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Stanford Medicine News

UPDATES
FOR THE
LOCAL
COMMUNITY

STANFORD HOSPITAL & CLINICS | LUCILE PACKARD CHILDREN'S HOSPITAL | STANFORD UNIVERSITY SCHOOL OF MEDICINE

Pedometer use increases physical activity

A small, inexpensive device worn at the hip could be the key to ramping up a person's physical activity. Stanford researchers have found that the use of a pedometer is associated with a significant increase in physical activity, weight loss and improvements in blood pressure.

"These devices were shown to increase activity by about one mile of walking per day," said Dena Bravata, MD, MS, a senior research scientist in medicine. "This goes a long way toward helping people meet national guidelines for daily activity."

Federal guidelines recommend that adults get at least 30 minutes of daily physical activity, and several national organizations recommend that adults walk 10,000 steps each day.

Did you know?

Women's hearts beat faster than men's.



Jennifer Tremmel, MD, is the director of the Women's Heart Health Clinic at Stanford Hospital.

Clinic addresses disparities in women's heart health

Diagnosing and treating women who might otherwise slide under the radar screen is the goal of Stanford Hospital's quickly growing Women's Heart Health Clinic, which opened less than a year ago.

The new clinic is designed to reach out to women whose conditions, for a variety of reasons—less aggressive care, differing risk factors, gaps in research—are getting missed. The clinic is also part of the Stanford Cardiovascular Institute's overarching goal to address issues of women's heart health through patient care, education and research in the areas where huge gaps in knowledge remain.

"We can find out what's wrong with these patients," said clinic director Jennifer Tremmel, MD, an instructor of cardiovascular medicine at the School of Medicine. "We can diagnose them, we can treat them. Most physicians are going to stop early. We keep going."

The specialized clinic operates one day a week at Stan-

ford Hospital and twice a month at a clinic in Monterey, and has about 150 patients.

A mortal enemy

While women are generally more likely to worry about breast cancer, the reality is that cardiovascular disease kills almost twice as many American women as all cancers combined, according to the American Heart Association (AHA).

Yet heart disease in women is consistently misdiagnosed and undertreated, and more women than men have died of cardiovascular disease every year since 1984.

"The sex gap in cardiovascular disease hit its peak in 1999 and is finally getting some attention," said Tremmel, who is conducting an AHA-funded study on sex differences in cardiovascular disease.

The growth in women's heart centers is targeting this apparent inequity of care, said Sharonne Hayes, MD,

SEE WOMEN'S HEART HEALTH ON PAGE 7

San Francisco Chronicle

"A long time ago, when it got dark, you ate dinner and went to sleep. Now we've turned night into day. We're getting a lot less sleep. It all adds up to a lot of stress, and our minds and bodies are not prepared to deal with it."

—DAVID SPIEGEL, MD, professor of psychiatry and behavioral sciences, on the effects of chronic stress on the body due to the fact that very few people are making time to unplug and relax. *San Francisco Chronicle*, Dec. 10.

The Mercury News

"We discover that when we get to the bedside, we leave our spiritual ZIP codes behind."

—BRUCE FELDSTEIN, MD, chaplain at Stanford Hospital & Clinics' spiritual care service, on counseling patients of many faiths. *San Jose Mercury News*, Dec. 24.

PARADE

"There is plenty of compelling evidence that sleep is the most important predictor of how long you will live—perhaps more important than whether you smoke, exercise or have high blood pressure or cholesterol."

—WILLIAM DEMENT, MD, PhD, the Lowell W. and Josephine Q. Berry Professor, on the health benefits of getting enough sleep. *Parade*, Dec. 23.

AP Associated Press

"When the YMCA looked at a changing America, what they saw was a lifestyle that was getting out of control."

—WES ALLES, PhD, director of Stanford's faculty/staff wellness program, on helping to design the YMCA's new nationwide initiatives to improve its weight-loss and fitness programs. *Associated Press*, Jan. 11.

San Francisco Chronicle

"You can't just sprinkle some flax on your caramel macchiato mocha frappuccino vanilla latte and say, 'I got my fiber for the day.'"

—CHRISTOPHER GARDNER, PhD, associate professor of medicine at the Stanford Prevention Research Center, on eating well. *San Francisco Chronicle*, Jan. 2.

Los Angeles Times

"You want to instill hope in your patients. But you also don't want to mislead them. It's such a fine line to walk sometimes."

—GRAHAM WALKER, a fifth-year medical student, on the power of the placebo effect on patients. *Los Angeles Times*, Jan. 14.

Parents help treat eating disorders

Most parents know what it feels like to want desperately to "fix" their child's problem, be it a broken toy or a broken heart. But until recently, parents of children with eating disorders were shut out of their child's recovery and perhaps even blamed for its development.

A new approach, known as family-based treatment, is gaining rapid acceptance across the country, thanks to Packard Children's Hospital child psychiatrist and eating disorders specialist James Lock, MD, PhD.

"We've gone from laying the blame for eating disorders at the feet of the parents to really seeing these conditions as diseases," said Lock, who pioneered the treatment, also known as the Maudsley approach, in the United States in 2001. "We now know that it's much more developmentally healthy to keep these kids in the community if possible and to involve their family in the recovery process."

Lock estimates that he and his colleagues have trained more than 1,000 eating disorder specialists around the country to incorporate family-based therapy into their treatment protocols.

Packard Children's Hospital couples the longest continuously running inpatient eating disorders program in the Bay Area with an evidence-based outpatient program staffed by adolescent specialists to meet each patient's medical and psychiatric needs.

"We provide the most advanced, most effective treatments available," said Lock. "We're very family and developmentally oriented, and we're uniquely able to understand and address the differences be-

tween what a 9- versus a 14- versus a 21-year-old patient will need. We offer a blame-free, solution-oriented approach."

Family-based therapy is focused on quickly improving the child's health and breaking the cycle of the disease, which becomes increasingly difficult to treat the longer it persists. Because severely malnourished adolescents are unable to rationalize or understand their actions, they must be returned to a healthy weight before trying to explore the roots of their disorder.

"We've got to get a handle on how best to help these people," said Lock. "It's a huge dilemma. The societal cost of these disorders is staggering. And yet until recently very little research was done on treatment options. We are committed to helping these kids."

In addition to maintaining a large-scale comparison of family-based and individually oriented treatment, Lock and his colleagues are involved in research comparing two types of therapy—one focused on symptoms and weight restoration, and one on family

processes—and are investigating the effectiveness of a treatment called cognitive remediation therapy through a recently funded NIH study.

Other research projects are looking at brain imaging in eating disorder patients, the management of osteoporosis in anorexia nervosa, how adolescents utilize Internet sites that promote eating disorders and how differences in gender and ethnicity affect eating disorder symptoms. ■

For more information about this program, please call 650-498-4468 or visit eatingdisorders.lpch.org.



James Lock, MD, PhD, involves the family in the recovery process for eating disorders.

Schoolkids raise funds for emergency care

Hundreds of students at Covington Elementary School in Los Altos dug into their pockets and donated their weekly allowances to help ease the lives of children receiving emergency treatment at Stanford Hospital.

In a schoolwide fundraiser sponsored by the student council, the youngsters raised \$1,392—much more than they had anticipated when they launched the project in the fall.

"Everyone was cheering. They were shocked. This is one of the biggest amounts we've raised," said teacher Colleen Wilson, who advised the students on the project.

The project got its impetus from sixth-grader Natalie Eggers, 11, who toured the hospital emergency department last summer with

her father, venture capitalist Barry Eggers.

"I saw a bunch of people whose beds were outside in the hallway, and it was kind of sad," said Natalie. The patients were lying on gurneys, waiting for a bed to open up in the hospital.

Natalie remembered her visit to the hospital after being elected to the student council in the fall, and she proposed that the school focus its fundraiser on the hospital's emergency services.

The students corralled their peers to organize a store at Halloween time, collecting rubber ducks, pencils and other trinkets to sell at lunch and after school. They also prepared 100 "mystery bags" that went for \$1.50 each. The store was mobbed and the bags sold quickly.

SEE SCHOOLKIDS ON PAGE 6



Jesse Tinajero helps maintain the gardens at Stanford Hospital and Lucile Packard Children's Hospital.

Health care goes green

Sustainability integrated into future design

Krisanne Hanson thinks about what “green” means every day at Stanford Hospital & Clinics and Lucile Packard Children's Hospital. As general services project manager for the two hospitals, Hanson is keenly aware of the opportunities for health care facilities to make sustainability a priority.

“The medical center has more than 300 recycling bins with weekly pickup,” she said. “Over the past three years, we have averaged 371 tons of recyclable beverage containers, mixed paper and cardboard annually. We are very proud that this is our 20th year of recycling these materials.”

The hospitals have also converted to Green Seal Certified® cleaning chemicals and have extensive efforts under way to reduce energy, water

usage and hazardous waste.

Some windows at Packard have movable shutters that promote passive solar heat reduction. Both hospitals use digital radiology scans, nearly eliminating the use of water as well as hazardous waste associated with traditional X-ray processing. More than 21 tons of linens that can no longer be used are sent to a recycler instead of going to landfills.

Healthier hospitals

Hanson is very excited about the hospitals' “green” activities today but even more enthused about how sustainability is being incorporated into the design of the new Stanford Hospital and expansion of Packard Children's Hospital. She was in the packed audience at the Medical

Center Renewal Project's public forum on sustainability, “Modern Hospitals, Sustainable Design: What ‘Green’ Means for Hospital Design, Healing Environments and Health Care.”

The forum featured nationally recognized experts on sustainable hospital design, energy conservation and green building practices used to create healthier hospital environments.

Robin Guenther of the New York office of the architectural firm Perkins + Will noted that health care is the second most intensive sector for energy use in the country, exceeded only by food service. While the need to meet state-mandated seismic safety requirements is a catalyst for the massive hospital building program in California, a poll of hospital executives nationwide found that they regard enhancing the well-being of patients and staff as the most important reason sustainability has become a priority.

Design opportunities

Guenther explained that the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) standards developed as a framework for rating levels of sustainability were written for commercial office buildings. A voluntary Green Guide for Health Care was developed to provide relevant standards for health care facilities, and more than 132 pilot projects were under way by fall 2007.

Case studies from throughout the country illustrate the wide range of sustainable design and



Environmental efforts

- In 2002, Stanford medical center was one of the first 17 hospitals to be recognized by H2E (Hospitals for a Healthy Environment) in the “Making Medicine Mercury Free” program.
- The medical center recycles a combined 885 tons per year of shredded paper, beverage containers, mixed paper and cardboard.
- The medical center recycles more than 16 tons of batteries annually.
- The E-Waste (electronic waste) recycling program launched in 2002 averages eight tons per year.
- More than 2,000 printer cartridges are returned for reuse each year.
- About 20 medical charity foundations and organizations have received more than 70 tons of medical supplies and equipment.

Infectious disease:

A surprising cause of cancer

BY JULIE PARSONNET, MD

Professor, Infectious Diseases and Geographic Medicine

EVERYONE KNOWS THAT SMOKING IS THE NO. 1 CAUSE OF CANCER. CAN YOU NAME NO. 2? People tend to think that cancer is caused only by unhealthy habits, such as smoking, or environmental factors, including exposure to asbestos or excessive sunlight. They don't realize that cancer often is triggered by an infectious disease.

At least 25 percent of malignancies are caused by viruses, bacteria and parasites. After smoking, infection is the leading cause of cancer. Although millions of Americans are infected with cancer-causing organisms at some time during their lives, most don't develop cancer as a result. There are additional risk factors that work in tandem with infectious microbes to trigger the biological changes that lead to cancer.

Viruses are the main cancer-causing organisms, followed by bacteria and parasites. The primary ways these organisms cause cancer include the following:

Genetic changes

Viruses can't replicate on their own. When viruses enter your body, they inject their own genetic material into your cells and take over the cells' inner workings.

Certain viral genes, known as oncogenes, cause cells to divide more rapidly. Rapid cell division increases the odds of genetic "mistakes" that can lead to cancer. Viruses also inhibit our body's natural ability to destroy damaged cells, which may otherwise continue to grow and divide in ways that make us more vulnerable to cancer.

Chronic inflammation

Some organisms, such as those that cause stomach and liver cancer, irritate tissues and trigger persistent inflammation. Inflammation causes cells to divide at a faster rate than normal, increasing the likelihood that they will mutate and undergo the changes that can lead to cancer.

Approximately 30 to 40 percent of Americans are infected with *Helicobacter pylori*, a screw-shaped bacterium that bur-

rows into the stomach lining and causes chronic inflammation. About 20 percent of these people will eventually develop ulcers and another 5 percent will develop stomach cancer.

Infection with *H. pylori* is a very strong risk factor for cancer, presumably because the bacterium causes inflammation and cell proliferation. More than 80 percent of stomach cancer cases are caused by this bacterium: Infection increases your risk of developing stomach cancer by at least eightfold.

Self-defense: Ulcer patients are routinely tested for *H. pylori* and treated with antibiotics if infection is present. Once the bacterium is eliminated, the risk for ulcers drops significantly. It is not yet known if treating bacteria will help prevent stomach cancer. Patients with a family history of stomach cancer should talk to their doctors about getting tested for *H. pylori*.

It's also helpful to eat a nutritious diet that is rich in fruits and vegetables, and low in salt and food preservatives known as nitrates. Such a diet may reduce cancer risk.

Epstein-Barr virus

The Epstein-Barr virus (EBV) causes infectious mononucleosis, which leads to extreme fatigue and other flulike symptoms. EBV is found in the tumors of a significant number of patients



with Hodgkin's disease (a form of lymphoma that strikes most often between the ages of 15 and 35 and after age 55).

The risk that an individual who has had mononucleosis will go on to develop Hodgkin's disease or non-Hodgkin's lymphoma, which is also associated with the EBV virus, is still very low. The main risk for non-Hodgkin's lymphoma appears to be in patients who have severely compromised immune systems—for example, those who have undergone transplant surgery or who are taking immune-suppressive drugs.

Self-defense: Transmission of EBV is impossible to prevent because many healthy people can carry and spread the virus for life. People who receive transplants and immune-suppressing drugs should ask their doctors about symptoms of EBV-related malignancies. Decreasing immunosuppression can often reverse lymphoma when caught early.

Hepatitis B

The hepatitis B virus is spread by contact with body fluids of an infected person, including blood, saliva, vaginal secretions and semen. People who have sex with infected partners and drug users who share needles are at greatest risk for contracting this virus.

Most cases of hepatitis B are acute, lasting six months or less. This form of hepatitis is not linked to cancer. However, the chronic form of hepatitis B, which is almost always acquired in childhood and lasts for more than six months, greatly increases the risk for cirrhosis (destruction of normal liver tissue) as well as liver cancer.

Self-defense: All newborns are now given the hepatitis B vaccine, which is also recommended for children aged 18 years or younger who weren't previously vaccinated. Adults don't require the vaccine for cancer prevention, but it is recommended for people in high-risk groups because it can reduce the risk of long-term liver disease.

People who should get the vaccine include health-care workers, those who are sexually active or have household contact with people who may have hepatitis B, and dialysis patients.

Hepatitis C

Most people with the hepatitis C virus were infected by tainted blood transfusions prior to 1992, when blood-screening tests first became available. Hepatitis C also can be transmitted by sex with an infected partner, shared contaminated hypodermic needles, and nonsterile tattoo or body-piercing procedures.

About 5 percent of patients with hepatitis C will develop liver cancer. A much higher percentage will develop cirrhosis or other chronic liver diseases—usually decades after the initial exposure.

Self-defense: In addition to the high-risk practices mentioned above, do not share razors, toothbrushes or nail clippers in households with an infected person. Patients who received a blood transfusion prior to 1992 or who engage in high-risk practices should be tested. [▶▶▶](#)

Julie Parsonnet, MD, is a professor of medicine (Infectious Diseases and Geographic Medicine) and of health research and policy at Stanford University Medical Center, and is an expert on infection as a cause of chronic disease.

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Peer helps older adults avoid falls

Barbara Gordon, an 83-year-old resident of Channing House in Palo Alto, was a patient advocate and long-term-care ombudsman before she retired from Stanford Hospital several years ago. Now she volunteers to help prevent falls among older adults, for a fall can result in injuries that become a critical turning point in their lives.

"Having Barbara is fantastic for the program," said Ellen Corman, MRA, injury prevention coordinator and director of Stanford Hospital's Farewell to Falls program. "I have volunteers who are college students, 20-somethings, which is great. But Barbara can bring her own experience to the table, and it's invaluable."



More than 1 million older adults in California fall, trip or slip each year, with 200,000 of those falls resulting in injury. The Trauma Service and Emergency Department at Stanford Hospital often treats people who have been injured in a fall, but older adults may require services beyond the initial emergency room visit.

The Centers for Disease Control estimates that older adults who have fallen previously or who stumble frequently are two to three times more likely to fall within the next year. Research shows that regular exercise, a review of medications and making modifications to the home can prevent falls and help older adults maintain independence.

Stanford Hospital studied the research and established the Farewell to Falls program to bring the message of fall prevention to older adults. The free program is offered to adults 65 years and older in San Mateo and Santa Clara counties who have recently experienced a fall.

The initiative emphasizes prevention, connecting each participant with a trained occupational therapist who conducts two home visits. The home visits identify potential problems and include suggestions that can decrease the chance of falling, such as adding a grab bar to help with getting in and out of the shower. The therapist provides each participant with resources to help improve strength and balance, including a home exercise video, and creates a list of all of the medications the patient is taking, which is reviewed by a pharmacist to ensure that the prescriptions are not contributing to fall risk.

After the home assessments have been conducted, program participants receive regular follow-up calls from volunteers like Gordon. "Just reminding them helps out," said Gordon. "It helps them be more conscientious. They think, 'Hey, I'd better be more careful.'"

Diane Finch, a 75-year-old Menlo Park resident who received Gordon's follow-up calls for a year, agrees. "She has a calm about her that tells people that she's had this experience, that she's not judgmental. For me, that was important—it was a good balance." [▶▶▶](#)

"I have volunteers who are college students, 20-somethings, which is great. But Barbara can bring her own experience to the table, and it's invaluable."

Ellen Corman, MRA

For more information about the Farewell to Falls program, please call 650-724-9369.

LEARN MORE ABOUT HEALTH

EVENTS ARE FREE AND OPEN TO THE PUBLIC, BUT SPACE MAY BE LIMITED. PLEASE CALL TO REGISTER IN ADVANCE.

The Runner's Foot

Presented by Stanford Health Library
Learn about ways to prevent and treat the most common foot injuries.

SPEAKER: James Ratcliff, DPM
Doctor of Podiatric Medicine, Menlo Medical Clinic

DATE: Wednesday, March 12, at 7:30 pm

LOCATION: San Carlos Public Library, 610 Elm St.

To register, call 650-498-7826.

Understanding Irritable Bowel Syndrome

Presented by Stanford Health Library

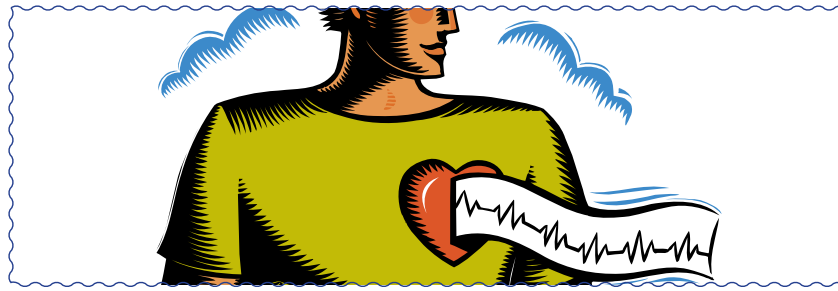
An update on the new and more rational therapies available for IBS.

SPEAKER: Pankaj Pasricha, MD
SUMC Professor of Medicine

DATE: Thursday, March 13, at 7 pm

LOCATION: Oak Room East, Tresidder Student Union, Stanford University

To register, call 650-498-7826.



Heart to Heart: A Seminar on Growing Up

Presented by Lucile Packard Children's Hospital

Two-part discussions between parents and preteens on issues of growing up.

FOR BOYS: Thursday/Tuesday, March 13 and 18, at 6:30 pm

FOR GIRLS: Wednesdays, April 9 and 16, at 6:30 pm

To register or for a complete schedule, call 650-724-3783.

Type A Behavior

Presented by the Stanford Blood Center

A presentation of Stanford's Café Scientifique, an international network that brings scientific debate into local communities.

SPEAKER: Wes Alles, PhD
Director, Stanford Health Improvement Program and Chair, California Cardiovascular Disease Prevention Coalition

DATE: Tuesday, March 25, at 7 pm

LOCATION: Stanford Blood Center, 3373 Hillview Ave., Palo Alto

Sleep in Women: What You Should Know

Presented by Women's Health @ Stanford
The role of sleep in personal health and well-being.

SPEAKER: Kin Yeun, MD, MS
Medical Director, Stanford Sleep Disorders Center

DATE: Wednesday, March 26, at 6:30 pm

LOCATION: Arrillaga Alumni Center, 326 Galvez St., Stanford University
To register, call 650-725-0455.

The Young and the Restless: Bullying and the Social Lives of Our Children

Presented by Lucile Packard Children's Hospital

Help children communicate effectively and build healthy relationships.

SPEAKER: Judith Metzger, RN

DATE: Tuesday, April 15, at 7 pm

LOCATION: Lucile Packard Children's Hospital

To register, call 650-724-3783.

FROM GREEN ON PAGE 3

practices that new health care facilities can apply. For example, the new Oregon Health and Science University Center for Health and Healing in Portland exceeded energy efficiency code requirements by 61 percent. The 16-story, 400,000-square-foot outpatient building uses nearly 60 percent less potable water than a similar conventional building does. All its sewage is treated in an on-site membrane bioreactor. Building systems also include an integrated day-lighting system, naturally ventilated stair towers, radiant heating and eco-roofs. Rainwater and wastewater are harvested for landscape irrigation.

"There is a hierarchy of sustainable design opportunities in health care facilities," Guenther said.

■ Tier 1 includes finishes, which should be free of polyvinyl chlorides (PVCs), have low-VOC

"People in the industry really believe in sustainability. It's heartfelt: We have a responsibility to the communities and the people we serve."

Mark Bramfitt, PG&E

(volatile organic compounds) emissions and be sound attenuating to reduce noise.

■ Tier 2 focuses on passive strategies, such as utilizing narrow floor plates to maximize exposures, creating an efficient thermal envelope and designing efficient lighting.

■ Tier 3 addresses active strategies, such as the use of occupancy and daylight sensors, fuel cells, renewable energy and water conservation.

■ Tier 4 covers operations, from waste reduction and recycling to environmentally preferable purchasing, integrated pest management and green housekeeping.

Regulations and values

Hanson and her colleagues are already hard at work on Tier 4 efforts today, even as they participate in planning for the future.

"Unfortunately, there is no magic checklist to tell us what to do," said architect Pauline Souza, a LEED-certified associate partner and director of green services at San Francisco-based WRNS Studio. "There are broad categories we can follow, and it depends on what you value. For example, is it better to have shorter distances for patients to walk versus ensuring that all patient rooms have access to natural light?"

Hospitals also must follow extensive regulations that do not apply to other types of facilities and that can impact their ability to achieve sustainability goals.

"I have never seen a more highly regulated industry than health care, except possibly biotechnology," said Mark Bramfitt, principal program manager of High-Tech Market and Customer Energy Efficiency at Pacific Gas & Electric. "People in the industry really believe in sustainability. It's heartfelt: We have a responsibility to the communities and the people we serve." [SMH](#)

FROM SCHOOLKIDS ON PAGE 2

The students also placed donation buckets in classrooms and made a competition to see who could raise the most money. Some of the fifth- and sixth-grade classes collected as much as \$200 each, Wilson said.

The youngsters have asked that the funds be earmarked for books, toys, medications and other services to help children who are receiving emergency care at Stanford.

Paul Auerbach, MD, director of special projects for the emergency department, said the donation was "absolutely phenomenal."

"This is about much more than money," Auerbach said. "The true importance of this effort is that these children are sensitive enough to want to do something philanthropic to help other people. These are the same individuals who will go on to be the special leaders in life who respond to other people's needs." [SMH](#)



Students at Covington Elementary raised money for pediatric emergency services at Stanford Hospital.

Cardiac Surgery

Building on 40 years of innovation

Forty years ago, the first successful human heart transplant in the U.S. was performed by cardiac surgeon Norman Shumway, MD, and his team at Stanford Hospital. The event was the culmination of more than a decade's worth of research, finally translated into a therapeutic option for patients with end-stage heart failure.

"We talk about translational research, but Dr. Shumway really embodied it. He made clinical heart transplantation a reality,"

said Robert Robbins, MD, chair of the Department of Cardiothoracic Surgery at Stanford, who trained with Shumway. "He had complete passion in making that dream a reality. It's a remarkable story that keeps moving forward."

Shumway's breakthrough surgery was only the fourth time the procedure was attempted in the world, and its success was greeted with an initial burst of excitement throughout the medical world.

But the enthusiasm soon dampened due to the high rate of post-surgical deaths. Shumway persevered; for almost 10 years Stanford remained one of the only centers in the country to offer the operation.



Norman Shumway, MD, and his team made international headlines in 1968 when they performed the first adult human heart transplant in the United States.

"Great cardiac surgeons said that the clinical process was futile because they didn't have a full team," explained Robbins. "Shumway knew you needed to bring together the surgeons, nurses, immunologists—everyone—to make the procedure a success."

Teamwork remains the cornerstone for progress—not just between individual specialists, whose expertise paved the way to establishing what is now considered a routine procedure—but among clinical and academic centers of excellence at Stanford. The heart transplant program exists at an intersection where adult and pediatric care meets academic progress.

Researchers and clinicians at Stanford con-

tinue to make steady progress in all areas of heart transplantation, including efforts to increase the donor pool, improve organ preservation and heart biopsies, and advance the development of drugs to prevent rejection.

Maintaining the spirit that drove Stanford's cardiothoracic surgery program under Shumway's leadership, Robbins and his colleagues are blazing new trails on behalf of cardiology patients. Research by a multidisciplinary team of specialists at Stanford may bring the promise of stem cell therapies out of the laboratory and into the hospital.

"A heart transplant is a big operation, so there's a lot of enthusiasm for research into alternatives," said Robbins. "Stanford will continue to be a pioneer in translating promising research into successful treatments." [SMH](#)

Did you know?

About 15 million blood cells are produced and destroyed in the human body every second.

FROM WOMEN'S HEART HEALTH ON PAGE 1

director of the Women's Heart Clinic at the Mayo Clinic in Minnesota and a member of the advisory board of WomenHeart: the National Coalition for Women with Heart Disease.

"There are still marked disparities in care," Hayes said. "Women are less likely to be prescribed medication or be as intensely treated as men. Women also don't feel like they are being listened to when they discuss their symptoms with their doctors. Nobody ever sat down and adequately addressed their concerns."

Applying new data

This is where a clinic specifically targeting women can help, Tremmel said. As an expert on women's heart health, she keeps up to date on research, and after treating so many women in a large group, she's more attuned to their different needs.

"It's amazing how similar all these women are when you get them together in one clinic," Tremmel said.

For example, while women and men suffer



Jennifer Tremmel, MD (right), and Mary Nejedly, a nurse practitioner, look over test results at Stanford's Women's Heart Health Clinic.

many of the same symptoms of heart disease, such as chest pain or shortness of breath, women may also experience back, neck or arm pain, and they often report symptoms when under emotional stress.

"We're finding it just doesn't work to treat women like men using data derived from men," Tremmel said. "There's enough data out there that we can start treating women like women,

and hopefully it will lead to an improvement in outcomes and a reduction in the gender gap."

There has been a push over the past decade to conduct more research on women's cardiovascular disease, such as the National Institutes of Health-sponsored study called the Women's Ischemia Syndrome Evaluation (WISE), which found that just because a woman's arteries appear clear on routine tests like an angiogram, it doesn't mean she has normal coronary arteries.

"The WISE study has been pivotal in shaping my research career,"

Tremmel said. "Up to 20 percent of patients with symptoms are found to have normal-appearing arteries in the cath lab. We tell them that they are fine, but they continue to have symptoms and we have no good explanation. It's extremely frustrating for doctors and patients." [SMH](#)

To make an appointment at the Women's Heart Health Clinic, please call 650-723-6459.

Saving the lives of children through early intervention

Call it intuition or gut feeling. Whatever you call it, pay attention. That's the conclusion of researchers at Lucile Packard Children's Hospital who found that deploying the hospital's Rapid Response Teams at the first inkling of trouble—rather than taking the standard course of cautiously watching and waiting—can significantly reduce mortality in hospitalized children.

Packard implemented the Rapid Response Teams in 2005 to reduce the frequency of emergency codes of children who are hospitalized but outside the intensive care unit (ICU). A code occurs when a child's heart or breathing stops. Many young patients in non-ICU settings are very ill and can worsen rapidly.

"The average level of illness at Packard is substantially higher than at the vast majority of other children's hospitals in North America," said Paul Sharek, MD, chief clinical patient safety officer at Packard Children's Hospital. "Although the average child in our medical or surgical hospital units may not require the high nurse-to-patient ratio of the intensive care unit, he or she is still frequently quite ill."

Rapid Response Teams are trained to provide supportive care in response to subtle warning signs before a child's condition becomes



Packard's Rapid Response Teams provide bedside care before a child's condition becomes life threatening.

life threatening. They are present at the hospital around the clock, and they arrive at a child's bedside anywhere in the hospital within five minutes after a summons to assess a condition. Interventions include providing additional respiratory support, administering additional or different intravenous fluids or transferring the child to the ICU for ongoing monitoring and more intensive therapy.

The researchers found that although many Rapid Response Team calls were triggered by measurable changes in a patient's status—a change in breathing pattern, blood oxygen content or blood pressure—some calls occurred simply because the child's medical caregiver or parent felt that something just wasn't right.

"Even in the hospital, sick children can deteriorate so quickly," said Sharek. "They don't have the energy reserves or muscle mass that most adult patients have."

Sharek estimated that 33 lives—equivalent to an 18 percent reduction in the monthly mortality rate—were saved during the 19-month study period.

Although Rapid Response Teams have been shown to be effective in adult care institutions, the Packard study is the first to demonstrate that they result in lower mortality rates in a pediatric setting. [SMU](#)

New Web site compiles Stanford clinical trials

Stanford has launched a Web site that features a comprehensive, publicly accessible database of all clinical trials at the medical center and its affiliated facilities. In addition to its value as a resource for researchers, the registry will help patients find clinical trials that match their medical needs.

"The Web is increasingly used by patients and referring physicians as the primary mechanism to learn about clinical trials," said Harry Greenberg, MD, senior associate dean for research at the School of Medicine. "By providing a single, easy-to-use Web site, this system helps the public to more easily discover Stanford's studies."

About 1,000 clinical trials are under way at any given time, said Steven Alexander, MD, a professor of pediatrics and medical director of the Stanford/Packard Center for Translational Research in Medicine, the organization that oversees clinical trials. Current studies range from testing a new drug for leukemia to assessing the

impact of meditation on depression and exploring a novel treatment plan for Hodgkin's disease.

Clinical trials are the proving grounds in which researchers assess the safety and effectiveness of drugs, surgical procedures, medical devices, behavioral treatments and dietary interventions.

Most of the early testing is done in laboratory settings and in animal models before moving to the stage in which human subjects are used. If the clinical trials indicate that the treatment is safe and effective, the U.S. Food and Drug Administration will approve it for use.

Patients looking for information about clinical trials will be able to search the database by condition or disease, by investigator, by department or through a free-text search.

"This Web site will allow patients to go to their primary-care physician and ask if a certain clinical trial might be helpful for them," said Alexander. [SMU](#)

Learn about Stanford's clinical trials at clinicaltrials.stanford.edu

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