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PUBLISHED FOR THE USC HEALTH SCIENCES CAMPUS COMMUNITY

VOLUME 15 • NUMBER 20

USC researchers identify key T-cell lymphoma mutation

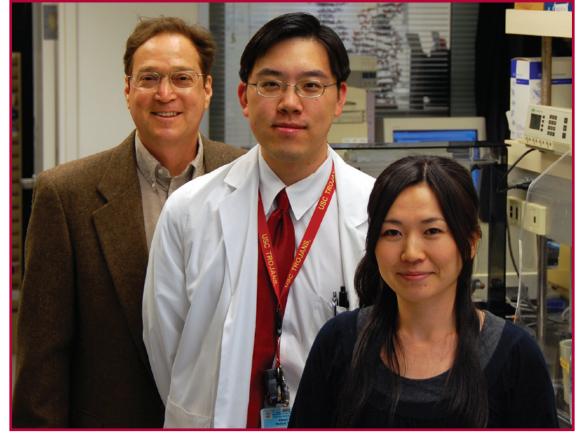
By Meghan Lewit

Keck School of Medicine researchers have identified a key mechanism that causes chromosomes within blood cells to break—an occurrence that marks the first step in the development of human lymphoma.

The study provides researchers with the clearest insight yet into why these breakages—called chromosomal translocations—occur at specific points in the chromosome, said principal investigator Michael R. Lieber, Rita and Edward Polusky Professor in Basic Cancer Research at the Keck School.

The study appears as the featured cover article in the June 12 issue of the journal *Molecular Cell*. The study is the second led by Lieber to appear on the cover of a *Cell* journal in the past six months.

"The new findings go to the heart of why cancers begin. This is an opportunity to see the very beginning step of human lymphoma," Lieber said. "With this information, we can now begin to look at ways to interfere with this process in order to stop the



From left: Michael Lieber, Rita and Edward Polusky Professor in Basic Cancer Research, MD/PhD student Albert G. Tsai and post-doctoral fellow and lead author Noriko Shimazaki in their laboratory at the USC Norris Comprehensive Cancer Center.

lymphoma and to develop more targeted therapies for treatment."

There are two types of lymphoma: B cell lymphomas and T cell lymphomas. Both

B cells and T cells perform vital functions in the immune system by creating antibodies and destroying virus-infected cells. The beginning point, or inception, of most human

lymphomas occurs when two chromosomes break and the resulting fragments are reassembled in an exchange.

Researchers specifically

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'The new findings go to the heart of why cancers begin. This is an opportunity to see the very beginning step of human lymphoma.'

—Michael Lieber, Rita and Edward Polusky Professor in Basic Cancer Research at the Keck School of Medicine

USC physician steers 17,000 marathon runners safe and sound (if exhausted) to the finish line

USC physician Maureen Strohm (center left in

team members at a tent at the L.A. Marathon.

cardinal shirt) appears with some of her medical

By Sara Reeve

Maureen Strohm, who served as medical director for the 2009 Los Angeles Marathon on May 25, never planned to make marathons part of her life.

But for the second consecutive year, she has led a team of medical professionals and residents from California Hospital Medical Center, as well as other local hospitals, that staffed 10 medical aid stations and two finish line medical tents at the race.

The team, including EMT and paramedic support from the Los Angeles Fire Department, prepared to manage the medical needs of the 17,000 registered marathon runners and walkers. "We truly worked as a team, together with key leaders from LA Fire Department, under the leadership of Captain Keith Douglass, in collaboration with Nick Curl and Stacy Embretson of the LA Marathon," said Strohm.

"Ultimately, our goals are to prevent injury when we can, or prevent further progression of injuries along the course, to triage and treat those we could manage simply, and to help avoid overload for our local emergency rooms," she said.

Strohm has an intimate knowledge of what it's like to run a marathon: she has completed 17 of them.

"I used to be happy to

walk a few miles in the early morning hours as a way to think through challenges at work," said Strohm, associate professor of clinical family medicine at the Keck School and residency director of USC/California Hospital Family Medicine program.

But something changed for Strohm in the mid-1990s, when a medical student bragged about her mother completing the L.A. marathon—walking it in 6 1/2 hours.

"I thought that I could do that too," said Strohm. "Finishing that first marathon remains a peak experience. After that, I had a sense that I could do anything, with the commitment and discipline to pursue any goal."

Now, she uses that experience to inform her work as marathon medical director.

"After 17 marathons, with only one less than five hours, I have a very deep appreciation for the reality of 26.2 miles and the enormity of

its challenge—in terms of the blisters, cramps, fatigue, challenges of replenishing calories along the way and hydration and avoiding over-hydration with its increased risks of hyponatremia," she said.

This year's marathon was held on Memorial Day, almost three months later in the year than the race's traditional timing in early

See **RACE**, page 2



Festival of Life participant John Myer signs a scroll at the June 6 event, which brought together former patients and their families for a morning of celebration and inspirational speakers.

Cancer survivors, families flock to 19th annual Festival of Life

By Katie Neith

Hundreds of cancer survivors joined friends and family on the Health Sciences Campus on Saturday, June 6, to mark the 19th Annual Festival of Life.

Orchestrated by the USC Norris Cancer Hospital, the event brings together former patients for a morning of celebration and inspirational speakers.

Chorda Tympani, a medical student barbershop quartet who entertained the crowd with their rendition of "Come Fly with Me" during the formal program, had a very special member among their ranks. Robert Martinez, a first-year medical student at the Keck School of Medicine, is also a former patient of USC Norris, where he was treated for colon cancer in 2004.

He lauded USC Norris as an exceptional treatment facility that treats the "whole person" with compassion. Martinez, who was inspired to study medicine because of his experience with cancer, en-

See **LIFE**, page 2

LIFE: USC Norris honors survivors of cancer at annual festival

Continued from page 1 couraged the crowd to share their stories with others.

"Always think about the patients who are being diagnosed, how you can share your success story with them," he said. "Focus on how you can inspire others to keep fighting, because you can easily lose track."

Vicki Kompaniez, a USC Norris volunteer and breast cancer survivor, recalled how she left in the middle of chemotherapy at another institution to finish her treatment at USC Norris.

"I walked in to Norris and I felt like I had come home," said Kompaniez, whose husband also was successfully treated for esophageal cancer a year earlier at USC Norris. "The care, the love, the support; from the minute you drive up at the valet ... you feel nothing but taken care of."

Guests were treated to the sounds of Disneyland's Bayou Brass Band while they enjoyed a continental breakfast under sunny skies. Harv the Magician roved the crowd, entertaining kids with balloon animals, and numerous booths offered information on survivorship issues.

The program was moder-

ated by physician, author and television personality, Art Ulene and included comments from Claire Templeman, assistant professor of obstetrics/gynecology and surgery at the Keck School of Medicine, who shared her thoughts about hope as a driving force for those who work at Norris.

White doves were released at the end of the event, along with a cheer to current patients at the USC Norris Cancer Hospital, in the hopes that next year, they will join the ranks of survivors celebrating at the Festival of Life.



Keck School of Medicine student and colon cancer survivor Robert Martinez (left) speaks to the crowd at the Festival of Life. He is flanked on the right by physician and author Art Ulene who emceed the event

RACE: Hopes for 'June gloom 'til noon' materialize at marathon

Continued from page 1 March. While the temperatures did not reach extreme highs that could have spelled disaster for athletes, Strohm and her team took extra precautions to care for potential heat-related illness and injury.

"Since California Hospital is part of Catholic Healthcare West, we enlisted the support of our chaplain team and called on all volunteers and hospital employees to visualize cloud cover and meditate/pray on our marathon mantra—'June gloom 'til noon,'" said Strohm.

"On marathon day, the race started at 7:20 a.m. with 59 degrees and clouds. The sun finally broke through at 12:19 p.m.!" she exclaimed.

While final data on injuries sustained at the Los Angeles marathon has not yet been

reviewed, Strohm noted that the finish line medical tents seemed to treat fewer athletes than last year: "Overall, there were only 18 ambulance transports from the course itself, with only three of those from the finish line tents. By comparison, in 2004, there were 60 transports from the finish line alone."

With race organizers discussing a change of date back to early March, Strohm hoped to have an easier time recruiting medical professionals. A confluence of events including USC graduation, and meetings of the American College of Sports Medicine prevented a number of volunteers from participating.

"Our core planning team at California Hospital shared the challenges of recruitment of medical and nursing personnel, reviewing national protocols for medical assessment and management for marathon participants and joint training sessions for all our volunteers over the months leading up to the marathon," said Strohm. "I couldn't and wouldn't have done it without my team."

Strohm hopes to soon be able to be able to lace up her sneakers and begin training to run another marathon, something she has not been able to accomplish in several years, due to changes in her work schedule.

"If I'm going to make it into the *Guinness Book of World Records* for something, it'll have to be as the oldest woman to finish a marathon—a title that currently belongs to Jenny Wood, who completed the London Marathon in 2002 at the age of 90, in 11 hours, 34 minutes," Strohm said. "If so, I've got to get back into my training!"

Physical Therapy Research Laboratory renamed to honor Jaquelin Perry

By Christopher Powers

In recognition of Jaquelin Perry's distinguished contributions to the study of human gait and her long-standing commitment to physical therapy education at USC, Biokinesiology and Physical Therapy's Musculoskeletal Biomechanics Research Laboratory (MBRL) recently was renamed "The Jaquelin Perry Musculoskeletal Biomechanics Research Laboratory."

A plaque with the new name was affixed outside the MBRL in the Center for Health Professions during a May 14 celebration of her career and contributions.

Considered the world authority on gait analysis, Perry has always had a passion for improving the function of patients with movement-related impairments. Early in her career, Perry recognized the critical importance of objective tools to measure the effects of disease and interventions.

In particular, Perry recognized the power of functional analyses to measure what could not be observed and used this information to enhance the predictability of orthopaedic surgery.

When available systems for measuring human perfor-

Jaquelin Perry (seated, center) appears at a May 14 celebration of her career. In her honor, Biokinesiology and Physical Therapy, a division of the School of Dentistry, renamed a lab the Jaquelin Perry Musculoskeletal Biomechanics Research Laboratory.

mance did not suffice, she either refined existing systems or developed new technologies.

She helped bring these technologies into the computer age, making them both practical and effective. Her pioneering work in this area resulted in technologies and methodologies that would later become commonplace in gait laboratories across the world.

Perry, who turned 91 last year, has had a long history of involvement in physical therapy education at USC, spanning over 40 years. Her seminal textbook *Gait Analysis: Normal & Pathological Function* is still used in the physical therapy curriculum today. Since her retirement in 1999, she has continued her commitment to USC by serving on the division's Board of Councilors.

NEWSMAKERS

An "NBC Nightly News" video segment and accompanying Web article featured **Mark Humayun** and the retinal eye implant, developed by Humayun and colleagues, that restores sight to the blind. The story was pitched and facilitated by HSC public relations staff.

A June 12 *Time Magazine* article quoted preventive medicine expert **Jonathan Samet** on good health practices for middle-aged people.

A June 8 *Los Angeles Times* article quoted health communication expert **Peter Clarke** about patients who lie to their doctors.

The Weekly

Next Issue: July 10

The Weekly is published for the faculty, staff, students, volunteers and visitors in the University of Southern California's Health Sciences Campus community. It is written and produced by the Health Sciences Public Relations and Marketing staff. Comments, suggestions and story ideas are welcome. Permission to reprint articles with attribution is freely given.

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Keck School fetes Tom DeMeester at May 16 retirement party

By Meghan Lewit

When Tom DeMeester became chair of the Department of Surgery in 1990 he arrived at a medical school and a hospital that were at a critical turning point.

"USC used to be a school caged in the County Hospital. At the time it was breaking out of that to become its own private medical facility," he said. "It was a big step to change that and to start recruiting people into that new culture."

During almost two decades with the Keck School, De-Meester has seen the Department of Surgery through a number of turning points. He raised the department's identity in the surgical world, making it one of the top five in the country. He saw a need for hands-on training for young surgeons and developed a surgical skills lab that became one the first of its kind in the country. Such training facilities are now a requirement for many residency and practical education programs.

DeMeester also distinguished himself as a nationally renowned expert on esophageal cancers and benign esophageal conditions such as heartburn and difficulty swallowing. His studies have resulted in more than 400 publications in peerreviewed journals and numerous book chapters, books and videos. He originated and

developed the field of noninvasive foregut ambulatory monitoring. As Chair of the Department of Surgery, he also served as chief of surgery at both USC University Hospital and LAC+USC Medical Center.

At his retirement reception held May 16 at the Langham Hotel in Pasadena, De-Meester noted that he is stepping down from his post of 18 years during another moment of great transition for the USC Health Sciences campus

"Now we've begun the 'university period' that will see us grow into a true academic medical center," he said

Keck School Dean Carmen A. Puliafito—the host of the event—recognized DeMeester's many contributions during the evening that included a video tribute created by long-time surgery administrator Eric Alcorn and the unveiling of a portrait of DeMeester painted by artist John Swihart.

"We are starting a new chapter in a book that Tom began writing," Puliafito said.

DeMeester received his medical degree at the University of Michigan. A conversation with the dean of the medical school guided him toward specializing in surgery at the Johns Hopkins Hospital. "That conversation changed my life," he said. "It was my introduction to the academic world."

DeMeester served as a cardiac surgeon based in Honolulu during the Vietnam War. After the Army, he joined the University of Chicago, rising to chief of the division of thoracic surgery. While in Chicago, he developed a new financial system to help medical schools and took this system with him to his next position at Creighton University in Omaha, Nebraska. His strong clinical and research expertise, along with his experience in administration and implementation of his financial system, caught USC's attention and he was chosen to head the Department of Surgery.

Among his many other accomplishments as a surgeon and department chair he:

- Established the surgical clerkship as the number one clinical clerkship in the Keck School of Medicine.
- Built centers of excellence for esophageal, cardiac, liver, vascular, breast and trauma surgery.
- Hired high profile surgeons who serve as the bedrock of the department's clinical efforts.
- Established a basic science program headed by Peter and Ite Laird and raised \$1 million to pay for new laboratories.
- Produced five chairs of surgery throughout the country.



Keck School of Medicine Dean Carmen A. Puliafito presents Tom DeMeester with a portrait painted by artist John Swihart in honor of DeMeester's 18 years as chair of the Keck School's Department of Surgery.

- Created one of the top 10 surgical residency training programs in the United States.
- Increased NIH funding to \$3 million annually.
- Partnered with the armed services to set up a Navy training program in trauma, under Demetrios Demetriades at the LAC+USC Medical Center.
- Enhanced the reputation of the burn injury program established by B.E. Zawacki at LAC+USC.
- Helped to lay out the vision for the purchase of USC University Hospital and the USC Norris Cancer Hospital.

Reflecting on his time at USC, DeMeester said he is grateful that he had the opportunity to impact the campus in a positive way and

to contribute to the body of knowledge on esophageal disease. His accomplishments in the latter resulted in receiving honorary degrees from four European universities.

"I felt that I pushed the science of esophagology forward. The world is richer in understanding esophageal diseases and USC has allowed me to do this," he said.

He also encouraged the USC Health Sciences community to focus on its primary mission—educating future physicians and creating an environment of joy.

"A lot of places can do research, but only a medical school can produce a physician," he said. "If we can keep that focus and select the best students and faculty, USC will reach great heights."

The Nurses of USC get a chance at bat—at Dodger Stadium

By Wendy Chang

More than 40 Nurses of USC took to the field at Dodger Stadium Sunday afternoon for "Batting Practice & More," a special event hosted by hospital CEO Mitch Creem and chief nursing officer Ellen Whalen. The invited nurses took to the field for batting, catching and fielding, with helpful hints provided by former Dodger players and cheers from their peers. The festivities included stadium tours and plenty of Dodger dogs, followed by ice cream sundaes served in mini batting helmets.

"Today is all about you," Creem said. "You go to work in our hospitals each day to care for our patients and their families, so today you get to enjoy yourselves and have some fun."

Participating nurses represented both USC University Hospital and USC Norris Cancer Hospital.

Liza Ghanimian, clinical coordinator from the PACE Department remarked, "It was so nice to have an event outside of the hospital. It was a treat to stretch our legs in such a great venue."

Janet Melillo, accreditation specialist in the Quality and Outcomes Management Department, said that she couldn't stop thinking to herself as she batted, "Oh my gosh! I'm batting at home plate at Dodger Stadium!"

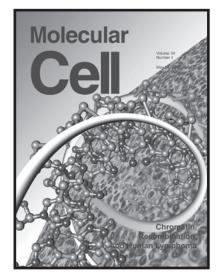
The event was one in a series made possible by the partnership between the LA Dodgers and USC University Hospital, launched in April. The partnership also provides all hospital personnel, including Doctors of USC and other *Weekly* readers discounted tickets for all Dodger games. For information visit www.dodgers.com/uscuniversityhospital and follow the on-screen instructions.



BATTER-UP!—Kathleen Coe (above, at left) was among dozens of Nurses of USC to take to the field at Dodger Stadium on June 14 for "Batting Practice & More." Right, Keck School Dean Carmen A. Puliafito and wife Janet Pine prepare for the dean to throw out the first pitch at the May 23 Los Angeles Dodgers-Los Angeles Angels of Anaheim game. USC University Hospital is the official hospital of the L.A. Dodgers.



CELL: Finding is 'a major step' in understanding development of lymphomas



Continued from page 1 looked at T cell acute lymphoblastic lymphomas (ALL). ALL accounts for half of all childhood cancers under the age of five, and T cell ALL represents about 10 percent of ALL.

The USC scientists identified a specific enzyme known as the RAG complex that occasionally cuts the chromosome at an off-target site, causing lymphocyte (blood) cells to proliferate uncontrollably.

They showed that the RAG complex selects the wrong target largely because the proteins in which the wrong chromosome is wrapped (called chromatin) lure the RAG complex to the wrong site.

"The immune system is very good at its job," Lieber said. "More than ninetynine percent of the time it gets it right, but it only takes one mistake in one of a hundred million cells to cause a problem."

The paper follows a similar study, published in the December issue of the journal *Cell*, in which Lieber and colleagues determined how the most common chromosomal translocation in B cell lymphoma occurs.

Researchers at USC have been working for many years to understand the underlying mechanisms that cause blood cancers.

"The goal is to understand translocations in various different forms of lymphoma," Lieber said. "The two papers cover more than half of all human lymphomas. That represents a major step forward in understanding this disease."

The study was funded by the National Institutes of Health.

Noriko Shimazaki, Albert G. Tsai and Michael R. Lieber. "H3K4me3 Stimulates the V(D)J Rag Complex for Both Nicking and Hairpinning in trans in Addition to Tethering in cis: Implications for Translocations." Molecular Cell. June 12, 2009. DOI: 10.1016/j.molcel.2009.05.011.

For USC hospital volunteers, a chance to serve is its own reward

By Sara Reeve and Yvonne Baetz

Judy Stark gets a natural high coming to USC Norris Cancer Hospital. The cancer survivor has been a volunteer at USC Norris for five years and loves her work because of "the endorphins it creates!"

Stark is one of 330 people who volunteer at USC Norris Cancer Hospital and USC University Hospital.

"I look forward to coming here," said Stark. "I came back here to volunteer because when I was a patient they treated me like family."

Both hospitals have thriving volunteer programs with both student and adult volunteers. All volunteers receive training and orientation covering topics such as patient privacy, safety and the hospital environment.

Volunteers can work in a variety of departments throughout the hospitals, including administration, retail and clinical. Some volunteer groups, such as the South Pasadena Women's Club and the Theta Chi Epsilon sorority, make gifts and favors for patients.

Kai Tramiel, director of volunteer services for USC University Hospital, said, "The value of the experience is the symbiotic relationship of it—we get something out of it and they get something out of it. Their service and dedication, skills and energy allow staff to focus on their core essential duties."

People can volunteer as individuals or as a member of a group. Groups currently involved with the hospitals include the USC University Hospital Guild, Francisco Bravo Magnet High School and Norris Cancer Center Auxiliary.

In addition to volunteers working in traditional patient service areas, USC University Hospital has two groups of volunteer musicians who perform for patients—Community Outreach through Distribution of the Arts (CODA) and MusicHeals.

The volunteers range in age from 16 to 99 years old.
Ruth Dunn, 99, is known

cer Hospital as the "Lavender Lady" for the lavender sachets she makes and delivers by hand to patients. Dunn has volunteered for the hospital for more than 24 years, and was recently honored for her 6,500 hours of volunteer service.

"We are really looking for

around the USC Norris Can-

"We are really looking for people with a high level of energy and enthusiasm for the work," said Tramiel. "Our volunteers need to be flexible and compassionate—we can train them in everything else!"

For Earl Strum, chief of anesthesiology at USC University Hospital, volunteers play a vital role in the day-to-day operations of the department.

"In my department, the volunteers we are privileged to have are highly motivated pre-med students from USC, and they learn the pre-operative process of anesthesiology," Strum said.

He added, "They stock carts with supplies, answer phones and move equipment. This type of work helps the staff attend to the important needs of the patient being prepared for surgery."

He noted that the volunteers add another aspect of caring for the patients. "It's an



USC Norris volunteer Judy Stark (right) chats during her shift with a hospital visitor. Stark's work includes checking on patients' comfort, stocking blankets and coffee carts and maintaining a clean and welcoming environment.

even more friendly place with them here."

For information about volunteering at USC University Hospital, please call Kai Tramiel at (323) 442-8436. For USC Norris Cancer Hospital, call Alicia Syres at (323) 865-3169.

Orientation and training dates vary throughout the year.

Calendar of Events

This Calendar of events is also online at www.usc.edu/hsccalendar for the Health Sciences Campus community

Monday, June 22

Noon. "Psychosocial and Ethical Issues of Dialysis," Mohammad Akmal, USC. GNH 4420. Info: (323) 226-7337

Noon. "Case Presentations," Catherine Rongey, USC. D&T Bldg. B3B105. Info: (323) 409-7995

Tuesday, June 23

 $\bf 11:30~a.m.$ Psychiatry Grand Rounds. "Residents Case Presentation," Various speakers. ZNI 112. Info: (323) 442-4065

Wednesday, June 24

8:30 a.m. "Swine Flu Update," P. Holtom, USC. GNH 11-321. Info: (323) 226-7923

Noon. Renal Grand Rounds. "Nephrology," Mitra Nadim, USC. GNH 4420. Info: (323) 226-7337

Friday, June 26

11 a.m. Hematology Grand Rounds. "Diagnosis and Treatment of Gaucher Disease," Zack Spigelman, Harvard. IPT C2J103. Info: (323) 865-3950

Noon. "Case Presentations," Yi Zheng, USC. OPT Bldg. A5C129. Info: (323) 409-7995

Monday, June 29

Noon. "Evaluation," Miroslaw Smogorzewski, USC. GNH 4420. Info: (323) 226-7337

Noon. "Case Presentations," Catherine Rongey, USC. D&T Bldg. B3B105. Info: (323) 409-7995

Notice: Deadline for calendar submission is 4 p.m. Monday to be considered for that week's issue—although three weeks' advance notice of events is recommended. Please note that timely submission does not guarantee an item will be printed. Send calendar items to HSC Weekly, KAM 400 or fax to (323) 442-2832, or e-mail to eblaauw@usc.edu. Entries must include day, date, time, title of talk, first and last name of speaker, affiliation of speaker, location, and a phone number for information.

Pasadena magazine hails 66 USC physicians as 'Top Docs'

By Bryan Schneider

Sixty-six USC physicians appear in *Pasadena* magazine's June "Top Docs" issue, an annual listing of more than 400 outstanding physicians as nominated by their peers.

The list, covering the "Top Docs" of the San Gabriel Valley stretching to Burbank and areas just east of downtown Los Angeles, is compiled from voting ballots submitted by area physicians.

USC doctors appeared in 33 specialty and subspecialty categories within the overall listing. In 17 of those categories, more USC physicians appeared than any other health care provider organization in the area. These category lists include breast surgery, cardiothoracic surgery, cardiac electrophysiology, interventional neuroradiology, interventional radiology, medical genetics,

neurology, ophthalmology, plastic/reconstructive surgery, radiology, surgical oncology, vascular surgery and nine pediatric subspecialties.

The recent "Top Docs" listing continues a longstanding trend of strong representation by Keck School of Medicine clinical faculty on distinguished physician listings. Over 200 USC physicians appear on the national "Best Doctors" and "America's Top Doctors" lists.

Also appearing on page 13 of the "Top Docs" issue is the advertisement for USC University and USC Norris Cancer hospitals that previously appeared in the *Los Angeles Times*. The ad shows a mosaic of hospital employee and medical staff photos forming a Trojan head.

In the same issue, a profile of Vaughn Starnes, surgeon-in-chief for the hospitals, also appears.

In case of an emergency...

Call the Emergency Information Phone: 213-740-9233 The emergency telephone system can handle 1,400 simultaneous calls. It also has a backup system on the East Coast.

Visit the USC Web: http://emergency.usc.edu This page will be activated in case of an emergency. Backup Web servers on the East Coast will function if the USC servers are incapacitated.

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