 1991, the program takes an interdisciplinary approach to chronic pain. Dr. Zeltzer’s team includes clinicians and researchers from traditional fields like psychology and psychiatry, but also alternative complementary therapies such as yoga, acupuncture, hypnotherapy, biofeedback, art and music therapy and massage.

Subhadra Evans, Ph.D., wants to see if, like acupuncture, yoga has demonstrated benefits for pediatric patients. She’s currently conducting two studies to determine yoga’s usefulness in reducing pain. She ultimately hopes to discover: “Is this a feasible, safe and efficacious approach for young people?”

In one study, 80 patients from ages 16 to 35 with rheumatoid arthritis are taking iyengar yoga classes for six weeks. In a second study, young people ages 14 to 26 with IBS are practicing yoga for six weeks. Before each class, the IBS patients are doing a series of stress tests and having their heart rate and blood pressure and other measures taken. At the end of the six weeks, Dr. Evans will determine if the yoga improved symptoms.

ON A COOL MORNING IN MARCH, Spear is at a crossroads. Six years ago, his pain levels were soaring, and Dr. Ferrante implanted a neural stimulator, a small box similar to a pacemaker, in his hip. Tiny wires from the box delivered electrical impulses to his spinal cord. The idea behind the device is to confuse the pain signal and replace the pain with a sensation that is more benign.

For a time it worked beautifully. It also allowed Spear to cut back on the drugs that were making him edgy and dull. Then two years ago, for no apparent reason, the pain roared back to life. It was so severe, he lay in bed curled up in a ball. They finally wrestled it down after he spent two weeks in the hospital.

Now, Spear is considering having Dr. Ferrante implant a pain pump in his abdomen, a way to deliver opiates directly to the spine. As a consequence of the drugs he’s had to take, Spear can’t remember things, a side effect called “clouding.” If he saw a TV show and his wife plays it again a week later, it’s as if he’s never seen it. He forgot his anniversary. He hates not being able to remember. The
pump could alleviate that.

Still, as with any surgery, there are risks. And in the realm of chronic pain, perhaps the biggest risk is that it might not work.

**ALBERT SCHWEITZER CALLED PAIN** “the most terrible of all the lords of mankind.” Two-thousand years before Christ, people were using opium to treat pain. But the history of pain research and modern pain treatment really begins in the 1800s. And much of that research story is told in the Louise M. Darling Biomedical Library at UCLA.

It is here that archivist Russell Johnson and historian Marcia Meldrum, Ph.D., oversee the John C. Liebeskind History of Pain Collection. In the 19th century, people accepted pain as a fact of life, Dr. Meldrum says, and most looked to religion to help them cope. Pain was even considered virtuous. “This was something God gave you to test your character,” she says, speaking in the library’s Rare Books Room against the backdrop of a poster from the 1930s depicting a man with a big grin and nails sticking out of his cheeks and chin.

Far from discouraging this concept of righteous pain, many physicians reinforced it. As for pain treatments, they often contained opium or morphine in an alcohol base and were sold over-the-counter. Even children and infants were given the drugs. For a teething baby, there was Mrs. Winslow’s Soothing Syrup, just such a blend of alcohol and morphine. “Many people used these to self-medicate,” Dr. Meldrum says.

When surgical anesthesia came along, in 1946, the belief that pain was somehow good for you began to fade. Yet, throughout the 19th century, many physicians resisted its use. “There were a lot of arguments about whether it was ethical,” says Dr. Meldrum. “The patient is completely unconscious, and you’re cutting him with knives?”

The next revolution in pain treatment came in 1855, when physicians invented the hypodermic needle. It allowed doctors to easily administer morphine, and during the Civil War, it was liberally used to treat wounded soldiers. But when thousands of soldiers, and later civilians, developed addictions, doctors were faced with a conflict: Should they ease severe pain at the risk of addiction?

There was no such conflict over the “wonder drug” aspirin. Developed by a German chemist in 1897, Bayer aspirin soon became the best-selling analgesic in the world. “Try to imagine a world in which there wasn’t a good treatment for arthritis,” says Dr. Meldrum. “Aspirin was good for arthritis. It was good for toothaches. It was good for headaches.”

At the time, pain was understood to be a simple neural response to a single, unpleasant stimulus. Yet many sufferers of chronic pain didn’t fit this mold, so pain was stigmatized – the idea that it’s “all in your head.” “Most physicians didn’t understand pain and couldn’t treat chronic pain,” says Dr. Meldrum. “They thought the patient was a hypochondriac.”

William Livingston, M.D., didn’t share that view. From his work on athletes with sports injuries, the Oregon surgeon saw that chronic pain wasn’t just confined to tissue damage but was far more complex. During World War II, he and a handful of others pioneered using lidocaine blocks to treat soldiers with peripheral nerve injuries and other chronic problems. But for some, the relief was only temporary.

In 1946, Harvard anesthesiologist Henry Beecher, M.D., reported an astonishing discovery. In Italy during the war, he had observed that severely wounded soldiers reported far less pain than his surgery patients at Massachusetts General Hospital. The soldiers saw pain as a blessing because it meant they were leaving the war. “Contrast that with the patient who was yanked out of the comfort of home, operated on and was scared stiff,” says Dr. Meldrum. “He immediately started experiencing disabling pain.”

Dr. Beecher dubbed this response “the reaction component” – the idea that pain is individual and shaped by experience.
But one of the biggest advances in the pain field came in 1965. That year, Patrick Wall, D.M., and Ronald Melzack, Ph.D., published their legendary article in *Science* on the “gate theory,” completely changing how pain transmission was understood. Let’s say you stub your toe. If the “gate” in the spinal cord is open, the signals will be transmitted to the brain. If the gate is closed, they won’t. Unless the pain is strong enough, the gate will stay closed. But if you focus on the pain in your toe, you can force the gate open—in other words, thinking about pain can make pain worse. At the same time, recent studies have also shown that distracting yourself from pain can make it better. Although the gating mechanism described by Wall and Melzack was later refuted, their idea that simple pain stimuli are modified within the body laid the foundation for a whole new field of research.

“We now know at lot more about how thinking, ideas, memories and a sense of lack of control can neurologically increase metabolic activity in the pain centers of the brain,” says Dr. Zeltzer.

Melzack’s studies with young dogs also helped to show that pain is learned from a very young age. “This is one of the sad things about kids with pain,” says Dr. Meldrum. “It’s a learned response. But you can also learn how to manage it.”

It is a problem the UCLA Pediatric Pain Program is intently focused on. In a recent study of 244 families funded by the National Institutes of Health, Dr. Zeltzer and her colleagues explored how healthy kids respond to pain. The children and adolescents, who ranged from 8 to 17, were given a set of standardized laboratory pain tests, while their parents filled out questionnaires. The researchers looked at three things: gender differences in pain responses, differences between boys and girls based on pubertal development and early versus late puberty. Did children respond to pain differently as they went through puberty?

The results were striking. Girls were less tolerant of pain than boys, but this difference was only apparent among adolescents. Yet as boys got older, they became more tolerant of pain. It’s not clear why, but “it suggests that when children are younger, boys and girls should be treated more similarly in terms of pain,” says Jennie Tsao, Ph.D., research director for the UCLA Pediatric Pain Program. “But as children get older, boys may try to downplay or underreport their pain.”

Dr. Tsao and her colleagues also found a strong link between parents’ anxiety and an increased sensitivity to pain in girls, but not in boys. “Parents have a huge influence in terms of how their children respond to pain,” says Dr. Tsao. “We can’t modify parents’ genetics, but maybe we can help them manage their anxiety or how they role model in dealing with their pain and stress, in the hope that it helps their children.”

**THE GATE MODEL TRIGGERED A RENAISSANCE** in pain research, including several path-breaking studies at UCLA. In 1971, psychologist John Liebeskind, Ph.D., and his colleagues at UCLA made a stunning discovery: A certain area of the brain known as the periaqueductal gray produced an analgesic effect similar to opiate-like substances when an animal was stressed. What if sufferers of chronic pain could tap into that effect? This soon led to a surge of interest in alternative treatments to help patients manage pain.

Dr. Liebeskind also made another profound discovery: Chronic pain was far more destructive than physicians knew. “Before, we didn’t think there were consequences on the nervous system,” says psychiatrist and pain specialist Thomas Strouse, M.D., medical director of the Stewart and Lynda Resnick Neuropsychiatric Hospital at UCLA. “Dr. Liebeskind showed that chronic pain could tap into that effect! This soon led to a surge of interest in alternative treatments to help patients manage pain.”

Dr. Liebeskind died of cancer in 1997.
But his work lives on in the oral histories he recorded of his colleagues, and in his students. “He was very instrumental in producing the next generation of researchers,” says Dr. Meldrum.

The ’90s were a watershed in the pain movement. After persistent advocacy by regional, national and international pain societies, pain was made the fifth vital sign in healthcare, as critical to understanding a patient’s health as heart rate or blood pressure.

That decade also brought an increased acceptance by doctors of the value of opioids in treating pain – a dramatic shift from the ’70s and ’80s. “In the culture of medical training,” says Dr. Strouse, “most of us were trained that opioids are bad, and people who need them are bad, so we should not reinforce that by treating with opioids.”

But the ’90s also brought a wave of prescription-drug abuse. As a result, doctors and patients had new fears about addiction, many of them uninformed.

As Dr. Strouse emphasizes, there’s a big difference between addiction and dependence. “Any patient with chronic pain who takes opiates regularly for more than a few weeks is going to develop physiologic dependence, an entirely normal and predictable phenomenon. The cardinal symptom of dependence is evidence of withdrawal if the medicine is abruptly stopped. This is avoided by stepwise dose reduction. Addiction,” he says, “is a pathologic state. It includes loss of control over one’s use behavior and continued use of the drug despite negative consequences. No one would say it’s a good outcome.”

If pain specialists have learned anything over the past 25 years, it is this: Not all pain is equal. Pain associated with tissue injury, or “nociceptive” pain, can come from soft tissues, bone, nerve, hollow viscera and other sources. Optimal pain management and drug selection takes these variables into consideration. “It is important for doctors to evaluate the kind of pain they’re observing,” says Dr. Strouse, “and to articulate what the issue is, and what does the clinical science and his or her clinical experience say is going to be the best treatment?”

**SPEAR DID HAVE THE PAIN PUMP PUT IN.**

It rests in his abdomen, and a line carries morphine to a catheter in his spinal cord. “It’s been tremendous,” he says. “It removed that whole level of pain in my system that would spin out of control.”

In early September, he’d just returned from a trip to Alaska, where he hiked and flew in a helicopter. His memory is better, his mind clearer. “I feel much more human,” he says.

He’s still wearing a pain patch but has been able to reduce his oral medication by about 25 percent. Eventually, he wants to wean himself off those drugs entirely. “I have every reason to believe I’ll accomplish my goal,” he says.

Asked to reflect on his long journey, Spear offers a hopeful message: “You need to get with the right caregivers,” he says. “Then you have to take responsibility for your health. I think you have to never give up. There’s always something that can be done better.”

**MONA GABLE is a freelance writer in Los Angeles.**
Through comparative effectiveness, evidence-based medicine can help to shape healthcare of the future.

for a consumer, comparison shopping is easy. Need a new refrigerator and want the best model within your budget? Open up Consumer Reports and compare brands. But what if you’re a doctor caring for patients with heart failure? There’s no annual issue of Consumer Reports, or any other publication, summarizing the relative merits of treatment protocols for coronary-artery disease.

But there is “comparative effectiveness” – a hot-button buzzword during the recent legislative debate over healthcare reform. At its most basic, comparative-effectiveness research uses evidence-based studies to directly compare one medical treatment with another to determine which does the most good for what patients and when.

“Current healthcare reform emphasizes that if you’re responsible for a population of patients, you want to provide and promote the best, most effective care, discourage what is not effective, and when there is a less costly choice with similar or better results, use it,” says Samuel Skootsky, M.D., chief medical officer of the UCLA Faculty Practice Group and UCLA Medical Group. “For example, generic-drug prescriptions are often as effective and cost much less than name brands. Is a generic always the right answer? Of course not. A name brand, at times, might be the right choice. But, there is a huge number of brand-name prescriptions being written when generic versions are equally good.”

To help physicians at UCLA make these choices, Dr. Skootsky has worked with colleagues to develop a series of guidelines for more “rational” care choices. One guideline, for example, summarizes the best approaches – rooted in evidence-based medicine – for ordering diagnostic imaging in a variety of different situations.

“It is sometimes necessary to order an MRI of the back for back pain,” Dr. Skootsky says, “and when you order this kind of imaging, you can order plain MRI or MRI with a contrast agent, or both. But most common back pain issues don’t need the contrast scans.” As a result of the guideline, he says, “we’ve seen a decrease in the number of dual requests for both plain and contrast scans.” To date, Dr. Skootsky and his colleagues have developed guidelines in about 20 areas. “There are maybe 300 we should develop,” he says.

In addition to helping physicians make the best choice from among the various options, “we want to eliminate situations where the right evidence-based treatment is not provided because of an error of omission, where the physician simply didn’t think about a particular therapy,” says cardiologist Gregg Fonarow, M.D. “We also want to guard against overuse of ineffective therapies.”

An innovative program developed more than 16 years ago by Dr. Fonarow, director of the Ahmanson-UCLA Cardiomyopathy Center, associate chief of the Division of Cardiology and co-director of UCLA’s Preventative Cardiology Program, has helped to standardize treatment nationwide of patients who are hospitalized with heart attack, heart failure or stroke. Dr. Fonarow and his colleagues have demonstrated through multiple studies that the evidence-based standardized orders and protocols used in the program –
What Works?
What Doesn't?
At its most basic, comparative-effectiveness research uses evidence-based studies to directly compare one medical treatment with another to determine which does the most good for what patients and when.

application, for example, of aspirin, beta blockers and angiotensin converting enzyme (ACE) inhibitors coupled with cholesterol-lowering medications, exercise, diet and smoking-cessation programs – have significant positive effects. They have been shown to reduce the danger of recurring cardiovascular events, lower the chance of patients being rehospitalized 30 days and longer after discharge and decrease the risk of death by 50- to 80 percent.

The system, called the Cardiovascular Hospitalization Atherosclerosis Management Program, or CHAMP, has evolved into the American Heart Association’s Get with the Guidelines Program and has been adopted by more than 1,500 hospitals in the U.S., benefiting some 2.5-million patients. CHAMP “was designed to improve how patients are treated and produce highly reliable and safe care for all patients, no matter who the doctor or nurse is,” Dr. Fonarow says. “This is not cookbook medicine. It is a highly reliable system-based approach to provide the most evidence-driven effective care to patients with cardiovascular disease.” In addition, “the system we’ve created is broadly applicable to other disease states as well,” he adds.

Comparative-effectiveness research was among the most controversial elements of this past year’s federal health-reform debate. Critics of the approach worried that it could lead to rationing if researchers recommend low-cost treatments that might be well-suited for most but not all patients. Those concerns were largely addressed by wording within the law that prohibits using the findings from comparative-effectiveness research as mandates, guidelines or recommendations for insurance payment, or to deny coverage.

An independent body, the Patient-Centered Outcomes Research Institute, was established to oversee the research. “This novel undertaking has tremendous promise for measurably improving the quality of healthcare in the United States and the health of all Americans,” says A. Eugene Washington, M.D., M.Sc., vice chancellor for UCLA Health Sciences and dean of the David Geffen School of Medicine at UCLA, who was named chair of the governing board.

But beyond individual treatment choices, the concept of comparative effectiveness extends to a far broader issue: What is the best way to deliver care for chronic illness?

“Right now, we have a certain system for delivering care,” says Tom Rosenthal, M.D., chief medical officer of UCLA Health System. “If you have back pain, for example, you see an orthopaedic surgeon. But this is an expensive way to practice medicine. Maybe it works well for certain illnesses, and maybe it worked when most people died of infectious diseases, but in the 21st century, where you have lots of elderly people with multiple diseases, shuttling them from doctor to doctor is ineffective, inefficient and costly.”

The alternative, Dr. Rosenthal suggests, is a more coordinated system and one in which the services provided by a particular healthcare worker are a better match for his or her skill set. “The idea is to let everyone practice at the highest level his or her education will allow,” Dr. Skootsky concurs. “Doctors do doctor work; nurses, nurse work; medical assistants, medical-assistant work.”

Such efficient utilization of resources will become more necessary as baby boomers age and begin to have more and more chronic health problems. For example, says Dr. Rosenthal, “a person with congestive heart failure could be assigned a nurse who goes to the patient’s house so he or she can avoid 18 doctor visits with different specialists. Cardiologists would still oversee the cases, doctors would still have their roles, but instead of half of it being work that’s below their skill level, the process is more efficient.”

In this vein, Dr. Skootsky and his colleagues have conducted a small pilot study to remotely monitor the weight of patients with congestive heart failure. Even a seemingly mundane gain of five pounds can signal serious problems, as it can mean that the body is holding onto extra fluid because the heart is failing. However, patients might not pay as close attention to their weight as they should, or might not say anything about it to their doctor. And then they land in the emergency room, with real issues, “which can happen very quickly,” Dr. Skootsky says.

Dr. Skootsky’s program is designed to relieve the patient of the responsibility for self-monitoring for such changes. A nurse goes to the patient’s home to introduce the program and set up the telemedicine monitoring equipment. The patient just has to weigh himself or herself daily, and the data are remotely monitored by the telemedicine system. If the patient’s weight is above a predetermined danger threshold, the system sends an alert over the Internet to the nurse. “If the patient is getting into trouble, that’s when the nurse calls. It’s an example of improved patient monitoring by a member of the healthcare team who isn’t the physician. The physician is brought in only when he or she is needed for
intervention — a change in treatment, for example."

Currently, about 30 patients are enrolled in the program, and a few more are added every month. “So far, it is working very well,” Dr. Skootsky says. “The patients like it, the doctors like it, and it appears to be reducing the need for hospitalizations, although we require more patients in the program to be sure.”

This model will be evaluated further in a 1,500-patient comparative-effectiveness study of transition-care programs for elderly congestive heart-failure patients at the five University of California medical centers and Cedars-Sinai Medical Center. The studies, which are funded by a $9.9-million grant to a team led by UCLA internist Michael Ong, M.D., Ph.D., will compare two different programs that are designed to ease the transition from inpatient to outpatient care. Standard post-discharge care will be provided by each medical center, with structured follow-up telephone calls from a centralized group of nurses, and remote monitoring of patients and as-needed telephone calls similar to Dr. Skootsky’s model.

“Each program is designed to provide a ‘warm’ hand-off after the patient is discharged from the hospital but before he or she begins outpatient care, with the goal of reducing hospital readmissions,” Dr. Ong says. “Each also checks in on patients up to six months after discharge, whether through regular telephone check-ins or remote monitoring. “This is the type of care we should be providing, and trials show that approaches like these are effective at reducing admissions. But they can be very expensive for providers. So the question is, how do we implement them in a way that is just as effective but at lower cost?”

Such evidence-based evaluations are not possible without fairly large patient populations that can provide statistically significant results. “This is a challenge in pediatrics,” says pediatric cardiologist Thomas Klitzner, M.D. “The frequency of chronic diseases in kids is much lower, and the variation in diseases is much greater, so the number of children you can study with homogenous conditions is low.” However, that doesn’t mean it’s impossible to develop more effective and more efficient care for children. “All children with chronic medical conditions will benefit from a less fragmented care-delivery system,” he says. “In pediatrics, we’re working to decrease fragmentation — not for cost reduction as much as for improving quality.”

To that end, Dr. Klitzner, the Jack H. Skirball Professor in the David Geffen School of Medicine at UCLA, and his colleagues developed a novel Pediatric Medical Home program for children with very complex medical conditions that require the coordination of several specialists.

Forty children, each seeing a minimum of two pediatric subspecialists, were initially enrolled in the program, which started in 2003 and follows guidelines established by the American Academy of Pediatrics. The program involves four basic components: a 60-minute intake appointment, follow-up 40-minute appointments (twice the normal time), access to a bilingual family liaison to help families make their way through the medical system, and a family binder to keep all of the child’s medical information in one location.

“It is a pretty simple system,” Dr. Klitzner says. “If patients don’t have a medical home, their primary medical relationships tend to be with the specialists who take care of their illnesses. So they’ll see a neurologist for a headache and a dermatologist for a skin condition. Each organ system is treated individually, in a vacuum.”

In contrast, he says, the medical home “tries to sit at the center of that medical care, along with the patient. We make sure the neurologist and dermatologist notes are collected in one place, so there is a complete set of notes on the child.” In addition, appointments are coordinated so visits to separate specialists are on the same day, schools are kept abreast of the child’s condition so they will know whether or not the child will be returning to school, and so on. Studies do show that these simple steps have had a big impact, cutting children’s emergency-room visits by 55 percent while also improving patient satisfaction.

“We’re hoping to enroll from 400 to 1,000 patients in the program,” Dr. Klitzner says, adding that he would eventually like to expand the program beyond the UCLA-patient population. “Some 50,000-to-60,000 kids in Los Angeles County have complex cases, so we need to see if this approach will scale,” he says. “I think it is doable, but right now it’s still theoretical.”

It, indeed, is not clear that such tactics will be completely transformational. “There are some in the policy world who hope that comparative-effectiveness research will be a catalyst to make over the American healthcare system. But there’s really no telling how this will play out,” says Dr. Rosenthal. “There won’t be a ‘Big Bang,’ where suddenly everything is different. Change could take 10-plus years, and it might turn out that doing some of these things will not be efficient, or that they can’t be put into practice in the average clinical-care milieu.”

Regardless, identification of the need for this research is a significant step forward and an “important opportunity for academic medical centers like UCLA,” he says. “This direction provides resources for us to study how care is best delivered. And these,” Dr. Rosenthal concludes, “are important questions for us to answer.”

KATHY A. SVITIL is co-director of news at the California Institute of Technology and a former writer and editor for Discover magazine.
Femurs and Fords

OUR CARS AND OUR BODIES. Both are elegant machines that require special care and attention. When they break down, someone with singular expertise must step in to fix them.

Enter Eric E. Johnson, M.D. An avowed “car guy” since childhood, he looks upon automobiles as an art form to be lovingly cared for, with a particular fondness for collecting and restoring American classics. And as director of orthopaedic trauma at Ronald Reagan UCLA Medical Center, Dr. Johnson is the go-to surgeon when the most serious bone and joint injuries arrive at the hospital, employing screws and plates and jack-like devices to align and repair the damage.

“It’s a mechanical thing,” he says of the work he does under the hood of the human body. “It is much like cars and engines and transmissions.”

The care that he takes with his patients in the O.R. extends to the care he takes of his vehicles, which sleep under custom-fit covers in the family garage. Among them is a red 1966 Shelby GT350 – a fastback Ford Mustang coupe turned quasi-racer, thanks to the legendary driver and car builder Carroll Shelby – with just 600 original miles on the odometer, a snake-skin green ’08 Dodge Viper SRT10 and a 2006 Ford GT, a two-seat limited-production “supercar.”

“I have had only one speeding ticket in my life, and it was in one of these,” Dr. Johnson says, pointing at the Viper, a 600-horsepower beast that can roar from zero to 60 m.p.h.

The ’66 Shelby GT350 is just one of the classic American muscle cars in the collection of orthopaedic trauma surgeon Dr. Eric E. Johnson.

Awards/Honors

Dr. Laura B. Allen, clinical psychologist and postdoctoral scholar with the UCLA Pediatric Pain Program, received the 2010 Chancellor’s Award for Postdoctoral Research.

Dr. Christopher Giza, associate professor of pediatric neurology and neurosurgery, received a financial award from the Today’s and Tomorrow’s Children Fund for his research in developing new treatments for traumatic brain injury.

Dr. Sung-Cheng (Henry) Huang, professor in the Departments of Molecular and Medical Pharmacology and Biomathematics, received the 2010 Benedict Cassen Prize from the Society of Nuclear Medicine.

Dr. David L. Rimoin, professor of pediatrics, medicine and human genetics, received the American College of Medical Genetics Foundation (ACMGF) 2010 Lifetime Achievement Award for his contributions to genetic medicine, research into skeletal dysplasias and heritable disorders of connective tissue and for helping to organize the field of medical genetics into creditable associations like the ACMGF.

Dr. Gary Satou, associate professor of pediatric cardiology and director of pediatric echocardiography, received a financial award from the Today’s and Tomorrow’s Children Fund for his research to develop a telemedicine connection with remote facilities that do not offer specialty pediatric heart care.

Dr. Jeffrey Saver, professor of neurology and director of the UCLA Stroke Center, was named 2010 Physician Volunteer of the Year by the American Heart Association for his efforts in establishing stroke systems of care in Los Angeles and for his accomplishments as chair of the California Stroke Work Group.

Dr. Wendy Slusser, associate clinical professor of pediatrics, received the 2010 Robert F. Allen Symbol of H.O.P.E (Helping Other People through Empowerment) Award from the American Journal of Health Promotion for contributions to serving the health-promotion needs of underserved populations.

Dr. Robert Venick, assistant clinical professor of pediatric gastroenterology, hepatology and nutrition, received a financial award from the Today’s and Tomorrow’s Children Fund for his research to help children who must be fed through parenteral nutrition.

Dr. A. Eugene Washington, vice chancellor for UCLA Health Sciences and dean of the David Geffen School of Medicine at UCLA, was appointed chair of the Board of Governors of the Patient-Centered Outcomes Research Institute, which was mandated by federal health-reform legislation to “assist
The care Dr. Johnson takes with is patients in the O.R. extends to the care he takes with his vehicles, which sleep under custom-fit covers in the family garage.

3.5 seconds and tops out at around 200 m.p.h. Gazing at the Viper’s outrageous styling, which practically screams “arrest me” even while standing still, it’s hard to imagine that the doctor has gotten only one ticket while at the wheel.

And there is Dr. Johnson’s 2010 Ford Shelby GT500 convertible. With 540 horsepower under its distinctive hood and huge tires under its retro-styled body, the new car makes his GT350 look like a baby buggy in comparison, and shows just how far we’ve come over the past half-century in automobile engineering and design.

That’s also true in Dr. Johnson’s professional world. “Technology is advancing so fast, it’s sometimes hard to keep up,” he says. “When I first started as a surgeon, there were just a few different kinds of plates – L-shaped plates, straight plates and curved plates – and we had to adapt those plates to all parts of the body. Now we have probably 10 different plates for the humerus and nine or 10 for the femur. Every bone and every part of a bone now has a different plate. In fact, the problem is trying to balance it all and figure out what’s really needed and what’s overkill.”

Dr. Johnson is an enthusiastic practitioner and advocate for his profession – he has received numerous recognitions, including honorary membership in the Royal College of Surgeons of Ireland, and is a board member of the prestigious AO Foundation, a Swiss-based non-profit dedicated to research and training in musculoskeletal surgery – but he gets a certain glint in his eyes when he talks about cars. There’s that tungsten-silver Ford GT of his, for example. The sleek design of its fiber-glass body pays homage to the legendary Ford GT40, which won the 24 Hours of Le Mans endurance race in 1966, ’67, ’68 and ’69. “The GT40s just destroyed the Ferraris,” Dr. Johnson says, with more than a hint of American pride in his updated GT40, a Ford Motor Company-produced 40th anniversary GT, which he describes as “a wonderful car, so smooth and precision-like.”

Most of his cars are for show, but there’s one he takes special pleasure in driving – a 2003 Mini Cooper S with a John Cooper Works engine kit that boosts the output to 215 horsepower. Joined by other members of the Mini Maniacs, a Southern California Mini-owners club, Dr. Johnson enjoys weekend outings behind the wheel of the only black car he’s ever owned. And it will be the last, he swears. “Black’s nice,” he says, swiping at a tiny fleck of dust with his polishing cloth. “A black car looks great when it’s clean. But you drive around the block, and it’s dirty. Even though I keep it covered, it still gets dirty.”

Keeping his cars clean is about the only automotive work Dr. Johnson feels capable of performing these days. “I used to work on a 1958 Corvette I once owned,” he says. But these cars are too sophisticated. I think I’d just screw ‘em up if I tried to fix ‘em.”

One car he polishes very little is the GT, which doesn’t get dirty because it seldom leaves the garage. “I can’t get it out of the driveway because it’s so low it bottoms out at the edge of the street,” he says with a smile. “So it’s just a piece of art, something to look at and admire.”

— Joe Rusz

Funding agency: California Institute for Regenerative Medicine
Grant amount: $9.2 million
Grant duration: 4 years
Principal investigator: Dr. Donald Kohn, professor of microbiology, immunology and molecular genetics and pediatrics
Summary: To develop a blood-stem-cell transplant to cure sickle cell disease.

Funding agency: National Heart, Lung and Blood Institute
Grant amount: $12.5 million
Grant duration: 5 years
Principal investigator: Dr. Aldons J. Lusis, professor of medicine, MIMG and human genetics
Summary: To use molecular genetic approaches in humans and mouse models to understand metabolic disorders of lipid metabolism.

Funding agency: National Institute of Allergy and Infectious Diseases
Grant amount: $14.5 million
Grant duration: 5 years
Principal investigator: Dr. William H. McBride, professor of radiation oncology
Summary: To develop agents that mitigate the effects of radiation exposure with a particular emphasis on the immunohematopoietic system.

In Memoriam
Dr. Arthur L. Rosenbaum, former vice chair of ophthalmology at the David Geffen School of Medicine at UCLA and chief of pediatric ophthalmology and strabismus at the Jules Stein Eye Institute, died June 22, 2010. He was 69 years old. Dr. Rosenbaum specialized in childhood disorders of the eye and in adult strabismus. He was among the first investigators to explore the use of Botox injections to correct eye-muscle misalignment in strabismus, and he performed more than 300 eye-muscle correction surgeries a year, pioneering many surgical techniques still applied today.

Dr. Paul Satz, professor emeritus of psychiatry and biobehavioral sciences and founder of the UCLA Neuropsychology Program at the Jane and Terry Semel Institute for Neuroscience and Human Behavior at UCLA, died June 20, 2010. He was 77 years old. Dr. Satz’s seminal contributions include landmark works that laid the foundation for understanding healthy and pathological asymmetries of brain structure and function, theories of developmental disorders, and research on the cognitive and affective consequences of head injuries and HIV/AIDS.

patients, clinicians, purchasers and policymakers in making informed health decisions.”

Grants

Funding agency: National Institute of Allergy and Infectious Diseases
Grant amount: $14.5 million
Grant duration: 5 years
Principal investigator: Dr. William H. McBride, professor of radiation oncology
Summary: To develop agents that mitigate the effects of radiation exposure with a particular emphasis on the immunohematopoietic system.
In the News

IN AUGUST, The New York Times featured an article about Operation Medical Libraries, which was launched by the UCLA Medical Alumni Association in 2007 as a limited project to provide books to medical schools and libraries in Iraq. The program has grown significantly from its modest beginnings — now some 30 universities and hospitals, more than a dozen professional organizations and numerous individual doctors and nurses are involved. Books now go to institutions in Afghanistan, as well as to medical libraries in such places as Mozambique, the Solomon Islands and Uganda. To contribute, go to http://opmedlibs.medalumni.ucla.edu; to read the article, click on the “Resources and Publicity” tab.

Call to Action: RENEW

DONATE STILL-USABLE medical materials and supplies to UCLA’s student-run Recovering Medical Equipment for the Needs of Everyone Worldwide (RENEW). RENEW reduces waste by collecting used medical supplies for use in developing countries that are visited by UCLA medical alumni, staff, faculty and students. Among the countries that have received RENEW supplies are Afghanistan, Haiti and Zimbabwe. RENEW accepts expired materials and opened kits but not saline IV bags or medications. For more information, visit www.medstudent.ucla.edu/renew.

Miracle Worker

WHEN JAN AND RUSSELL MORRISON first met Darrell Cass, M.D. ’91, they were making funeral arrangements for their unborn son. It was February 2006, and the 5-month-old fetus, who they already had named Garrett, had a three-inch tumor that filled two-thirds of his chest cavity and was pressing against his heart, lungs and diaphragm, cutting off the flow of blood and forcing him into heart failure. The outlook was grim.

But within hours of their meeting, Dr. Cass, co-director of the Texas Children’s Hospital Fetal Center, and a specialized surgical team were performing a high-stakes operation to remove the tumor while the one-and-a-half-pound fetus was still in his mother’s womb. Without any guarantee of success, the technically challenging procedure to open the mother’s womb without triggering labor, operate on the fetus and then close the womb so the pregnancy could continue, was risky for both the mother and child.

“I was very focused,” recalls Dr. Cass. “This was the first time I was the primary fetal surgeon and ultimately responsible for the outcome of a fetus’s life. I felt prepared, but I also was anxious.”

Once the operation was over, “I felt ecstatic,” Dr. Cass says. “And very relieved. I knew that my team and I had done everything possible to try to save this little baby. Everything had gone as well as it could have.” Though he remained “somewhat anxious” in the days following the surgery, “after a month I was confident that the fetus’s chances were good.”

Two-and-a-half months after the surgery, Jan Morrison went into labor. Dr. Cass delivered Garrett. “I was overcome with joy when I saw the baby move his extremities and then cry,” Dr. Cass recalls. “I simultaneously felt proud and humbled. It was a miracle that the baby was able to recover from the fetal surgery.”

Garrett has gone on to develop normally without further problems. On April 16, 2010, he celebrated his fourth birthday.

To watch an NBC Dateline segment about the surgery to save Garrett Morrison, go to: www.magazine.uclahealth.org/SavingGarrett

Networking Made Simple

NETWORKING HAS NEVER BEEN EASIER for alumni of the David Geffen School of Medicine at UCLA. The UCLA Alumni Association will soon launch BruinWorks, an online professional network designed exclusively for UCLA graduates. The site will feature a robust career network for peer-to-peer mentoring, an alumni directory with e-mail access to any graduate, résumé and job postings from alumni and a host of other professional tools. While the site development has been led by the UCLA Alumni Association, the content and user experience will be driven by alumni. A sneak peek of the site is available at www.BruinWorks.com. Look for e-mail announcements and other promotional materials indicating the official launch date slated for January 2011.
The Family that Volunteers Together

TIMUR DURRANI, M.D., AND SAMANTHA JOHNSTON, M.D., met during their residencies at UCLA. Dr. Durrani completed his family medicine training in 2007, and Dr. Johnston finished her residency in pediatrics and a fellowship in infectious diseases in 2008.

Three months after they were married, the two physicians found themselves worlds apart. Dr. Durrani, a major in the U.S. Army Reserves, was deployed to Afghanistan for 10 months. While he was away, Dr. Johnston volunteered for five months with Doctors Without Borders in the West African country of Burkina Faso.

The 7.0 earthquake that devastated Haiti earlier this year offered an opportunity for them to volunteer together. They joined an International Medical Corps team and in May went for two weeks to the Petionville Clinic in Port-au-Prince. In addition to their clinical skills, they brought with them a large duffle bag filled with medical supplies donated by UCLA’s Recovering Medical Equipment for the Needs of Everyone Worldwide (RENEW), a student-run organization.

The trip was “both wonderful and extremely challenging,” says Dr. Johnston, who now is a pediatric-infectious-disease specialist at Children’s Hospital and Research Center Oakland (Calif.). “As could be expected after such a disaster, the public-health system was stressed, so we tried to make a small difference there.”

“By working side-by-side with the highly competent local Haitian healthcare personnel, we came to understand their logistic challenges and focused on improving them,” adds Dr. Durrani, who is a toxicology fellow at UC San Francisco. “More important, we came to appreciate the spirit of the Haitian people, which will carry them through this difficult time, to building a brighter future for their community and country.”

Welcome Aboard, Dr. Aubry

THE BOARD OF DIRECTORS of the Medical Alumni Association (MAA) elected Wade M. Aubry, M.D. ’77, as the MAA’s first out-of-area president. Dr. Aubry joined the board in 2003. He is an internist and endocrinologist at Saint Francis Memorial Hospital in San Francisco and an associate clinical professor of medicine and health policy at UC San Francisco, where he conducts research on health-technology assessment and adoption. Dr. Aubry is a former senior vice president and chief medical officer for Blue Shield of California, and he has served on numerous current and past national healthcare advisory committees. He is very interested in expanding outreach to medical alumni both locally and nationally.
Visionaries

The UCLA Department of Neurosurgery held its Visionary Ball 2010 on October 14 at The Beverly Hilton. The Visionary Award was presented to Beth and Josh Friedman and to Dean Emeritus Dr. Gerald S. Levey, The Lincy Foundation Distinguished Service Chair and Distinguished Professor of Medicine at the David Geffen School of Medicine at UCLA. Burt Bacharach received the Icon Award, and the Rodney Dangerfield Respect Award went to comic Louie Anderson. The host was Mario Lopez, guest entertainer was Steve Tyrell, and special guest was Herb Alpert. The honorary co-chairs were Tony Pritzker and Dr. A. Eugene Washington, vice chancellor of the UCLA Health Sciences and dean of the David Geffen School of Medicine at UCLA. Edie Baskin Bronson and Jill Grey served as event co-chairs. The annual ball, spearheaded by Dr. Neil A. Martin, chair of the department, enables UCLA Neurosurgery to establish dedicated seed grants and engage some of the world’s foremost talent to make significant breakthroughs in brain injury, brain-tumor treatment and human-cognition research.

CLOCKWISE FROM UPPER LEFT: Burt Bacharach, with Herb Alpert and Jerome Moss; Steve Tyrell and Herb Alpert; Wesley, Beth, Josh, Oliver and Spencer Friedman; Dr. Gerald S. Levey; Dr. A. Eugene Washington; Dr. Molly J. Coxe; and Edie and Richard Bronson; Louie Anderson and Joan Dangerfield.

Gifts

Three faculty members at Mattel Children’s Hospital UCLA were recently awarded more than $326,000 from Today’s and Tomorrow’s Children Fund (TTCF) to support new research related to serious pediatric medical conditions. TTCF members each commit a minimum of $5,000 annually, then have the opportunity to view presentations and vote on how to distribute their collective funding. All award winners submit progress reports to TTCF, as they launch innovative projects and collect the data necessary to apply for new grants, thus magnifying the impact of the donations. Ellen Sandler, co-chair of TTCF and a member of the Board of Directors and Executive Committee of Mattel Children’s Hospital UCLA says, “The members provide seed funding to enable young investigators to take promising ideas to the next level.” The group’s goal, she says, is to increase membership to 200 and to award $1 million annually. “Private philanthropists need to step up and fill in the gap created by state and federal budget cuts.”

To join TTCF, please visit: www.uclahealth.org/ttcf

The Jonsson Cancer Center Foundation received gifts totaling $1.9 million from the Entertainment Industry Foundation (EIF) during the 2009–10 fiscal year. EIF has a long history of supporting clinical/translational cancer research at UCLA. Its recent contributions will advance high-priority women’s-cancer and colorectal-cancer projects under the direction of Dr. Dennis Slamon.

The Furlotti Family Foundation has pledged $200,000 over two years to support the integration of the UCLA Family Development Project into Olive View-UCLA Medical Center under the leadership of Dr. Christoph Heinicke. Thanks to the foundation’s commitment, the project has achieved remarkable success in serving at-risk children with first-time mothers at the Jane and Terry Semel Institute for Neuroscience and Human Behavior at UCLA.

Michael Gene Gaston, who received his B.A. and Ph.D. degrees from UCLA, designated the UCLA Brain Research Institute as the
sole beneficiary of his estate. As of September 2010, the BRI has received total distributions of $895,940 from the Gaston Trust to the Michael Gene Gaston Fund for Brain Research under the direction of Dr. Christopher J. Evans. Dr. Gaston’s personal friends, Mr. Leonard A. Hampel, Jr. (UCLA Law School alumnus ’64) and Mr. Ulrich H. Eckel (UCLA College alumnus ’63), were instrumental in facilitating this generous bequest to UCLA. Mr. Hampel also donated $82,000 to the BRI in memory of Dr. Gaston for the same purpose.

The Marilyn Hilton MS Achievement Center at UCLA is a collaborative program offered by the UCLA Department of Neurology and the Southern California Chapter of the National Multiple Sclerosis Society. The center, which is named for Barron Hilton’s wife, who passed away in 2004, emphasizes the three clinical goals of physical, social and emotional wellness. The Conrad N. Hilton Foundation has pledged $750,000 over three years to support Dr. Rhonda Voskuhl’s project at the center that is focused on a trial of the common generic drug Estriol and its effect on MS symptoms. She hopes to prove that treatment with this relatively inexpensive hormone, taken in pill form, will reduce relapses.

The Lockheed Martin Corp., led by Robert J. Stevens, pledged $4 million to benefit UCLA Health System’s Operation Mend, which provides reconstructive surgeries and other healthcare needs to U.S. military personnel wounded in Iraq and Afghanistan. The gift will be equally divided. First, it will help enhance the patient experience during multiple surgeries and support the renovation of the surgical waiting room and the pre- and post-operative recovery areas; the latter are part of the broader Ambulatory Surgical Center Enhancement Project, which includes adding four private patient-recovery suites, four new high-tech surgical suites and a telemedicine video-conference center. Second, the funding will help underwrite the care of more patients in the coming years. On average, each requires 10- to 20 surgeries, in addition to post-operative coordination with the referring centers.

The Jean Perkins Foundation has made significant contributions to a variety of areas at UCLA. Earlier this year, it gave $300,000 to Operation Mend, UCLA’s unique partnership with the military to provide plastic and reconstructive surgery and other care to servicemen and servicewomen severely wounded in Iraq and Afghanistan. In addition, the foundation assisted with the launch of UCLA’s Scholars in Translational Medicine (STM) Program, administered by the Eli and Edythe Broad Center of Regenerative Medicine and Stem Cell Research at UCLA. Through its $450,000 gift to the STM Program, the foundation supplies resources for three physician-scientists to pursue career paths in which clinical and basic science research merge. UCLA is grateful to Mr. James J. Carroll III, president of the Jean Perkins Foundation, and Mr. Joseph Connolly, treasurer and director, for such insightful generosity.

Among three gifts made by Lynda R. and Stewart A. Resnick to support students through UCLA’s Bruin Scholars Initiative, $2 million was directed to assist Ph.D. candidates in the UCLA-Caltech Medical Scientist Training Program of the David Geffen School of Medicine at UCLA. This meaningful contribution, made in honor of Dean Emeritus Dr. Gerald S. Levey, The Lincy Foundation Distinguished Service Chair and Distinguished Professor of Medicine, has established the Gerald S. Levey, M.D., Medical Science Scholars Fund. The Resnicks noted, “In addition to honoring the service of our friend Jerry Levey, it gives us great satisfaction to support UCLA students studying in fields that are of personal interest to us.”

The Simms/Mann Family Foundation has made a $2.5-million pledge to the Simms/Mann-UCLA Center for Integrative Oncology. The gift is for operating support of the center, which is a national model for providing integrative care for individuals and families touched by cancer. The center includes psychosocial support services, groups, public lectures, and nutritional support provided by an integrative medicine physician to help patients optimize their wellness through the continuum of care. The foundation recently pledged an additional gift, which underwrites spiritual care to patients and their families.

The Fran and Ray Stark Foundation made a generous donation to support research into ovarian and endometrial cancers at UCLA. The meaningful and visionary commitment will enable Dr. Robin Farias-Eisner, director of the UCLA Center for Biomarker Discovery and Research, and his colleagues in the Department of Obstetrics and Gynecology to more successfully detect and treat these difficult women’s cancers.

Long-time donor Mrs. Toni Brotman Wald has committed $240,000 over four years, through The Brotman Foundation of California, to the Laparoscopic Urology and Endourology Fellowship Program. Under the direction of Dr. Peter Schulam, Henry E. Singleton Chair in Urology, chief of the Division of Endourology and Minimally Invasive Surgery, and professor of urology, this generous gift will fund training in the latest novel interventional surgical techniques. Fellows are selected from an extremely competitive national pool of applicants and will have the opportunity to work with top researchers. Also involved in the planning and discussion of the gift was Mrs. Wald’s stepson, Dr. Samuel Wald, associate clinical professor of pediatric anesthesiology at UCLA.
Events

An event celebrating the UCLA Friends of Geriatrics was held in May 2010 at the Palomar Hotel in Westwood. Dr. David Reuben, division chief, who introduced Dr. David T. Feinberg, associate vice chancellor and CEO, UCLA Hospital System, and Posie Carpenter, chief administrative officer of Santa Monica-UCLA Medical Center and Orthopaedic Hospital, spoke about the objectives and accomplishments of the division. Numerous recognition awards were presented to active and generous donors, including Dr. and Mrs. S. Jerome Tamkin; she is spearheading a geriatric social support group called Aged to Perfection.

Mattel Children’s Hospital UCLA celebrated its 11th Annual Mattel Party on the Pier on October 17, 2010, at Pacific Park on the Santa Monica Pier. It is the signature fundraiser for the hospital, selling out each year with 1,400 attendees. The event generates unrestricted funding for Mattel Children’s Hospital UCLA, allowing it to launch innovative projects and meet its most urgent needs. Recent moneys have been used to support such critical efforts as the Pediatric Epilepsy Program, Pediatric Inflammatory Bowel Disease (IBD) Program and the Division of Pediatric Hematology/Oncology’s Gene Therapy Program. Guests enjoyed a full day of amusement-park rides; a silent auction featuring one-of-a-kind experiences, jewelry and collectors’ memorabilia; arts and crafts; great food; a VIP tent for sponsors; and carnival games stocked with prizes donated by Mattel and run by celebrities from some of the hottest children’s television shows.

The inauguration of the Murray Jarvik Endowed Lectureship took place on October 19, 2010, in the Jane and Terry Semel Institute for Neuroscience and Human Behavior at UCLA. A private luncheon followed in honor of Dr. Karl Fagerström, the guest speaker from Sweden, and donors who have supported the lectureship. It is a lasting tribute to Dr. Jarvik for his extraordinary contributions to the Semel Institute and to research in psychopharmacology and tobacco dependence.

In Memoriam

UCLA mourns the recent passing of Mrs. Patricia Lee Draine (1931-2010), wife of Mr. Robert Draine. Together, the Draines have been dedicated supporters of many areas on campus, notably the David Geffen School of Medicine at UCLA and its Division of Geriatrics, Center on Aging, the Department of Urology and a multitude of programs at the Jane and Terry Semel Institute for Neuroscience and Human Behavior at UCLA.

Chairs of Distinction

The UCLA/Orthopaedic Hospital Center for Cerebral Palsy (CCP) received $200,000 from the Cerebral Palsy International Research Foundation toward the Peter William Shapiro Chair for the Center for Cerebral Palsy, held by Eileen Fowler, Ph.D., CCP’s director of research and education. She continues to pursue the understanding of the causes of movement disorders, as well as to assess the effectiveness of treatment. With four major cerebral palsy research projects underway, Dr. Fowler is publishing her findings on the use of a 3-D motion-analysis system, an electromyography-data-collection system and a metabolic-oxygen-collection cart. She and her CCP colleagues also use the Lokomat® walking system to allow patients and research subjects to confidently use and strengthen muscles they control, while offering robotic assistance to the movement areas they need to develop. At the CCP, the goal is to reduce pain and effort and to improve coordination in movement.

Dr. Paul Ichiro Terasaki, a UCLA alumnus and organ-transplant pioneer, has made a major gift to the university. The primary funding has named the new Life Sciences Building (UCLA College of Letters and Science) in his honor, and $2 million will endow the Paul I. Terasaki Chair in Surgery at the David Geffen School of Medicine at UCLA. Professor emeritus of surgery, Dr. Terasaki developed in 1964 the test that became the international standard method for tissue typing, a procedure that assesses the compatibility of organ donors and recipients. In addition, Dr. Terasaki developed the cross-match test that is still used today for all kidney-transplant patients and select candidates for heart, lung, pancreas, bowel and sometimes liver transplants to avoid catastrophic rejections. The UCLA Kidney Transplant Registry, which Dr. Terasaki established in the 1970s, was the first and largest in the world until the establishment of federal registries. The endowment will further basic-science research in liver and intestinal transplantation, mainly through the support of a postdoctoral fellowship in each area.

The Jane and Terry Semel Institute for Neuroscience and Human Behavior at UCLA has received a $9.2-million bequest from the Estate of Senta Weil. This visionary gift, made in memory of her son, will be used to establish the David Weil Chair in Psychiatry and Biobehavioral Sciences with $2 million and the David Weil Fund, an endowment of $7.2 million, both in support of research to prevent, cure and/or ameliorate the effects of mental illness.
ON JULY 22, 2010, after pedaling 240 miles, I arrived at the Kodak Theatre in Hollywood. My team and I had completed our leg of a cross-country, relay-style bike ride by scientists from throughout the U.S. to deliver a message to Congress to double government funding for research for Alzheimer’s disease. Our motivation was simple: Our lawmakers seemed blind to the tide of dementia that threatens more than 5-million lives today. And it will only get worse.

As an avid cyclist, I was asked to organize the segment of the ride from San Luis Obispo to Los Angeles. But 30 years ago, 192 miles into a double-century race, a crash put me into a coma and my bike in storage. So it was with some trepidation that I got back on that bike to get a team together. After some coaxing, my co-captain, postdoctoral fellow Eric Hayden, Ph.D., and other faculty from the Mary S. Easton Center for Alzheimer’s Disease Research at UCLA – Karen Gylis, Ph.D., R.N.; Ed Teng, M.D., Ph.D.; Qiulan Ma, M.D., Ph.D.; and Greg Cole, Ph.D. – joined our team: the “L.A. Mindsavers.”

Our first training ride was catastrophic – Qiulan took a tumble on Topanga Canyon at 30 m.p.h., ending up concussed, with a skinned elbow and a broken wrist! Training rides up the Santa Monica Mountains into the sun and down through blankets of fog gave us hope, except for the 12.5-percent-grade hill along Stunt Road in Calabasas. Still, we kept at it, and here are some highlights of our ride.

Day 1: July 20
Eric, Karen and I started out in San Luis Obispo at 6 a.m., followed by two support vans. We had breakfast with the Stanford team who had ridden the first leg south from San Francisco. They intimidated us with stories of breakneck speeds while fighting against temperature swings from 55˚C to 109˚F that melted their tires.

Not us. We were spinning along on windless, flat terrain with perfect temperatures – somewhat embarrassed about how easy it was. Mesmerized by the unfamiliar fragrances released into the fog, our guilt turned to gratitude that this summer’s June gloom had extended into July. Then we hit our first hill, where my bottle cage dislodged and I lost my balance, falling into the path of an oncoming big-rig. I looked up to see the truck driver mouthing profanities at me. Eric looked back to see what had happened and crashed into a ditch, skinning his knee.

The highlight of that day, though, was riding through Vandenberg Air Force Base. A sweet, elderly lady stopped her car, explaining how frightened she was about being lost. With the help of local farmers, we got her directions and were humbly reminded why we were doing this ride.

Day 2: July 21
We all gasped upon learning the day was to start with a 19-mile climb. Eric, Ed, Greg and I went up the hill, and I sped up, reliving my past life as a cyclist swiftly conquering the steepest of mountains. There were some scary stretches on Highway 101 and more close calls with big-rigs. We were all pretty tired, except Greg, who kept speeding for miles and tearing down hills at 50 m.p.h. There was one unfortunate wrong turn in Santa Barbara, up a steep mile-long hill. Ed, riding a hybrid bike, wasn’t pleased, but by the end of the day he beat us all to our hotel in Ventura.

Day 3: July 22
Despite the breathtaking ocean views and the joyous sight of dolphins and surfers catching perfect waves, I was disappointed to see several hills still to conquer. Worse than the hills, though, was trash-pickup day in Malibu. There we dodged trash bins in the bike lane and maneuvered around parked cars when drivers opened their doors into our path.

The last treat was a final 9-percent hill in Beverly Hills. My derailier broke and I had to grab my chain and move it by hand to the small sprocket to make it up the steep incline.

We arrived at the Kodak Theatre frazzled and relieved to have survived the journey, but hearing one Alzheimer’s patient who spoke at the end of our ride made it all worthwhile. She spoke with eloquence, dignity and courage of her diagnosis of Alzheimer’s and her faith in researchers to find a cure. And that is what our journey was all about.

Dr. Sally A. Frautschy is a professor of neurology in the Mary S. Easton Center for Alzheimer’s Disease Research at UCLA.
A Different Face of Pain

Nearly 50 years before this familiar face first graced the cover of MAD magazine, the iconic image of the character that would become known as Alfred E. Neuman was used to sell patent-medicine pain relievers. This illustration is the front of a 1908 calendar issued by the Antikamnia ("Opposed to Pain") Chemical Company in St. Louis and London. Producers of patent medicines issued calendars and wallet-sized "trade cards" to promote their products. Antikamnia tablets were marketed as a "positive relief for all nervousness, pain and sleeplessness due to excesses of any kind."