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Keck School curriculum revision garners many favorable reviews

Fifteen months after the Keck School of Medicine implemented a completely redesigned curriculum, school officials and students are giving the new teaching system good marks overall.

Allan V. Abbott, associate dean for curriculum, said: "I can't say the new system is better than I thought it would be, but I can say that it is as good as I thought it would be, which is nice.

"We've had remarkably few problems in implementing such a major change that involves so many faculty members. The faculty has really buckled down and done a lot of work in making these changes."

The curriculum revision was designed to enhance the way that students learn key information, gain skills to ask the right questions, solve problems and figure out how to get answers.

The Class of 2005, now all second-year students, is the first class to experience an entirely new program from their first day of medical school.

Under the new curriculum, students spend less time in lectures and more time working in small groups with other students and professors. Students spend no more than four hours in the traditional classroom each day and lectures routinely use actual cases as examples, emphasizing clinical relevance, Abbott said.

Starting on the first day of class, faculty members bring a variety of real-life and simulated cases before the students, coinciding with topics being taught at the time. These cases are part of a unique "practice profile" of cases that systematically expose students to the most common and important medical problems seen in all major specialties.

First-year students start their medical education in a section called "Core Principles," which teaches the tenets of the basic sciences while making the sciences clinically relevant.

Students then head to the hematology and immunology, neuroscience and musculoskeletal systems. The second year consists of the remainder of the systems, such as cardiovascular, renal and respiratory.

"That's a significant change, reorienting the education around cases instead of topics, but it's been very successful," Abbott said.

After each component of the curriculum, students take an examination, evaluated as either pass or fail. At the end of the year, they take a comprehensive exam, which includes assessment of clinical skills as well as written testing. They also will take Introduction to Clinical Medicine throughout the first two years and participate in a student literature research project (during the first year) and a student research project (during the second year).

Despite the reduction in time spent in traditional lectures, faculty members are not logging fewer hours with students, Abbott stressed. Instead, faculty members are participating in a new system of faculty-mentored student groups that meet

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Jon Nalick

U.S. Navy and LAC+USC Medical Center officials tour the new Navy Trauma Training Center on Dec. 6. The center will help train visiting medical personnel during 30-day rotations involving intensive classwork and hands-on education.

U.S. Navy opens trauma training center at LAC+USC

Center aims to increase preparedness of medical staff service-wide

To ensure that injured forces in the field receive the best emergency trauma treatment possible, the U.S. Navy has opened a special training center for its medical personnel at LAC+USC Medical Center.

At a ceremony on Dec. 6., officials from the Navy and LAC+USC announced the creation of the Navy Trauma Training Center, which will train corpsmen, nurses and physicians supporting the Navy and Marine Corps.

Visiting medical personnel serve 30-day rotations for intensive classroom and hands-on education at the center, which is housed on the sixth floor of General Hospital and includes a permanent 10-person multidisciplinary staff.

The first group to receive training arrived in September.

Demetrios Demetriades, professor of surgery and chief of trauma and critical care, said that LAC+USC was chosen over 63 other hospitals nationwide because of the volume and types of surgeries performed here, as well as the volume of clinical research produced by its physicians.

He said the collaboration will greatly benefit both parties, with naval medical teams receiving extensive, specialized training and with LAC+USC gaining full-time physicians and nurses who are paid by the Navy.

"And besides being a benefit to the Navy and USC and LAC+USC, we really see this as a national contribution," Demetriades said.

LAC+USC Medical Center is one of the nation's largest, busiest, most advanced civilian medical centers, seeing an average of 20 major penetrating and blunt trauma wounds and injuries every day. Often, these are gunshot or knife wounds that a major metropolitan area would expect to see. The number and type of injuries are rough approximations of what deployed forces might see in the field.

Cdr. Peter Rhee, MC, USN, a Navy surgeon, heads the center and said that for that reason, the benefits of the hands-on trauma training at LAC+USC "cannot be over-

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Tullman takes the helm at USC University Hospital

Stephen M. Tullman, formerly chief executive officer of Century City Hospital and Midway Hospital Medical Center, will become chief executive officer of USC University Hospital and USC/Norris Cancer Hospital effective Jan. 1, 2003.

Century City and Midway are Tenet hospitals located in West Los Angeles.

Tullman brings more than 19 years of experience in health care management, having served as CEO of the two-hospital campus at Century City as well as CEO of the largest hospital in Kentucky and COO of Kentucky's leading regional physical medicine and rehabilitation center.

Stephen Tullman

"Steve has academic medical center experience, he is a seasoned Tenet executive and has a good knowledge of the L.A. market," said Ted Schreck, regional vice president for Tenet's Southern California and Los Angeles operations. "Steve is highly capable of carrying forward the success fostered under Paul Viviano.

"Tenet is very bullish on USC University Hospital and USC/Norris Cancer Hopsital," added Shreck. "We want to reaffirm to the faculty and staff our commitment to the new tower and new programs. Those commitments were at the top of our list in our discussions with Steve Tullman."

Tullman has served as CEO of the 190-bed Century City Hospital and 225-bed Midway Hospital since 1999. During that time he oversaw a combined admission growth of more than 11 percent and an earnings growth of more than 41 percent. He also helped recruit more than 200 new physicians to the combined medical staffs.

"I have been impressed during my discussions with Steve Tullman," said Stephen J. Ryan, dean of the Keck School of Medicine. "It is clear that Steve is someone who we can work with successfully and who shares our values and vision. He understands that the faculty physicians are the key to the success of USC University Hospital. The leadership of the department chairs and Jeff Huffman with the hard work of our world-class faculty physicians will ensure the success of Stephen Tullman and

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NIH awards $350,000 for protection of human subjects

USC and Childrens Hospital Los Angeles were recently awarded a $350,000 one-time grant from the National Institutes of Health to enhance their programs protecting human subjects in biomedical research.

The money will go toward the development of an automated application and review process for USC and CHLA scientists submitting proposals to their respective Institutional Review Boards (IRBs). Dubbed the Southern California and Childrens Hospital Los Angeles IRB Submission and Review System (SCCISARS), the program is expected to increase the efficiency of the IRB review process and educate researchers and IRB members on federal, state and institutional requirements for human subjects research.

"The goal of this grant is to create a uniform, Web-based process by which researchers can apply for IRB approval, and by which the boards themselves can review the applications," said Cornelius W. (Neal) Sullivan, USC's vice provost for research and principal investigator on the grant. "This grant helps USC develop an up-to-date systems information technology approach; we will be better able to tie together these geographically dispersed campuses and their IRBs, and provide a more uniform review process for our faculty members."

In addition, Sullivan said, the new system should enhance human subjects protections by allowing the IRBs to provide "educational feedback regarding human subjects issues during the preparation of the on-line application and during the review process." And that, he said, "is really our ultimate goal—to make sure the people who are willing to participate in biomedical research are protected to the best of our abilities."

To accomplish these goals, SCCISARS will:

• automate the application, review and approval processes for both institutions' IRBs:

• provide scientists with 'real-time information' applicable to the specific protocol being submitted;

• promote coordination and uniformity between USC and CHLA by standardizing common aspects of the IRB application, review and approval process and by promoting the sharing of information, special skills and expertise;

• enhance collaboration among investigators conducting human subjects research at USC and CHLA by creating a more uniform and consistent administrative process for faculty who may cross institutional boundaries in the conduct of their research; and

• permit IRB staff members to focus on issues generated by higher risk protocols and the protection of human research subjects in general.

In addition to Sullivan, the grant's co-investigators include Darcy Spicer, Marlene Wagner and Tom Keens, the IRB chairs at USC's Health Sciences Campus, University Park Campus and CHLA, respectively. Strong support was provided in the development of the proposal by Laura LaCorte, executive director of the USC Office of Compliance, Sullivan added.

—Lori Oliwenstein

Bio-engineered mouse produces human collagen: a step toward possible treatment of human disease

Researchers at the Keck School of Medicine along with colleagues from across the country, have for the first time genetically engineered mouse cells to produce a type of human collagen—type VII—that is missing in a family of inherited skin diseases called dystrophic epidermolysis bullosa.

They also prompted the mouse cells to create the structural fibers that normally arise from type VII collagen. Their work was published in the December issue of ***Nature Genetics***.

"This is the first demonstration of in vivo gene therapy where the genes have made a large extracellular molecular structure that you can actually see with a microscope," said David Woodley, professor and chief of dermatology at the Keck School and the principal investigator on this study. Scientists from Shriners Hospital for Children in Portland, Ore., Northwestern University in Chicago, and Xgene Corporation in San Carlos, Calif., also participated in the study.

Woodley was helped by his previous efforts in the field: In 1992, he and some of his colleagues became the first team to clone the human gene for type VII collagen, one of the key components of the skin's extracellular matrix. Collagen makes up the tendrils and fibrils that provide a cushion for the skin's cells to rest upon; type VII collagen, in particular, is critical to the creation of the skin's so-called anchoring fibrils.

"Anchoring fibrils," Woodley explained, "are like connective tissue staples—they staple the epidermal layer of the skin to the dermis." Without these fibrils, the layers of the skin can separate like layers of pastry, blistering and sloughing off at the slightest insult or injury.

And that is why people without type VII collagen develop dystrophic epidermolysis bullosa, in which blisters form all over the body, leaving behind permanent scars. "By the time people with epidermolysis bullosa are 20," said Woodley, "they often have developed very aggressive squamous cell carcinomas."

Ever since their successful cloning of the type VII collagen gene, Woodley, along with Keck School of Medicine associate professors of research Mei Chen and Wei Li, as well as gene therapy expert Nori Kasahara from the Institute for Genetic Medicine, have been working to insert that gene into cells that are missing it. They have been able to get the collagen gene into both fibroblasts (the cells that normally produce collagen and other fibrous tissues) and keratinocytes (the cells which normally differentiate to form the outmost layer of skin). And, in the ***Nature Genetics*** article, they have shown that these cells are capable of expressing type VII collagen and constructing anchoring fibrils in a mouse model.

Producing anchoring fibril structures in an animal, said Chen, who is the first author on the paper, is a major step forward towards the use of gene therapy to actually treat patients with epidermolysis bullosa.

In subsequent work, Woodley added, the engineered cells have shown that they are capable of continuing to pump out type VII collagen for at least six months—but so far, they have only done so in lab dishes. The question is whether they will be able to do the same in mice—and, eventually, in humans.

"I see patients all the time who would definitely benefit from our better understanding of the basic mechanisms of skin biology," Woodley said. "That's the goal: to help the patients who need it. Hopefully, that's what we're doing."

The research published in the ***Nature Genetics*** article was supported by grants from the National Institutes of Health.

Mei Chen, Noriyuki Kasahara, Douglas R. Keene, Lawrence Chan, Warren K. Hoeffler, Deborah Finlay, Maria Barcova, Paula M. Cannon, Constance Mazurek and David T. Woodley. "Restoration of type VII collagen expression and function in dystrophic epidermolysis bullosa." Nature Genetics. Vol. 32, No. 4, pp. 670-675.

—Lori Oliwenstein

TRAUMA: Collaboration with U.S. Navy offers benefits for LAC+USC Medical Center

Continued from Page 1

stated."

Capt. HR Bowman, a member of the Navy Medical Corps who is mid-way through the course, said he agrees.

"Every corpsman, nurse or physician is potentially deployable anywhere the Navy and Marine Corps may be needed. The level of trauma training I've received so far allows me to better treat patients—whether I'm in Los Angeles or Afghanistan, or during a humanitarian mission to Latin America," said Captain Bohman.

Captain Maureen Kowba, NC, USN, Commanding Officer of the Naval School of Heath Sciences, San Diego, oversees the Navy Trauma Training Center. Rear Admiral James A. Johnson, Commander of Naval Medical Center, San Diego, noted that the cooperation between the Navy and the County of Los Angeles benefits all concerned.

"The training our healthcare providers gain saves lives around the world, and certainly in Los Angeles where they augment the Medical Center staff, caring for the citizens who come into the ER," said Johnson.

The Navy Trauma Training Center is the only one of its type in the Navy and has already graduated two trauma teams who will bring their newly enhanced skills to the Fleet.

—Jon Nalick

TULLMAN: *Tapped to fill CEO spot at USC University Hospital*

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USC UH.

"We have worked well with four previous CEOs for USC UH and understand personal and career decisions. I remain confident that our faculty physicians and chairs will be the key in making a successful and rapid transition for Stephen Tullman."

Tullman received his bachelor's degree in psychology and his master's in rehabilitation counseling from the University of Maryland.

From 1982-1989 he worked as executive director of Community Living Inc., a long-term community-based residential care facility. In 1989 he was appointed vice president and chief operating officer of Fraizer Rehab Center and executive officer of Jewish Hospital Healthcare Services Inc., a non-profit healthcare system consisting of a 454-bed tertiary medical center, a 95-bed rehabilitation hospital and five satellite rehabilitation centers. From 1991-1995 he was vice president and chief operating officer of the 480-bed Audubon Regional Medical Center in Louisville, Ky.

Before becoming CEO of Century City and Midway, he served as vice president of Norton Healthcare and administrator of Norton Hospital and Norton Healthcare Pavillion, an academic medical center affiliated with the University of Louisville School of Medicine.

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Jon Nalick

ROSE-COLORED LASSES—The 2003 Rose Court visited patients and toured the labs of the USC/Norris Comprehensive Cancer Center and Hospital on Dec. 10. Left, Princess Danielle Yamamoto presents a hospital visitor with a rose sticker. Right, (from left) Princesses Megan MacLennan, Danielle Yamamoto, Heather Bell and Glynn-Helene Joseph, Queen Alexandra Wucetich and Princesses Anjali Agrawal and Katherine Berber chat with cancer patient Lillie Newsom.

CURRICULUM: Students say Keck School is responsive to constructive criticism

Continued from Page 1

weekly to develop professionalism and coordinate small-group and directed self-study.

"With these groups, we are really taking their education to a new level and discussing issues of ethics and health care disparities in addition to the usual science information. Plus, students are becoming more involved this way in the designing of their own education," he said.

Second year-student Francesca Cimino praised the new curriculum, saying she was especially pleased with the mentoring process, which allows students to maintain a working relationship with the same faculty member for two years.

"It gives us a chance to talk about professional and ethical issues in a way that was not available before and it gives them a chance to see us develop over two years. That's important to help teach us professionalism, because that's something that's very difficult to measure. You can't do it with a multiple choice test," she said.

Cimino said that despite some glitches in implementation, the new curriculum was meeting the goals set by the school overall.

"I'm a huge proponent of the curriculum. I have very little to complain about," she said. "In terms of cutting down class hours, they've met that goal and met it well. We have lots of time in the afternoons for independent study and for community involvement, which is a crucial part of USC's education."

She said that some of the early problems with the new program stemmed from insufficient communication among the faculty and students. For example, on occasion some professors were prepared to gloss over certain topics, mistakenly believing those would be covered the following year.

She was quick to point out that Keck School officials have been "very receptive to what students think needs improvement. That's really helped smooth out the wrinkles," Cimino said.

Even though some students remain leery of participating in an untested program, she added: "The majority of the students have found the curriculum change to be a good thing, and the way it has been structured is a fantastic way to learn medicine. It's interesting and it has given us an opportunity to look past the book and not just see medicine as a group of individual subjects, but as an integrated whole."

Still, she said one common student concern remains: whether the graded comprehensive exams students took in spring accurately reflected their skills and knowledge.

"I think we felt that the test wasn't as concept-based as the administration hoped they could make it, and that it was too detail-oriented. Hopefully, that will change this year and we'll feel that after two years' worth of a new teaching style, we will have been successful in learning all the material."

First-year medical student Corinne Stauff compared the new curriculum favorably to the curricula that her peers at other schools were experiencing.

"Most of the people I know at other medical schools just go to class and practically forget everything they learned in their first and second year. They just get through it so they can do their real learning in their third and fourth years," she said. "But the information we're learning, we're already putting into practice. "

For example, she said, "We're already interviewing patients. My friend at the Tulane School of Medicine's only interaction with patients was sitting in a waiting room and handing out high blood pressure information."

> 'It really added a dimension of humanity to the material using this case format. By just reading about it, you'd never remember it as well.'
>
> ***—Corinne Stauff, first-year medical student***

She said the case-based approach personalizes the information in a way that textbooks can never fully convey. For example, Stauff said that one class focused on a 39-year old HIV-positive breast cancer patient who spoke with students about her experiences.

"It really added a dimension of humanity to the material using this case format. By just reading about it, you'd never remember it as well," she said.

Additionally, she said she valued the big-picture approach to teaching, instead of learning medicine in pieces: "If I'm learning about bacteria, I don't want to wait a year to learn about the disease it causes and find out even later what kinds of drugs treat that disease."

Stauff praised the way the school's pass/not pass grading discourages the negative aspects of competition among students while making routine the sharing of study aids that students may prepare for themselves.

"People who really excel still get recognition through the Dean's awards, and if someone makes a really great flowchart, they are recognized as well when it gets distributed to the class," she said.

She said that she approves of the mentor groups that pair two physicians with teams of 24 students, but also thinks that for sessions that are designed to be informal, they remain too structured.

"The mentors are great, but they have subjects prepared for the day and it's 20 minutes to read the topic, then 20 minutes for discussion… If there's something else that students would rather discuss that day, there's no real provision for that," she said

Second-year medical student Benjamin Nichols said he was comfortable with the curriculum.

"I feel strongly that everyone's method of learning is different and schools should foster an environment where students can maximize their ability to learn efficiently and effectively. I feel that USC does this fairly well by providing guidelines, notes and answers to small group sessions," he said.

"It is vital when developing a new curriculum to create an environment where everyone can maximize their learning potential," Nichols added.

—Jon Nalick

New treatment for aneurysms studied at USC

It is bad enough to be told you have an aneurysm—but for some, the news gets worse still when physicians say the aneurysm cannot be treated because of its size or shape.

Fortunately, the news may just have gotten better.

USC is participating in a trial of the Neuroform Microdelivery Stent System, a way to deal with aneurysms through endovascular techniques. "This will allow us to treat some aneurysms which, until now, have not been treatable by traditional means, whether endovascular or surgical," said Donald W. Larsen, associate professor of neurological surgery and radiology at the Keck School and principal investigator on the trial at USC.

The United States Food and Drug Administration approved the stent as a humanitarian use device in early September. Made of nitinol—an alloy of nickel and titanium—the Neuroform stent uses tiny wires to form a cylindrical mesh sleeve.

The stent is meant to help treat patients diagnosed with a wide-necked aneurysm in a blood vessel in the head. The neck of an aneurysm is the spot where the artery wall begins to balloon outward. In endovascular embolization techniques, a physician inserts a catheter in an artery in the upper leg, guides it up to the targeted blood vessel in the head and drops tiny platinum coils into the ballooned aneurysm, effectively filling the weakened area. If the aneurysm's neck is too wide, though, coiling is impossible because the coils could spill out into the artery.

"This stent is designed to be deployed in the artery, across the neck of wide-necked aneurysms," Larsen said. "It is a way to create a scaffold or to bridge the neck, to keep our aneurysm coils within the aneurysm and out of the parent artery."

The stent springs into place against the inside of the artery walls. Then coils are placed within the aneurysm, and the stent's mesh fences in the coils so they stay there. The stent also allows blood to flow normally through the vessel.

Neuroform, made by Boston Scientific/Target Therapeutics, is meant for minute arteries measuring between 2 and 4.5 millimeters across.

Larsen's trial is expected to start enrolling patients this month at USC University Hospital and LAC+USC Medical Center. For more information on the trial, call 1-877-STROKE-CARE (1-877-787-6532).

—Alicia Di Rado

HSC Weekly year-end survey

Complete this form and win a chance at a pizza party for 10

1. I am (circle whichever apply)
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2. I read *HSC Weekly*...
Never Rarely Frequently Usually Always

3. What do you like most about *HSC Weekly*? Least?

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For the following:
1= strongly disagree 3= neutral 5= strongly agree

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1 2 3 4 5

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1 2 3 4 5

Other comments:

In the space below, participants should supply a first name and phone number or e-mail address where they can be reached in case they win.

The drawing will be held and the winner contacted on Jan. 6. Responses must be received by Jan. 4 to participate in the pizza party drawing. They can be sent to: 1450 San Pablo St. DEI 2510, Los Angeles, CA, 90033; or via campus mail at MC 9221; or faxed to 323-442-2832, ATTN: Jon Nalick.

(To ensure that faxed responses are legible, please fax only the portion within the dashed lines above.)

USC physician helps guide 'EyeCare America'


Ron Smith

As chair of the Foundation of the American Academy of Ophthalmology's board of directors, Ronald Smith, professor and chair of the Department of Ophthalmology, has recently overseen the launch of the organization's new identity: "EyeCare America."

The foundation, which is dedicated to reducing avoidable blindness and severe visual impairment through education and accessible eye care for the public, adopted the new name as part of its efforts to support the educational efforts of the academy and ensure that the contributions of the foundation's 7,000 public service volunteers receive appropriate recognition.

Smith said that EyeCare America is the foundation's umbrella program for all national public service projects. The program educates the public—especially those at risk for certain eye diseases-—primary care physicians and other health care workers about the importance of timely eye examinations and care. It also disseminates information regarding eye health and links qualified individuals with volunteer ophthalmologists who provide care for qualified patients nationwide.

Smith said the name change was appropriate and necessary, in part, because the name Foundation of the American Academy of Ophthalmology was "too long, too confusing and hard to remember. EyeCare America, which has been well-received as our public service program name… is simple, direct, memorable and clear."

—Jon Nalick

Calendar

Tuesday, Dec. 17

11 a.m. Endocrinology and Diabetes Grand Rounds. "Androgen Therapy in the Post-Menopausal Woman," Glen Braunstein, Cedars-Sinai. AHC Aud., Room 102. Info: 442-2806

12:15 p.m. Psychiatry Grand Rounds. "Acute and Prophylactic effects on Anticonvulsant Drugs in Bipolar Depression," Gabriela Obrocea, USC. Hoffman Hall, Hastings Aud. Info: 226-5572

Wednesday, Dec. 18

7 a.m. Medicine Grand Rounds. "Hypertrophic Obstruction," Enrique Ostrzega, USC. GNH 1645. Info: 226-3867

12:30 p.m. Family Practice Grand Rounds. "Practice Management Meeting," Ignacio de Artola; and "OB/GYN Presentation," Beatris Hacopian and Susana Gonzalez, USC. Univ. Hospital, Cardinal Room. Info: 442-1313

Saturday, Jan. 11

7:30 a.m. – 3:30 p.m. Cardiology CME Seminar. "Heart Failure 2003: An Update on Therapy," Uri Elkayam, Gerald Pohost, Glenn Ehresmann, USC; William Abraham, Ohio State Univ.; Sharon Hunt, Stanford Univ.; Sanjay Kaul, Cedars Sinai; Patrick McCarthy, Kaufman Center for Heart Failure; Mandeep Mehra, Ocschner Foundation; and Karen Sliwa, Chris-Hani Baragwamth Hospital, Johannesburg, South Africa. Millennium Biltmore Hotel, 506 South Grand Ave. (323) 442-2555

Wednesday, Jan. 15

7 a.m. Medicine Grand Rounds. "Cryptoccoccal Infection," Mary Ann Leal, USC. GNH 1645. Info: 226-3867

Wednesday, Jan. 22

7 a.m. Medicine Grand Rounds. "Antheroembolic Renal Disease," Saeid Nosrati, USC. GNH 1645. Info: 226-3867

Thursday, Jan. 23

Noon. Cellular Homeostasis Lecture Series. "Tyrosine Phosphorylation and Cell Signaling," Tony Hunter, Salk Inst. AHC Aud., Room 102. Info: 442-3121

Thursday, Jan. 30

Noon. Cellular Homeostasis Lecture Series. "Liver Repopulation by Extra- and Intra Hepatic Stem Cells," Marcus Grompe, Oregon Univ. AHC Aud., Room 102. Info: 442-3121

Wednesday, March 12

7 a.m. Medicine Grand Rounds. "Chronic Pancreatitis," Khaldoun Debian, USC. GNH 1645. Info: 226-3867

Notice: Deadline for calendar submission is 4 p.m. Tuesday 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, DEI 2510 or fax to 442-2832, or e-mail to lpratt@hsc.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.

The HSC Calendar is online at
http://www.usc.edu/hsc/calendar.html

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