



## Opening the Gift

*American Family Children's Hospital introduces a new era of pediatric care*

At the end of August, UW Health staff will usher pediatric patients into the new American Family Children's Hospital in Madison. The move marks the completion of a \$78 million building project to match world-class physicians and staff with a facility conducive to caring for children.

"Now we not only provide excellent medical care, but have a facility that truly takes care of patient and family needs," says Ellen Wald, MD, chair of pediatrics at the UW School of Medicine and Public Health.

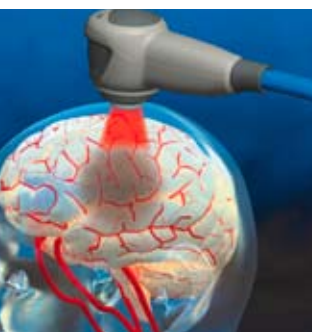
The hospital's distinct identity and healing environment was largely inspired by a child and family-centered health care philosophy, according to Jennifer Brazelton, administrative director of the new hospital. With input from UW Health staff as well as patients and families, the project leaders sought to create a more spacious hospital of the 21st century.

"Enabling family participation in their child's healing process is very important," says Brazelton. "Our goal was to create a

comfortable environment to foster healing and the highest possible degree of normalcy for children and their families."

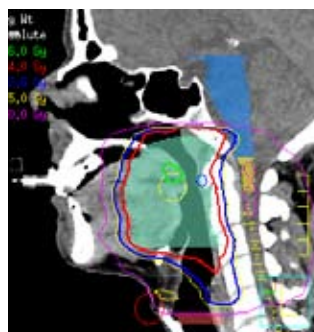
This vision has now come to fruition within the new hospital, carefully designed to include essential comforts such as larger patient rooms as well as vanguard programs. Take, for example, the nation's only exclusively-pediatric positive image center, which helps children deal with illnesses and medical treatments that alter their appearance.

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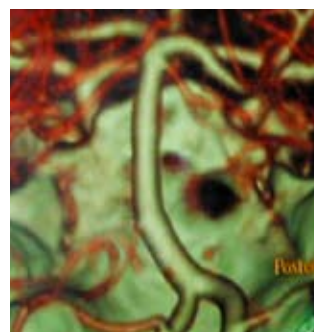
**P3**

Laser therapy for stroke



**P4**

Head and neck cancer



**P5**

Enterprise imaging



**P6**

2MD moves forward



**P7**

uwhealth.org makeover



Other noteworthy features of American Family Children's include:

- A 20-bed state-of-the-art pediatric intensive care unit, a unit dedicated to children needing specialized cancer, neuroscience, plastic surgery or ENT care, a 24-bed medical unit and a 24-bed surgical unit, scheduled to be completed in the near future.

- Tyler's Place, one of only a few sibling care centers nationwide providing care for siblings of hospitalized patients to ease parents' emotional stress.

"Our research, and our quality of care have always been very strong," says Brazelton. "The new facility is the last piece of the puzzle that will make it easier for us to recruit and retain the kinds of excellent physicians and staff that

*"We now not only provide excellent medical care, but have a facility that truly takes care of patient and family needs," says Ellen Wald, MD.*

- Leading-edge cancer facilities, including an MIBG treatment room for children with neuroblastoma-specific cancer, four bone marrow transplant rooms, and a special school room and play room with filtered air for immunocompromised children.
- A pediatric pain management program including pharmacologic, cognitive and tactile therapies.
- Patient rooms—almost double the previous size—with a sleep bed, bathroom and storage space, which allow parents to stay with their child and participate in their care.
- A family resource center, complete with family meeting rooms, a business center for parents, and a library environment equipped with medical resources and staff to answer questions prior to and after a child's hospitalization.
- A comprehensive child life program, expanded hospital school rooms and improved play areas for patients.

our referring physicians have come to expect for their patients and families."

The six-story, 60-bed facility has replaced the existing UW Children's Hospital that was located within UW Hospital and Clinics since that building opened in 1979. It hosts more than 35 pediatric specialty clinics under one roof and a special procedure clinic with skilled pediatric intensivists and expanded post-procedure recuperating areas for patients. American Family Children's also offers advanced technology and regionally unprecedented expertise for pediatric patients in numerous specialties.

*American Family Children's Hospital, located at 1675 Highland Ave. in Madison, is connected by an enclosed walkway to UW Hospital. Physicians interested in referring patients for treatment should call the Access Center at 1-800-472-0111. More information, including a virtual tour of the facility, is available on the Web at [uwhealth.org/kids](http://uwhealth.org/kids).*



Sometime in the next few weeks, an ischemic stroke patient at UW Hospital will be enrolled in a new clinical trial. The patient's head will be shaved and a special cap precisely fitted on it. Both the patient and the treating neurologist will put on laser-safety glasses. Then the neurologist will pick up a handpiece equipped with an optical lens, and direct invisible laser beams, through openings in the cap, directly into the patient's brain.

The NEST-2 Trial, in which near-infrared energy is delivered directly to brain tissue, is designed to test the safety and efficacy of the NeuroThera system, under development for 10 years by a California biomedical company.

Another potential advantage of the laser therapy is fewer bleeding complications.

"Many stroke patients do not receive tPA because of its associated risk of hemorrhage, especially if they are taking blood thinners or have recently undergone surgery," says Sattin. "Laser therapy may be a safe treatment for such patients."

The theory behind the system is that a particular enzyme in the mitochondria of brain neurons absorbs the near-infrared energy and spurs the formation of ATP. That process, according to the hypothesis, improves energy metabolism and reduces neuronal death in the

compare treatment with the device versus placebo treatment, based on the patient's scores on commonly used stroke scales.

All study subjects will receive standard medical management. Patients with hemorrhagic, brainstem or cerebellar stroke will not be eligible.

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*For more information on the NEST-2 trial, contact Justin A. Sattin, MD, at (608) 263-5420.*

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## WILL LASER THERAPY OPEN THE STROKE WINDOW?

Justin A. Sattin, MD, a UW Health stroke neurologist, is principal investigator of the study at UW. The international study aims to enroll 660 patients.

The Food and Drug Administration approved the trial based on the results of NEST-1, the initial randomized trial of 120 patients. NEST-1's results, published in *Stroke* online in April 2007, showed that significantly more patients in the active treatment group versus controls had successful neurological outcomes at 90 days post-stroke, as assessed by several measures.

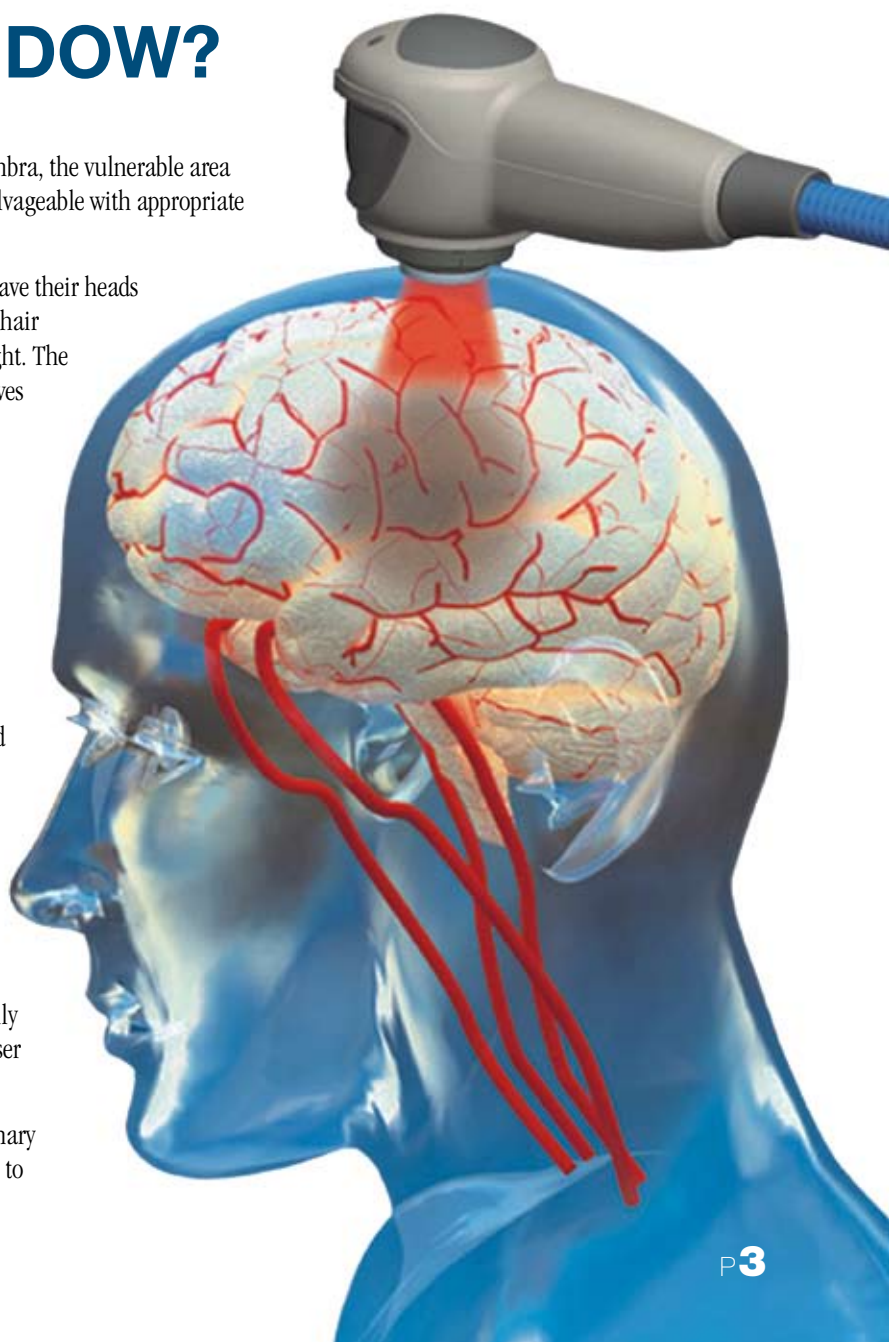
UW Health neurologists are particularly enthusiastic about the system's potential to expand the treatment window for ischemic stroke. Intravenous tPA—the only FDA-approved treatment for ischemic stroke—must be given within three hours of symptom onset. While UW Hospital offers sophisticated endovascular treatments that can be effective within somewhat longer time windows, the hope is that the NeuroThera system could prove effective up to 24 hours after symptoms appear.

"Failure to arrive at the hospital within the current time window is a major factor in the difficulty we face in reducing brain damage from stroke," says Sattin. "If the trial proves this approach effective, it would be a tremendous addition to our arsenal."

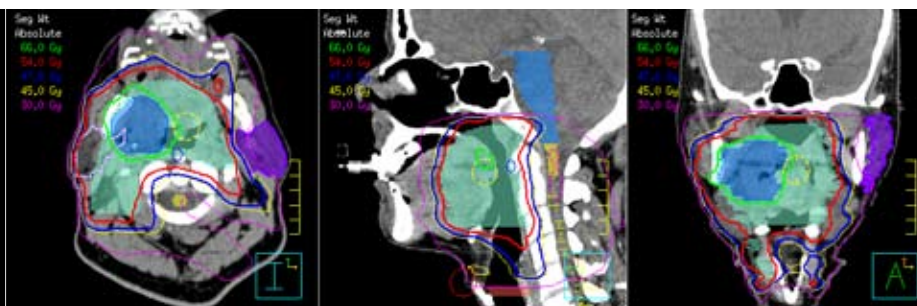
ischemic penumbra, the vulnerable area that remains salvageable with appropriate treatment.

Patients must have their heads shaved because hair absorbs laser light. The treatment involves pressing the experimental device onto the scalp at 20 treatment sites, through open tabs in the cap. Because the study is randomized and double-blind, however, neither the physician nor the patient will know if the patient is actually receiving the laser treatment.

The study's primary objective will be to



# SHOULDERS ABOVE



**H**ead and neck cancer is all about the numbers: the overwhelming number of places such cancers can strike—and the number of professionals who team up to treat them.

“Head and neck cancer can involve a series of 35 complex sub-sites,” says Paul Harari, MD, chair of the department of Human Oncology at the University of Wisconsin School of Medicine and Public Health and UW Health oncologist with the Paul P. Carbone Comprehensive Cancer Center at UW Hospital and Clinics.

Head and neck cancer encompasses the broader category of cancers that occur in the mouth, throat and neck, on structures such as the vocal cords, tonsils and lips. It is the sixth most common cancer in the United States, with about 43,000 cases diagnosed each year, 90 percent of which are attributed to smoking. Despite its rank, it might be the most visible and dramatic cancer, as it can cause speech, swallowing and other problems.

“Head and neck tumors are often quite mean and aggressive,” says Harari. “Patients wear their battle scars in full view.”

Dentists may be the first to notice initial signs of the disease during an oral screening, and refer patients to an ENT specialist for a biopsy.

“The one or two interactions with dentists that people have over a year are such a valuable aid,” says Harari. “Dentists are probably underappreciated in this role.”

However, a dentist can only see about a third of the structures associated with head and neck cancer, which can make an early diagnosis difficult. Other common symptoms include lumps in the neck, bleeding in the throat or a change in voice quality.

Cases that are caught very early can be successfully treated 80 to 90 percent of the time. Once the disease has advanced to its later

stages, the cure rate plummets to only 20 to 30 percent.

At the UW Carbone Cancer Center, head and neck cancer patients benefit from a team of health care professionals who help them navigate the treatment process. While a multidisciplinary approach to treating cancer is common, the head and neck team is particularly comprehensive.

“The diagnostic complexity and the size of the team reflect the intricate anatomy of the disease,” says Harari.

Treatment of head and neck cancers can induce cosmetic and functional side effects. Numerous advancements in both radiation and surgery techniques over the last 10 years have improved precision and sophistication.

“We used to cover everything in sight with radiation,” says Harari. “But now the pendulum is swinging actively towards normal tissue sparing.”

Intensity modulated radiation therapy (IMRT) and tomotherapy are two sophisticated methods that allow radiation to be targeted to the tumor, minimizing collateral damage. Chemotherapy is often used in conjunction with radiation.

Surgery remains a central treatment approach in many cases to remove both the tumor and areas at risk for spread. If a tumor is situated, for example, in the jaw, then a segment of the jaw may need to be removed.

“Twenty years ago, patients would commonly be left without a jaw or lip,” says Harari. “But new reconstruction methods now routinely enable people to better maintain both cosmetic and functional ability.”

Using “free flaps”—tissue from the patient’s own body—Gregory Hartig, MD, a UW Health head and neck cancer surgeon, performs reconstruction following the removal of a

tumor. Many institutions perform tumor removal and reconstruction in separate phases using different teams, but Hartig and his team prefer to do it all in one surgery. The entire process can take eight to 12 hours.

Removing the tumor generally takes two to three hours; the reconstruction can take six to nine. UW Health surgeons harvest muscle, bone and blood vessels from another area in the body, and then perfectly carve and shape them to fit the new location.

Treating head and neck cancer can lead to chronic dry mouth or alterations in speech and taste. Harari recommends patients see a dentist every three months because saliva, the top oral cleansing agent, is reduced following treatment. Dentists also provide customized fluoride trays for patients to use every day, instead of just once or twice a year.

Molecular-targeting agents, a new treatment studied worldwide, could soon decrease these side effects and improve overall cure rates. Last year, Harari’s research team reported the first successful trial using the molecular-targeting agent cetuximab, a growth factor inhibitor. Following years of lab studies suggesting the agent’s potential, cetuximab combined with radiation improved the cure rate for head and neck cancers by 10 percent.

“This was the first major clinical trial to show an improvement in the cure rate for head and neck cancer patients treated with radiation plus a molecular cancer drug,” says Harari.

“And the molecular-targeting agents continue to show high promise. I’m optimistic that we can continue to preserve organ function and improve patients’ overall quality of life.”

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*For more information about UW Health’s head and neck cancer program or to refer a patient, visit [uwhealth.org](http://uwhealth.org) or call Cancer Connect at 608-262-5223 or 800-622-8922.*

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# Enterprise Imaging

*Sharing images, saving lives*

Once upon a not-too-distant time ago, physicians at regional hospitals transferring patients to UW Hospital and Clinics had to make sure they tucked a stack of radiology films under the patient's transport cart.

Today, they're able to provide those images electronically in advance, through a new privacy-encrypted system called enterprise imaging.

"We have the capability to receive images digitally in real time from several sites in Wisconsin," confirms Gary Wendt, MD, the UW Health radiologist who helps manage the program. "The real benefit is not just that the images are here, but the images get here ahead

referring physician outside the enterprise imaging system if the patient signs a form authorizing their release. Patient images are categorized by name, not medical number, and are archived separately from records in UW Hospital's Picture Archive Communications System (PACS).

For patients, the benefits of enterprise imaging can be life saving. Wendt cites a recent instance in which UW radiologists received a CT scan of a car accident victim from a rural hospital. The radiologists recognized a life-threatening aortic transection; the patient was transferred to UW Hospital, treated and eventually released without deficit.

*"Moving patients and physicians is expensive. When we can move images, we can literally see hundreds of patients and save hundreds of dollars," says Wendt.*

"Had this remote site not had the capability to send images here, that

of time, so the physician here can examine them and begin to determine the best course of action for the patient."

UW Hospital is now able to establish and maintain secure digital connections with remote medical sites, and to maintain audit trails to ensure that all patient information is released and viewed appropriately. With that infrastructure in place, the hospital has entered into legal agreements with a growing list of regional health care providers (see sidebar).

Wendt likens enterprise imaging to an electronic medical record: while the latter helps categorize and organize text information in a central place, the former does the same for digital images. Once regional providers become part of the enterprise imaging system, they can enter digital images into a software program that encrypts them, similar to the SSI encryption typically found on banking or investment sites.

The connection between UW Hospital and the remote site is persistent, but information only flows one way. Physicians at referring locations can't access images once they've been sent to UW Hospital, but the images can be sent back to the

patient would likely have died," says Wendt. "This is an example of the type of complex process this system can really help with."

Enterprise imaging offers an additional internal benefit to physicians at UW Hospital in that all clinicians now have patient care-related access to medical images within the system, from radiology to endoscopy and virtual colonoscopy.

The list of institutions enrolled in enterprise imaging continues to grow. UW Hospital is in negotiations with several others, and as the system grows, so does its impact.

"Moving patients and physicians is expensive," says Wendt "When we can move images, we can literally see hundreds of patients and save hundreds of dollars."

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*For more information on enterprise imaging at UW Hospital and Clinics, contact 608-263-1053 or visit [uwhealth.org](http://uwhealth.org).*

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## Who's on board?

Sites currently participating in UW Hospital and Clinics' enterprise imaging system include:

- All Madison-based UW Health clinics
- Affinity Health, Fox Valley
- Central Wisconsin Center, Madison
- Gundersen Lutheran, La Crosse
- Mercy Health System, Janesville
- Meriter Hospital, Madison
- Mile Bluff Hospital, Mauston
- Order of St. Francis HealthCare, Rockford, Illinois
- Ripon Medical Center, Ripon
- St. Joseph's Hospital, Hillsboro
- St. Mary's Hospital, Rhinelander
- UW Department of Family Medicine Verona Clinic

# GROWING BONE, PREVENTING FRACTURES:

*New UW-developed drug goes into Phase 2 clinical trial*

DP001, a new experimental vitamin D derivative that may promote new bone growth in those with low bone density, has been described as a post-menopausal bone “repair crew” by Neil Binkley, MD, a UW Health osteoporosis specialist.

Binkley is among the researchers who hope that DP001, a new class of drug derived directly from Vitamin D, will effectively rebuild lost bone. The drug, also known as 2MD, is the first major development of Deltanoid, the Madison-based company formed by Hector DeLuca, PhD, a UW-Madison professor of biochemistry. Binkley is currently recruiting

post-menopausal women for a Phase 2 clinical trial to test DP001’s effectiveness.

“We’re very enthusiastic about the possibilities here,” says DeLuca, who first discovered DP001’s bone-building properties in 1998. “While we’re hoping eventually to be able to use this for everyone’s benefit, post-menopausal women are seriously affected by this issue. They’re the ones who tend to suffer extremely rapid bone loss.”

Currently, treatment options for low bone density center on commonly prescribed drugs like Actonel™, Boniva™ and Fosamax™

that focus on preventing further breakdown of bone in patients with low bone density.

“What we need are drugs that build bone back up rather than simply prevent degradation,” says Binkley.

DP001 could be just that. Because it’s directly derived from vitamin D, DP001 may address both of the problems that lead to fractures with advancing age: bone loss and muscle weakness contributing to increased falls risk. Equally important, DP001 is self regulating, and as such Binkley and DeLuca aren’t concerned about

growing more bone than a patient requires.

DP001 is being studied at a number of centers in the United States. If the trial proves successful, DeLuca says DP001 could be available commercially in five to six years.

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*Women eligible to participate in this study must be post-menopausal with borderline bone density (osteopenia). To enroll or learn more, contact the UW Osteoporosis Clinical Research Center at 608-265-6410.*

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## Researching for KEEPS *Estrogen’s role is studied*

When is the best time in a woman’s reproductive history to start hormone therapy? How does estrogen therapy affect a woman’s cognition and mood? What is the most beneficial form of estrogen? These are just a few important questions that researchers at the University of Wisconsin School of Medicine and Public Health hope to answer in a federally funded nationwide study, the first of its kind, on the effects of

estrogen therapy with perimenopausal women.

Led by Sanjay Asthana, MD, head of the UW Section of Geriatrics and Gerontology and director of the Geriatric Research, Education and Clinical Center, the study will be the first in the world to address the most significant questions remaining about the use of hormone therapy in women.

The study, dubbed “KEEPS” (the Kronos Early Estrogen Prevention

Study), will evaluate the efficacy of four years of hormone therapy on measures of cognition and mood in 720 healthy perimenopausal women at eight different sites across the country.

The main objective of KEEPS is to answer questions at the center of the hormone therapy debate. Although the Women’s Health Initiative (WHI) showed that estrogen use by postmenopausal women was associated with breast

cancer and offered no benefits for reducing cardiovascular disease, the WHI study was not designed to address younger women entering menopause.

“There has been a tremendous amount of important and valuable research done on the positive and negative health effects of therapy using estrogen in menopausal women,” said Asthana. “It is my belief that this study will go a long way in helping us understand the

# UW Health Launches New Web Site

In a 2005 report<sup>8</sup>, the Pew Internet and American Life Project revealed that on a typical day at the end of 2004, seven million Americans logged on to the Internet in search of health-related information. The report went on to theorize that 93 million Americans have at some point used the Internet for health or medical purposes.

In recognition of the role of the Web in our physicians' and patients' lives, and the need for a comprehensive yet navigable tool, UW Health took the already popular uwhealth.org and enhanced the design and capabilities of the entire site. Visitors to the site since July have noticed not only a bright new look, but easier navigation and improved search functions.

## *New Look, New Features*

The most obvious change is an entirely new design with warm, welcoming colors and user-friendly organization and structure. Navigation has moved to the top of the page, creating more space for programs such as Transplant and Heart and Vascular Care to tell their stories.

The heavily used Find a Doctor feature has been greatly enhanced. Several browse features have been added to allow users to select options, such as specialty, clinic or the first letter of a physician's last name. Find a Doctor is linked at the top of every page of the site. Physician bios can also be found by using the site's improved search



feature at the top of every page. Web videos have been incorporated to highlight providers, procedures and resources.

Improved navigation also allows patients to quickly find in-depth information on symptoms, diseases and health assessments through the A.D.A.M. Health Illustrated Encyclopedia.

## *Tell us what you think*

We invite you to explore the new site and let us know what you think through the survey linked at the bottom of every page on the site. We hope that you find it to be a useful and comprehensive resource for you and your patients.

*"The Pew Internet and American Life Project. Trends 2005. "Internet: The mainstreaming of online life." Available from: <http://pewresearch.org/assets/files/trends2005-internet.pdf>*

complexity of estrogen and related hormones in humans. It is critical that we continue to systematically address all of the clinical issues concerning estrogen treatment and its effects on diseases like Alzheimer's."

Among the many objectives of KEEPS is whether a natural, human form of estrogen, administered via an arm patch, has more benefit and less negative effect than the commonly used oral form of estrogen that is

synthesized in the laboratory from animal sources. Researchers also hope to find that with younger women, the natural form of estrogen therapy can be administered for a much shorter period, with positive gains in cognition later in life.

The study hopes to determine the best way to counteract the adverse effects of estrogen on the lining of the uterus, which hormone therapy regimen best mimics the menstrual cycle, and the

relationship, if any, between estrogen-induced changes in markers of atherosclerosis, heart disease, inflammation and blood hypercoagulability.

The \$3.4 million study, funded by the National Institutes of Health, will be administered at the University of Wisconsin-Madison and the William S. Middleton Memorial Veterans' Hospital. Recruiting will take place at eight different sites across the United States.



Sanjay Asthana, MD



University of Wisconsin Hospital and Clinics President and CEO

**Donna K.**

**Sollenberger** has announced she will step down from her role with UW Hospital in September to accept a leadership position with Baylor College of Medicine in Houston.

Sollenberger, a native of Illinois, joined UW

Hospital and Clinics in December 1999. In the last year alone, both she and the hospital she leads have received significant national attention. *Modern Healthcare* magazine recently named Sollenberger one of the top 25 women in health care for 2007. In 2006, the Leapfrog Group named UW Hospital and Clinics one of the nation's top hospitals for quality and safety; in both 2005 and 2006, the University Healthsystem Consortium named UW Hospital one of the 10 top-performing hospitals in the US; and Solucient Corporation included UW Hospital's heart and vascular care program among 100 Top Cardiovascular Hospitals in the nation for three consecutive years and among 100 Top Hospitals in America three times in the last five years.

After a rigorous process, UW Hospital and Clinics has become the only hospital in Wisconsin to be verified by the American College of Surgeons (ACS) as a **Level One**

**trauma facility** for both pediatric and adult patients, with an **ACS-verified burn center**.

A Level One facility is a regional resource trauma center capable of providing patients with the most advanced and comprehensive care available. A verified Level One trauma center for adults since 1998 and pediatrics since 2004, UW Hospital and Clinics' new status as an ACS-verified burn center has strengthened its standing among elite comprehensive critical care facilities in the country.

"Trauma continues to be a major public health problem in the nation and Wisconsin," says

**Michael Schurr, MD**, UW Health surgeon and director of the UW Hospital trauma service.

"Being re-verified as a Level One trauma center for people of all ages, and now with an ACS-verified burn center, speaks volumes about the hospital's continuing effort towards providing the highest quality of care possible to our community."

The ACS, responsible for establishing national trauma center criteria, requires all verified Level One facilities to pass a rigorous re-verification process every three years.

Schurr adds that, since becoming a Level One facility, the hospital has instituted significant improvements in the areas of patient care, trauma education, and community outreach to maintain the high status. The ACS standards include:

- A team of trauma care specialists available on site 24 hours a day
- A specially trained staff and a wide array of highly specialized diagnostic and treatment

equipment through all phases of trauma care, including the emergency room, operating room, and intensive care units

- Comprehensive clinical laboratory services available 24 hours
- Programs for injury prevention, public and professional education and trauma research
- Designated operating room availability and staffing 24 hours a day
- A rehabilitation service properly equipped for acute care of critically injured patients

In July, UW's **Med Flight** program replaced its two Italian-built Augusta Power 109 aircraft with two new, technically advanced medical helicopters. Specifically designed for air rescue, the new Eurocopter (EC 135) low-noise and powerful twin-engine helicopters are highly maneuverable and feature up-to-the-minute technology, panoramic visibility, and state-of-the-art safety features.

**Medical Directions** is published quarterly by UW Health Marketing and Public Affairs Department, 635 Science Drive, Suite 150, Madison, WI 53711.

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