Stanford emergency medicine
A unique design for children

Bewildered. Frightened. Anxious. A dash to the emergency room with a worried parent can strand a sick or hurting child seriously out of his or her comfort zone. It can even complicate diagnosis and treatment efforts. The new emergency medicine department shared by Lucile Packard Children’s Hospital and Stanford Hospital & Clinics alleviates this problem by combining Packard Children’s trademark kid-friendly atmosphere with a coterie of pediatric emergency medicine specialists familiar with their young patients’ needs and anxieties.

“No physician can do an adequate lung or abdominal exam on a screaming child,” explained Bernard Dannenberg, MD, emphasizing that children respond differently than adults to the institutional, utilitarian feel of many emergency facilities. “We are now able to reduce a child’s anxiety through play and distractions such as movies and games, which allows us to get a better exam and ultimately arrive at the answer we need much faster.” Dannenberg is the director of pediatric emergency medicine at Packard Children’s and a clinical assistant professor of surgery.

The new emergency facility, reached through the adult Emergency Department, is a triumph of partnership. Packard Children’s Hospital, Stanford Hospital & Clinics, the Lucile Packard Foundation for Children’s Health and more than 50 individual donors from the community banded together to make a child’s unplanned hospital visit less scary and more efficient. In the process they created a new standard of pediatric emergency care.

Now, rather than waiting with sick adults in a nondescript room, most of the 11,000 children per year who

Study drives stake through claims that garlic lowers cholesterol levels

When it comes to lowering cholesterol levels, garlic stinks, according to a recent study from the School of Medicine. Despite decades of conflicting studies about the pungent herb’s ability to improve heart health, the researchers say their study provides the most rigorous evidence to date that consuming garlic on a daily basis—in the form of either raw garlic or two of the most popular garlic supplements—does not lower LDL cholesterol levels among adults with moderately high cholesterol levels.
**Stem cells explored as hearing loss treatment**

Stefan Heller’s dream is to someday find a cure for deafness.

As a leader in stem cell–based research on the inner ear at the School of Medicine, he’s got a step-by-step plan for making this dream a reality. It may take another decade or so, but if anyone can do it, he’s the guy to bet on.

“Everyone asks, ‘How long before we do this?’” said Heller, PhD, associate professor of otolaryngology, whose accent still bears the trace of his native Germany. “I tell them the devil is in the details.”

But even at the national level, those in the research community remain hopeful that Heller’s work will reap successes sooner rather than later.

James Battey, MD, director of the National Institute on Deafness and Other Communication Disorders, lauded Heller as “one of the leading auditory neuroscientists” and points to his stem cell regeneration research as a high priority for the institute.

Since coming to Stanford from Harvard two years ago, Heller has been focused on two paths: drug therapy—which could be as simple as an application of ear drops—and stem cell transplantation into the inner ear to remedy hearing loss.

Currently he’s working on perfecting the steps toward eventual stem cell transplantation into humans, with the goal of first curing deafness in mice within the next five years.

His lab is also busy studying the ability of birds to regenerate the tiny hair cells in the cochlea. It’s these cells that convert the mechanical energy of sound into electrical impulses that are sent to the brain so that a chicken, a mouse or a human can hear. Chickens, like all birds, have the ability to spontaneously regenerate these hair cells, which explains why there are no deaf birds.

“This is promising because it means the genetic program for regeneration exists somewhere in the vertebrate family,” Heller said.

The idea of using drug therapy to cure deafness became more plausible as a result of his lab’s successes in the field of stem cell research during the past seven years. Heller gained international attention in 2003 for identifying stem cells that reside within the inner ear. Since then, his research has focused on using these stem cells to regenerate the critically needed hair cells in the inner ear.

Later in 2003, his group reached another significant milestone: The team demonstrated that it is possible to coax embryonic stem cells in a test tube to differentiate into hair cells—and then also to have the stem cells differentiate after transplantation into the ears of chicken embryos.

“Embryonic stem cell–based approaches are probably the linchpin to finding a drug-based treatment for deafness,” Heller said.

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**STEM CELL PROGRAM GROWS**

The California Institute of Regenerative Medicine has awarded $25 million to the School of Medicine to advance its research in human embryonic stem cells. The state agency handed out its first rounds of research awards this winter, with the medical school receiving 19 awards worth $25 million—more than any other single institution.

Among other things, the funding will launch an effort to create new stem cell lines using a process known as somatic cell nuclear transfer. These new cell lines are expected to provide insight into a variety of diseases—from diabetes to Parkinson’s disease—and open the way to developing new therapies.

In other funded projects, researchers will work to isolate heart and blood stem cells from embryonic stem cells, and to generate inner ear cells, nerve cells or cells for tissue grafts in the heart. The research effort is led by Irving Weissman, MD, director of the Stanford Institute for Stem Cell Biology and Regenerative Medicine.
Rise in strokes as boomers age

Single most important risk factor for stroke is high blood pressure

Though new drugs and other strategies are helping to prevent strokes, the number of people who experience this potentially debilitating condition is likely to increase as the population ages, according to Greg Albers, MD, director of the Stanford Stroke Center, one of the country’s first comprehensive stroke centers.

New medications, better control of high blood pressure and cholesterol, and the decline in smoking all have contributed to prevention of strokes, which occur when blood flow to the brain is interrupted, Albers said. At the same time, however, more than half of the people at risk for stroke still aren’t being treated at all or not aggressively enough. Those factors, together with the aging of the population, are likely to contribute to a growing prevalence of the condition, he said.

“We’re forecasting a dramatic increase in stroke over the next couple of decades because of the baby boomers aging,” said Albers, professor of neurology and neurological sciences.

The single most important risk factor for stroke is high blood pressure. Fewer than half of people who have high blood pressure fail to control it adequately, Albers said. The most recent standards of the Joint National Committee on Prevention, Detection, Evaluation and Treatment of High Blood Pressure call for intervention when an individual’s blood pressure is greater than 120/80. Albers advises people with high blood pressure to use home monitors regularly to ensure that their pressure remains within this range.

“One blood pressure reading doesn’t mean very much,” he said. “And many people have higher blood pressure readings when they are in a doctor’s office.”

High blood pressure may be lowered through lifestyle changes such as exercise, diet and smoking cessation, but success is more likely through treatment with antihypertensive medications, according to Albers.

“High blood pressure can almost always be controlled by medications if they’re used properly,” he said. “They need to be monitored on a regular basis. I recommend that people taking these medications be checked by their doctors every three to six months if their blood pressure is stable, and more frequently if their blood pressure is not under control or if they’re suffering from medication side effects.”

Albers said the outlook is greatly improved for people who have strokes if they receive treatment with the clot-busting drug tPA (tissue plasminogen activator) within three hours after symptoms occur. Stanford researchers have found that the tPA “window” may extend up to six hours in some patients, but sophisticated images of the brain are needed to determine which patients are most likely to benefit. Stanford is one of the few places in the world that has the technology to generate sophisticated blood flow “maps” of the brain rapidly.

“Our biggest problem continues to be that most stroke patients do not arrive soon enough to be eligible for our emergency therapies,” said Albers.

The stroke center brings together physicians from multiple specialties, including neurology, neurosurgery, neuroradiology, internal medicine and emergency medicine. The stroke center also has recently started a specialized clinic to treat people who have mini-strokes called transient ischemic attacks (TIAs), which are temporary interruptions in the brain’s blood supply. The symptoms are the same as for stroke, but tend to disappear quickly and completely. They can be warning signs of pending stroke, so patients with TIA need to be evaluated in the emergency room. More than half of these patients are currently being managed without being admitted to the hospital.

For more information about Stanford’s Stroke Center, please visit http://stroke.center.stanford.edu or call (650) 723-4448.

Stroke facts

A stroke occurs when blood vessels carrying oxygen and other nutrients to a specific part of the brain suddenly burst or become blocked. When blood fails to get through, the oxygen supply to the affected part of the brain is cut off and brain cells begin to die.

More than 750,000 Americans have a stroke in any given year. Stroke is the No. 1 cause of adult disability.

Warning signs of stroke:

■ Sudden weakness, numbness or paralysis of the face, arm or leg, especially on one side of the body
■ Loss of speech, or trouble talking or understanding language
■ Sudden loss of vision, particularly in only one eye
■ Sudden, severe headache with no apparent cause
■ Unexplained dizziness, loss of balance or coordination, especially if associated with any of the above symptoms

If you or someone you know experiences any of the warning signs, seek emergency help right away. Call 911 immediately even if you think that you are getting better or if the symptoms seem to disappear. If the symptoms last for more than 10 to 15 minutes, appear frequently or seem to get worse, ask the emergency responders for urgent transportation to the nearest appropriate medical facility.

Greg Albers, MD, director of the Stanford Stroke Center, said lifestyle changes, such as exercise, diet and smoking cessation, can help reduce blood pressure—and help minimize the risk of stroke.
In the intervening years, I have witnessed the growing intrusion of commercial interests—i.e. pharmaceutical companies and medical device makers—into the day-to-day practice of medicine. Industry gifts—pads, pens, logo bags and the like—have become commonplace. Industry sales representatives have become familiar faces in the halls of academic medical centers. And the free lunch, courtesy of industry sponsors, has become an accepted way of life.

All of these practices have contaminated the practice of medicine. They have also led to a growing mistrust of the medical profession on the part of the American public, as physicians are perceived as being too closely allied to the companies whose products they prescribe.

That is not to say we don’t value our relationships with industry. Indeed, we depend on our industry partners to carry the fruits of our research to market. The connections between academicians and our industry colleagues have led to the introduction of many new drugs and technologies that have significantly improved the lives of adults and children.

At the same time, however, I have seen a dramatic shift in the balance, with economic incentives and marketing tactics becoming all too pervasive in how we interact with our commercial partners. The result has been a disturbing blur of the line between academia and industry.

I had been concerned about this issue for some time, and in the summer of 2005, I asked Harry Greenberg, MD, the medical school’s senior associate dean for research, to gather a group of faculty to develop a policy on how we should work with industry to ensure that our relationships are ethical and appropriate. I engaged the faculty in a discussion of the issue through the Dean’s Newsletter and...
Freeing the faculty of the lingering presence of pharmaceutical and device vendors

The result was a far-reaching policy that we put into effect in October 2006 across the entire Stanford University Medical Center campus, which includes the School of Medicine, Stanford Hospital & Clinics and Lucile Packard Children’s Hospital. The new policy complements longstanding School of Medicine guidelines that govern potential conflicts of interest in the research arena.

The new policy prohibits our faculty from accepting gifts of any kind, however small, anywhere on the medical campus or at off-site facilities where they may practice. It bars industry sales and marketing representatives from wandering the hallways of our two hospitals and our laboratories, allowing them access only by appointment. It prevents companies from directly paying for meals in connection with educational programs—once a fairly common practice at Stanford and elsewhere. And among other provisions, it requires that those involved in the decision to buy formulary drugs or clinical equipment disclose any related financial interests they may have, with the possibility that they may be excluded from the decision-making process.

The policy is all-encompassing in that it applies to all physicians who have privileges at the two hospitals, as well as the 700 community physicians who serve on our adjunct faculty. It is not our intent to police the daily activities of these individuals. Rather, we aim to set standards and create a climate that will encourage anyone with a Stanford affiliation, including our trainees, to honor these important guidelines.

I’m happy to say the policy has been very well received. Faculty members tell me they are relieved to be free of the lingering presence of pharmaceutical and device vendors. Residents say they appreciate having better clarity in our industry relationships. And though they don’t benefit anymore from industry-sponsored meals, they still enjoy the occasional free lunch—at the school’s own expense.

We are continuing to refine and clarify the policy as issues arise. For instance, some raised concerns about whether physicians could continue to accept free drug samples to supply to needy patients. Our policy brochure, which is posted on our Web site (http://med.stanford.edu/coi/), contains a clarification: While drug samples cannot be accepted by individual physicians, they can be accepted by the hospital pharmacies, which can in turn distribute them to patients who need them.

We are also developing more specific guidelines for other issues that are addressed in the policy in only broad terms. For instance, the policy states that physicians should not make clinical care decisions based on potential economic gain. We are developing additional guidelines in this area and also in the area of physician participation in speakers bureaus, in which physicians receive honoraria from companies for participating in presentations related to company products. This practice should be strongly discouraged. We are also working on a set of rules that would require that clinicians who prescribe medications or order diagnostic tests disclose any substantial, relevant financial interests. These rules would be similar to those currently in place for physician-scientists engaged in research.

Since our policy went into effect, several other academic medical centers have followed suit in what I see as a growing trend. As we train the next generation of physicians under these new standards, we will sow the seeds for what could be a wholesale change in culture in the medical profession nationwide. So it is my hope that as our students graduate and move on, they too will politely refuse proffered gifts of logo bags.

Stanford Hospital & Clinics has received the highest recognition a hospital can achieve for excellence in nursing and quality patient care—Magnet Recognition for Nursing Excellence from the American Nurses Credentialing Center. “We are proud of the Stanford nurses,” said Cindy Day, chief nursing officer for Stanford Hospital & Clinics. “It is an honor to be recognized as providing the very best in nursing care.”

Just over 4 percent of hospitals nationally qualify for Magnet Recognition, which is considered the national gold standard for nursing excellence. These hospitals do the following:

- Consistently outperform other facilities in recruiting and retaining quality nurses
- Demonstrate increased quality in patient care and patient satisfaction
- Experience lower mortality rates and shorter lengths of stay among patients
- Inspire more confidence in the overall quality of care among health-care consumers

Before receiving the honor in February, Stanford underwent a rigorous examination by a team of professionals with expertise in evaluating nursing care and administration. The team reviewed extensive documentation and spent three days on site evaluating nursing practices, the work environment and resources for patient care.

Hospital recognized for nursing excellence

Stanford Medicine new S
Summer blood drive

Stanford Blood Center urges people to donate blood and save lives this summer. Patients, like Savanah, age 2, at the local hospitals served by the center depend on community blood donations every day.

Recently, Savanah required blood transfusions during chemotherapy and surgery to rid her tiny body of a tumor in her abdomen. Savanah’s mother, Carine, is convinced that blood donors saved her daughter’s life. “I’m so grateful for the blood that helped Savanah,” says Carine. “If there were no blood donors, I doubt Savanah would still be with us.”

During the summer, blood donations typically drop off dramatically as donors go on vacation and schools close, resulting in critical blood shortages. To encourage people to donate this summer, Stanford Blood Center is offering many giveaways to donors, including movie tickets, coupons for free ice cream and event tickets.

Through the center’s popular “Grateful Life Tour,” donors also can receive a tie-dyed T-shirt. Giving is groovy, and you will be too when you wear this fun shirt! Dates for the “tour” are July 2, 3 and 5, and all Fridays, Saturdays and Mondays in July. All center locations are closed on Sundays and July 4.

Be sure to check Stanford Blood Center’s Web site frequently for updates on promotions and events. You can visit http://bloodcenter.stanford.edu, or call (650) 723-7831 for information or to schedule an appointment today. Give blood for life!

LOCAL TEENS GET FIRST HAND LOOK AT MEDICAL PRACTICE

Few teenagers get a chance during their life, let alone in one day, to practice birthing a baby and cutting open gallbladders in surgery. About 115 local high school students gave it a try in April when they came to the medical school campus and learned what it takes to be a doctor. The “Med School 101” program aims to inspire teens to reach for careers in medicine. Raven Warren (above), from Palo Alto High School, was among those who practiced delivering a baby on a mannequin.

Stanford receives NCI cancer center designation

The Stanford Comprehensive Cancer Center has been awarded “cancer center” designation from the National Cancer Institute—a distinction that reflects both high-quality patient treatment and excellent basic and clinical research. This new status is shared with the Fremont-based Northern California Cancer Center, which worked with Stanford to achieve the designation.

Stanford’s NCI designation means that people in the local community will have more access to programs aimed at preventing cancer, thanks in part to the partnership with the Northern California Cancer Center. This collaboration, combined with increased access to NCI resources, will be a benefit especially for underserved minorities with limited access to cancer care and prevention, said Beverly Mitchell, MD, deputy director of Stanford’s Comprehensive Cancer Center.

“The Northern California Cancer Center has expertise in studying cancer trends and outcomes, cancer prevention research, and outreach that will make a real difference in preventing cancer and improving the quality of life for cancer survivors in the Bay Area,” said Donald Nielsen, PhD, the organization’s CEO.

The NCI is part of the National Institutes of Health and is the primary source of funding for cancer research in the United States. It supports 61 cancer centers characterized by scientific excellence and diverse approaches to cancer research. Becoming one of these centers will increase support for both Stanford patients and faculty.

“NCI designation validates to our patients and our community that Stanford is one of the premier cancer treatment centers in the nation.”

Martha Marsh, president and CEO of Stanford Hospital & Clinics

In its review of Stanford’s programs, the NCI specifically noted the excellence of the school’s basic research and cancer care, with a special nod to its molecular imaging, cancer biology and bone marrow transplant programs, each of which received an outstanding rating from the review committee. Pizzo said he hopes the NCI designation will help propel additional cancer programs to the same level of excellence. In its review, the NCI said that although there is much left to be accomplished, “the future contributions of the Stanford Cancer Center are likely to be extraordinary.”

Mitchell said the designation is the culmination of a three-year effort on the part of many clinicians and researchers at Stanford. The achievement is even more significant given the NCIs stagnant budget during a time when research costs are on the rise. “To be an NCI-designated cancer center in this time of decreased NCI funding is quite an achievement,” she said.
The array of medical complications associated with Down syndrome can present a maze of appointments and logistics as trying for the patient as it is for the parent. The new Down Syndrome Clinic at Lucile Packard Children's Hospital simplifies life for families and physicians, too, by providing a single site for diagnosis and treatment. This concentrated attention helps physicians coordinate patients' care.

The comprehensive, multidisciplinary clinic—the only one of its kind on the West Coast—offers more than just convenience, however. It's closely associated with the university's Down Syndrome Research Center, which is devoted to basic laboratory research on the condition. Families throughout California and across the country are eagerly following the work of center scientists like neurologist William Mobley, MD, PhD, who studies mice with Down syndrome symptoms. Mobley's recent identification of a gene involved in the condition's cognitive difficulties provided what is for many parents the first glimmer of hope that there may one day be a treatment for Down syndrome.

Mobley, who directs both the research center and Stanford's Neuroscience Institute, said, “If we can change the expression of this gene, we may be able to provide something more than supportive care to people with Down syndrome.”

Supportive care is what the Down Syndrome Clinic at Packard Children's does best. Like air-traffic controllers, clinic organizers schedule diverse medical specialists to meet with a child at each visit. This coordinated yet individualized approach to a child's medical care allows the physicians to become familiar with the family and ensures that the child's medical history is considered when planning any needed medical, genetic, developmental or psychological tests or therapies.

Help doesn't stop when the patient walks away from Packard Children's, either. Clinic specialists interact with each child's primary care physician, work to educate families and referring physicians about the particular needs of children with Down syndrome, and advocate for children and their families in the larger community.

“Relatively few places in the world integrate research and clinical care like we do,” said Mobley. “We’re committed to doing everything we can to help these kids.”

FROM PEDIATRIC ON PAGE 1

visit the 24-hour facility follow a blue river pattern in the floor to a brightly lit and colorful waiting room decorated with familiar storybook artwork and whimsical patterns, and stocked with toys and activities for the children. Each of the seven exam rooms has a television, computer games, music, movies and Internet access. The pediatric emergency department is staffed by teams of pediatric specialists, from physicians and nurses to child-life specialists, who can respond to medical problems ranging from minor to life-threatening. Dannenberg himself has completed medical residencies in both pediatrics and emergency medicine—rendering him uniquely able to treat medical emergencies in the smallest of patients in the new facility.

“We have everything necessary to take care of children,” explained Dannenberg. “Monitors in every exam room allow constant observation of a patient's vital signs from a central nursing station, and the exam rooms' headboards are equipped with the latest in medical technology. In addition, two of the exam rooms can function as isolation rooms, providing negative air pressure to isolate children with communicable diseases.”

Although most children can be adequately cared for in a normal emergency department, pediatric emergency departments affiliated with children's hospitals have some unique advantages above and beyond the child-friendly atmosphere. Packard Children's tertiary care facility represents all pediatric specialties, and routinely accepts severe pediatric trauma and pediatric intensive care cases referred from surrounding community hospitals.

“All of us who work in emergency medicine are thrilled about what this means for kids and their families,” said Stanford Hospital emergency medicine chief and associate professor of surgery Robert Norris, MD. “This new department will also enable us to advance the research and teaching of pediatric emergency medicine through training programs and fellowships.”

For more information, visit http://ed.lpch.org.

School bullying affects majority of elementary students

Nine out of 10 elementary students have been bullied by their peers, according to a simple questionnaire developed by researchers at Lucile Packard Children's Hospital and the School of Medicine. What's more, nearly six in 10 children surveyed in the preliminary study reported participating in some type of bullying themselves in the past year.

The survey explored two forms of bullying: direct, such as threatening physical harm, and indirect, such as excluding someone or spreading rumors. The researchers say the five-minute questionnaire is the first simple, reliable way for teachers and physicians to identify kids at risk and to measure the success of interventions aimed at reducing bullying in schools.

“We know that both bullies and victims tend to suffer higher levels of depression and other mental health problems throughout their lives,” said child psychiatrist Tom Tarshis, MD, lead author of the study. “We need to change the perception that bullying at school is a part of life and that victims just need to toughen up.”

Tarshis was completing a fellowship in child psychiatry and research at Packard Children's at the time he developed the questionnaire. He and coauthor Lynne Huffman, MD, associate professor of pediatrics and of psychiatry and behavioral sciences, say they hope the questionnaire will be used by teachers, pediatricians and even child psychiatrists to identify children needing early and direct intervention.

Did you know?

It takes 17 muscles to smile — 43 to frown.

For more information, visit http://ed.lpch.org.
A new School of Medicine study will assess whether a supplement made from pine bark extract can help reduce the blood pressure of people who are at mild to moderate risk for heart disease. Researchers also will assess whether the supplement has other positive effects on the cardiovascular system. "Like most herbal supplements and natural remedies, pine bark extract is marketed with claims that it improves health," said Randall Stafford, MD, PhD, associate professor of medicine at the Stanford Prevention Research Center and principal investigator for the study. However, these claims have never been validated in large-scale, rigorous studies, Stafford said.

More information on the study is available online at http://ppop.stanford.edu/PineBarkRecruitment.html or by calling (650) 724-9293.

Local residents with mild to moderate Alzheimer’s disease are being sought for participation in a clinical trial to test whether an ingredient found in some fish, omega-3 fatty acid, can help slow progression of the disease.

Other preliminary studies have shown that people who eat more fish naturally high in one omega-3 fatty acid, called DHA (docosahexaenoic acid), appear to have a lower risk for dementia, the mental decline that can be caused by Alzheimer’s, said J. Wesson Ashford, MD, PhD, senior research scientist at the Stanford/VA Aging Clinical Research Center. DHA is the main omega-3 fatty acid found in the brain, and studies in the 1990s revealed it to be essential for neurocognitive development.

Those interested in participating can call the Stanford/VA Aging Clinical Research Center at (650) 852-3287, visit http://alzheimer.stanford.edu, or call the Alzheimer’s Disease Education and Referral Center at (800) 438-4380.