

Eye surgery restores vision in 'hopeless' cases

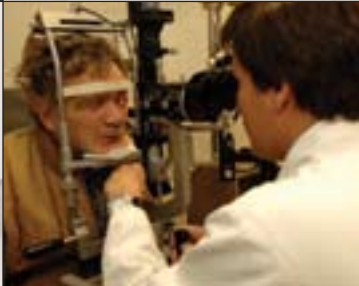


Ophthalmologists at the University of Illinois Medical Center at Chicago have performed four cornea replacements using a newly redesigned artificial cornea, restoring sight in patients who had exhausted all other options. Dr. Dimitri Azar, Field Chair of Ophthalmologic Research and professor and head of ophthalmology and visual sciences at UIC, led the team that performed the operations. He was assisted by Dr. Jose de la Cruz, a fellow in cornea and refractive surgery. Azar and de la Cruz both worked with Dr. Claes Dohlman at Harvard who developed the artificial cornea.

In artificial cornea replacement, called keratoprosthesis, a plastic cornea is anchored to a hole in a donated cornea, the clear, strong surface area that allows light into the eye. The artificial cornea is necessary when standard cornea transplants have failed, causing the implanted cornea to become opaque or invaded by blood vessels. "Patients whose corneas are damaged by infection or injuries like chemical burns often have poor outcomes," de la Cruz said. "Many times, their physicians continue to attempt new transplants or give up entirely on restoring their vision, simply because there has been no other option."

L.C. Phillips, 53, of Chicago, one of the first two patients to receive the artificial cornea at UIC, had lost almost all vision in his left eye after an infection two years ago. Phillips had already had two failed cornea transplants. "Because it was very likely that transplants would continue to fail, the keratoprosthesis was his only hope for restored vision," de la Cruz said.

"Since the December surgery, Phillips' vision has been restored to 20/50, and we expect it to continue to improve," Azar said. Phillips wears a special contact lens, which will need to be replaced every few months. "It's a blessing to be able to see again," Phillips said.



Reporting by Jeanne Galatzer-Levy, UIC News Bureau

CHICAGO URBANA

Cord blood stem cells put to work

Jasti Rao, professor and head of cancer biology and pharmacology at the UIC College of Medicine at Peoria, will direct a multi-disciplinary pilot project to determine the behavior of cord blood stem cells in cancer and spinal cord injury. Rao received \$1.1 million for his research, the largest grant made by the Illinois Regenerative Medicine Institute, in August of last year. UIC's Sara Becker-Catania received \$400,000 for a multiple sclerosis research project, and Dengping Yin was awarded \$750,000 for work to facilitate islet cell transplantation in diabetes patients. In Urbana, Lawrence Schook, professor of animal sciences, received \$1 million for research and to evaluate new technologies, Matthew Stewart, assistant professor of veterinary clinical medicine, received \$250,000 for clinical regeneration of musculoskeletal tissues and Fei Wang, assistant professor of cell and structural biology, received \$400,000 to study molecular mechanisms in stem cells.

CHICAGO

Chicago honors College of Dentistry

The College of Dentistry received a 2006 Annual Human Relations Award from the City of Chicago Commission on Human Relations for its efforts to bring dental care to poor, racial and ethnic minorities and to people who lack dental insurance. Dental students provide care in minority communities and in community-based clinics that serve HIV/AIDS populations. Bruce Graham, dean of the dental school, said the College is committed to helping underserved populations as well as working to increase the number of minority dentists.

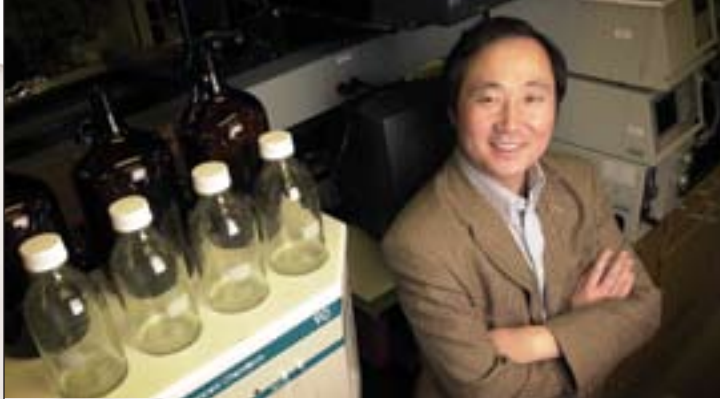


URBANA

Shining a light on breast cancer

Stephen Boppart, a professor of electrical and computer engineering, bioengineering and medicine in Urbana, is leading research to develop a new technique that could have a significant impact on the way doctors detect, diagnose and treat breast cancer. It's called near-infrared imaging, which uses beams like those in CD players. The light beams can guide needle biopsies and identify tumor margins during surgery.





URBANA

Dipstick test for cocaine and other drugs

Urbana researchers have developed a simple “dipstick” test for detecting cocaine and other drugs in saliva, urine and blood serum. Colorimetric sensors that mimic litmus-paper tests give a quick estimate of how much of a targeted molecule is present in a solution. The test is based on DNA-gold nanoparticle technology and can be packaged in user-friendly kits similar to those used for home pregnancy tests. Chemistry professor and Beckman Institute researcher Yi Lu, postdoctoral researcher Juewen Liu and graduate student Debapriya Mazumdar collaborated on the project.



URBANA

Exercise helpful at any age

Exercise is beneficial to younger brains, according to Charles Hillman, Urbana professor of kinesiology and of community health, and his colleagues in the Netherlands. The link between exercise and improved brain function in older adults is well documented, but Hillman’s research suggests similar improvements among younger populations as well. Hillman cannot yet say whether physical activity protects against cognitive loss during younger periods of the lifespan or if it promotes better cognitive function.

SPRINGFIELD

UIS launches new certificate programs

Students at UIS now can take courses for one of three new master’s-level certificate programs in community health education, epidemiology and environmental health. The course schedules for the 16- or 20-hour programs are designed to accommodate working professionals who are interested in obtaining advanced credentials. Coursework may also be credited to a UIS master’s degree in public health.

CHICAGO

Pain management for sickle cell patients

UIC researchers Diana Wilkie and Shingping Zong are using high-tech tools to study how individuals with sickle cell disease can manage the sometimes excruciating episodic pain associated with the inherited blood disorder. The first phase of the \$2.9 million, four-year study funded by the National Heart, Lung and Blood Institute will give sickle cell patients a pen tablet computer with a touchscreen to show their physician exactly where their pain is located and to rate the pain numerically. In the second phase, half of the patients will receive care based on the computer-based information, half without it.



CHICAGO

Hope for Diabetics

A collaboration of top scientists from UIC and around the world, dubbed the Chicago Project, is committed to helping diabetics worldwide by developing a cell-based cure for diabetes in the next five years. The team will also conduct research and develop ways to improve cell-isolation techniques, cellular viability and functioning, and shipping procedures for islet cells, according to Dr. José Oberholzer, UIC principal investigator and director of cell and pancreas transplantation. UIC has been named a National Institutes of Health Islet Cell Resource Center and awarded a three-year \$3.25 million grant.

URBANA

House call

An African lion with a broken tooth deserves — demands — a house call. Last spring, Sandra Manfra Marretta, professor of veterinary clinical medicine who specializes in dental disease, traveled to Brookfield Zoo in Chicago for oral surgery on Makonnen, a 500-pound lion, with a follow-up call to cap the tooth. Makonnen’s surgery was a learning experience for vet med students, who traveled with Marretta to observe the treatment. The Zoological Pathology Program of the College of Veterinary Medicine at Urbana provides services to Brookfield, Shedd Aquarium and Lincoln Park Zoo, diagnosing diseases and assisting in the health management of captive wildlife populations.



CHICAGO

Flu shot on the run(way)

Most travelers don’t think about getting a flu shot while they are away from home or the office. But at UIC’s O’Hare Medical Clinic, the process was so easy and the locations so convenient that travelers were lining up for their shots. This year, clinic staff set up a series of kiosks at O’Hare Airport and saw a jump from 350 shots a week in 2005 to more than 2,400 shots a week in 2006.