Research shows that children born to mothers who drink alcohol during pregnancy can benefit from interventions aimed at early childhood and the teen years. UCLA is currently enrolling families with children in both age ranges for research programs designed to improve parenting skills, foster positive relationships and prevent or reduce the risk of alcohol misuse among children with prenatal alcohol exposure.

**Hyperbaric oxygen therapy** is a safe and effective treatment for patients who have suffered carbon monoxide poisoning. UCLA’s state-of-the-art, multi-occupant hyperbaric chamber is the only chamber of its size in Southern California.

**UCLA’s new image-guided radiotherapy and radiosurgery system** offers treatment possibilities to patients who may not otherwise have been able to tolerate radiation therapy and improves treatment for patients already amenable to radiotherapy. It significantly reduces treatment times.

**UCLA’s Child OCD, Anxiety & Tic Disorders Program** is a world-renowned clinical research and training program that also provides state-of-the-art evaluation and treatment for children and adolescents up to age 17 with anxiety and related disorders. Ongoing studies use cutting-edge neuroimaging and neuropsychological techniques, including fMRI and quantitative EEG, to identify brain changes associated with effective treatment.

**UCLA pediatric cardiology** physicians provide cardiac care that begins prenatally during the child’s fetal development and extends throughout adulthood for patients with congenital heart conditions, providing compassionate and comprehensive care throughout every stage of life.

**The UCLA Intestinal Rehabilitation and Transplantation Program** offers expert diagnosis and comprehensive care for patients with intestinal failure from a variety of disorders. UCLA has the largest intestinal transplant program in the western U.S.

**The UCLA ECMO team** has been recognized with an Award for Excellence in Life Support for its extracorporeal membrane oxygenation services.

To download these and other clinical advances at UCLA Health System, go to: www.uclahealth.org/clinicalupdates

**UROLOGIC ONCOLOGY**

**Ultrasound/MRI Biopsy Enhance Treatment for Prostate Tumors**

Unlike most other cancers, prostate tumors are often not lethal and may never require treatment. With active surveillance, patients who have non-aggressive tumors can be spared the pain, risks and side effects of surgery or radiation therapy. The problem has been finding reliable ways of predicting which patients need treatment and which ones can simply be monitored.

A UCLA team of urologists, radiologists, pathologists and biomedical engineers is now advancing a new approach that could dramatically improve the prostate biopsy and thus lead to better-informed treatment decisions.

As part of a $1.7 million grant from the National Cancer Institute, the UCLA team is testing a new technology that fuses MRI and ultrasound, continued on p. 4
UCLA Establishes New Reconstructive Transplant Program

UCLA has established a first-of-its kind program to restore functionality and enhance quality of life for people who have suffered severe trauma or other disfiguring injuries to the upper extremities, face or abdomen. The UCLA Section of Reconstructive Transplantation is a multidisciplinary effort to use a new transplantation approach known as vascularized composite allotransplantation to treat patients whose tissue loss cannot be remedied through conventional techniques. Reconstructive transplants will focus on three parts of the body: hands, the face and abdominal wall.

For more information, go to: http://transplants.ucla.edu

Do the Right Thing

In Never Be Afraid to Do the Right Thing, Gerald S. Levey, M.D., writes about the challenges he faced as vice chancellor of UCLA medical sciences and dean of the David Geffen School of Medicine at UCLA to build Ronald Reagan UCLA Medical Center following the 1994 Northridge earthquake. “In one swoop, the job I thought I was going to have completely changed,” he writes.

Never Be Afraid to Do the Right Thing is available from: www.amazon.com and www.SecondRiverHealthcare.com

Save the Date

UCLA Fetal Cardiology Symposium

Emphasizing the basics of fetal cardiac imaging and evaluation, the symposium brings together a multidisciplinary faculty to provide a clinically oriented review of the state-of-the-art evaluation and management of the fetus/neonate with suspected or confirmed cardiovascular disease. CME credits available.

When: October 22, 2011
Where: Tamarin Auditorium, Ronald Reagan UCLA Medical Center
Cost: Physicians: $225
Residents/Nurses/Sonographers: $125
For more information about Continuing Medical Education at UCLA, go to: http://www.cme.ucla.edu

UCLA Heart Failure Symposium

Learn the latest information about the prevention and management of heart failure, including clinical evaluations, interventional options, the role of mechanical support and heart transplantation. CME credits available.

When: May 5, 2012
Where: The Fairmont Miramar Hotel, Santa Monica, California
Cost: Pre-Registration: $35
On-site Registration: $55

For more information about Continuing Medical Education at UCLA, go to: http://www.cme.ucla.edu

Integrative East-West Esophageal Disorders Program

Nearly 40 percent of adults in the U.S. use complementary therapies to address a wide range of health concerns, including chronic pain, anxiety or side effects from invasive procedures and surgery. Now patients suffering from persistent symptoms associated with some of the most common upper gastrointestinal (GI) disorders may also find relief in complementary medicine through a new UCLA program designed to integrate the best of Eastern and Western therapies.

“Patients may have certain symptoms — frequent heartburn, for example — but after conducting diagnostic tests, objective data do not suggest they have the increased acid associated with gastroesophageal reflux disease,” explains gastroenterologist Eric Eslailian, M.D., vice chief of the Division of Digestive Diseases. “For those patients, a complementary approach may be helpful because we don’t want people to become frustrated and feel that they are out of options.”

Other upper-GI conditions for which a complementary approach may be helpful include functional dyspepsia, esophageal spasm, dumping syndrome, chronic abdominal pain, nausea and vomiting. The treatment approach, according to Dr. Eslailian, depends on the results of a comprehensive diagnostic assessment, as well as the patient’s preferences. When the evaluation indicates the problem may be functional rather than structural, he recommends that clinicians consider treat all treatment avenues — including traditional Chinese medicine — because there is little or no downside to trying complementary therapies, which are generally low risk.

“Often when patients have persistent upper-GI problems despite conventional treatment, their symptoms are exacerbated by stress,” he says. “We’re not replacing the standard of care with complementary therapies, we’re taking the time to consider whether a fresh viewpoint can improve the quality of our patients’ lives.”

“Our goal is to work together to improve outcomes,” says internist Lawrence B. Taw, M.D., who is trained in Western medicine and traditional Chinese medicine and is director of the newly established multidisciplinary Integrative East-West Esophageal Disorders Program.

“We have seen from our clinical experience that the principles and techniques of traditional Chinese medicine can help some patients reduce their need for medication, unnecessary procedures and surgery, ER visits and hospital admissions,” Dr. Taw says. Common modalities used in the center include acupuncture, therapeutic massage and trigger-point injections.

In addition to practitioner-based therapies, this program emphasizes patient-centered care. A key program strategy is to empower patients to make healthier lifestyle choices by providing individualized education focused on Chinese nutrition, self-acupressure techniques and stress management. This integrative approach looks at the whole person and is appealing to a growing number of patients because it gives them a greater sense of control over their health, Dr. Taw says.

For more information about integrative medicine at UCLA, go to: www.cewm.med.ucla.edu

Gastroenterology

UCLA Department of Medicine
Center for East-West Medicine
Lawrence B. Taw, M.D.
Assistant Clinical Professor
Director, Integrative East-West Medicine
for Esophageal Disorders
Mary Nakai, M.D.
Assistant Clinical Professor
Surgical Director, UCLA Center for Esophageal Disorders
Rebecca Magnotta, R.N.
UCLA Center for Esophageal Disorders
Division of Head & Neck Surgery
Steven K. Oishi, M.D.
Assistant Professor
Director, UCLA Swallowing Disorders Center

UCLA Physicians Update
Targeted biopsy of prostate tumor

(continued from cover)

enabling urologists to be guided in their real-time ultrasound prostate biopsy by the superior visual insights obtained through MRI.

"This is bringing sophisticated MRI imaging to the patient’s bedside," says urologist Leonard S. Marks, M.D. "We want the serious cancers to be picked up and treated, and the ones that are not serious not to get treated. If we can see the tumor, we have a better idea of how to take care of it."

Prostate cancer was always difficult to visualize in the early stages through imaging because of the limited contrast between normal and malignant tissues within the prostate. That began to change with the emergence of MRI. For more than a decade, radiologists have used MRI to evaluate prostate cancer. However, several barriers have stood in the way of MRI’s use in prostate biopsies: the size of the instrument; the length of time it takes to acquire the information, particularly since it has typically been used in conjunction with MR spectroscopic imaging; and discomfort to the patient, given the need for a coil to be placed through the rectum next to the prostate.

But two recent MRI techniques have enhanced the ability of expert radiologists to identify and evaluate areas of the prostate that are suspicious for a tumor in a way that’s far less cumbersome, says diagnostic radiologist Daniel Margolis, M.D. With dynamic contrast imaging, contrast is injected through an IV line just like any contrast-enhanced MRI scan, but multiple sequential 3D images are generated to track its arrival and washout, which are abnormal in tumors. With diffusion-weighted imaging, MRI is used to examine water motion restriction. In normal prostate tissue there is little restriction, whereas prostate-cancer cells are smaller and more densely packed, restricting water motion.

Dr. Margolis and Drs. Margolis and Marks have developed a protocol for quantifying the level of suspicious different prostate areas. Diffusion-weighted imaging is given the most weight, followed by dynamic-contrast and tissue-contrast images. "Dr. Marks can be given a map of the patient’s prostate and can use ultrasound guidance to target the biopsy to the suspicious area," Dr. Margolis explains. "Our hope is that by looking at the quantitative data and our qualitative evaluation, we will eventually be able to determine which patients don’t need a biopsy at all."

"Combined, these two techniques are about as sensitive as spectroscopic imaging," says Dr. Margolis. "For biopsy planning, we can use these techniques that are much faster and don’t require the use of an endorectal coil."

"Prostate cancer was always difficult to visualize in the early stages through imaging because of the limited contrast between normal and malignant tissues within the prostate. That began to change with the emergence of MRI."

"We never had the ability to see prostate cancer under real-time ultrasonography," says Dr. Marks. "This allows us to identify the area of concern and aim for it. In addition, the technology enables urologists to return to the same location to resample over time."

"With these patients there may be a high level of suspicion that cancer is being missed with systematic biopsies," explains Dr. Margolis. "We have shown that this device can give us much more accurate biopsies. What we have to show now is that this improves patient management."

"The hope is that in some patients we will be able to safely defer definitive management, and in others we can give a better sense of which of the therapies would be most beneficial," says Dr. Marks. "This has the potential to help us avoid surgeries that provide no benefit to the patient."

"Dr. Marks can be given a map of the patient’s prostate and can use ultrasound guidance to target the biopsy to the suspicious area," Dr. Margolis explains. "Our hope is that by looking at the quantitative data and our qualitative evaluation, we will eventually be able to determine which patients don’t need a biopsy at all."

The Artemis device has been approved by the FDA: T2 Anatomic image; B: Abnormal spectroscopy; C: Normal spectroscopy; D. Jeffrey Denrance, M.D., and his brachytherapy-specialty team use precision HDR technology to move and control the time and position of the radiation source throughout the target. The HDR brachytherapy procedure itself starts with the insertion of small straw-like applicators about the size of intravenous lines. The applicators can be placed in virtually any part of the body which makes prostate cancer just one of the many indications for HDR brachytherapy. Working with a 3D-imaging device and powerful treatment-planning computer program, the team obtains a 3D image of the implant and surrounding anatomy and then customizes the dose distribution with virtual-insert technology. After the optimal treatment-delivery plan has been achieved, electronic instructions for positioning the radioactive source are sent to a robotic "afterloader" to deliver the radiation. HDR HDR Brachytherapy Delivers Focused Dose to Prostate Tumor

Brachytherapy — the insertion of radioactive sources known as seeds directly into the target tumor — has become increasingly used as a treatment for late- and early intermediate-risk prostate cancer, or in combination with external-beam radiation therapy for patients with higher-risk disease. In its most common form, brachytherapy consists of implantation of numerous permanent seeds, but a newer advanced technique pioneered by a UCLA radiation oncologist takes a different approach.

High-dose-rate (HDR) brachytherapy uses computerized robotics to temporarily insert and remove a tiny but powerful radioactive source located on the end of fine cable. It enables the rapid and controlled delivery of a high-radiation dose — while limiting radiation exposure to the surrounding healthy tissues.

Dr. Marks says the UCLA group is working with the manufacturer, Elenkor Corp., to optimize the software. Meanwhile, referrals are coming from across the country, particularly for patients who have an abnormal PSA test with biopsies showing no cancer or only a small, non-aggressive cancer.
Advancing Patient-Centered Care at the UCLA Institute of Urologic Oncology

People diagnosed with urologic cancers must often go from office to office to receive treatment and advice from specialists ranging from medical and radiation oncologists to surgeons. It is a process that may cause unnecessary anxiety and confusion for patients, says Arie Belldegrun, M.D., director of the UCLA Institute of Urologic Oncology, chief of the Division of Urologic Oncology and surgical director of the UCLA Kidney Cancer Program. As director of the institute, Dr. Belldegrun discusses why bringing together a multidisciplinary team of experts in one space not only benefits patients, but may also expedite the development of new therapies for the treatment of urologic cancers.

How does the goal of the UCLA Institute of Urologic Oncology advance patient-centered care? Our goal is to create an environment in which all the resources necessary to provide patient-centered care for a specific disease are integrated to deliver treatment effectively and efficiently. In a common space, practicing clinicians from many disciplines routinely interact and collaborate with basic scientists and translational researchers to develop individualized cancer therapies that produce the best long-term outcomes for each patient. Additionally, because we have multidisciplinary experts — including urologic oncologists, medical oncologists, diagnostic and interventional radiologists, pathologists, nurses, basic sciences and clinical trials — working together to treat the whole patient, we can move innovative therapies out of the lab and into practice much sooner and ensure patients receive the best treatment for any stage of disease.

How specifically has the UCLA Institute of Urologic Oncology contributed to the development of leading-edge therapies for patients with urologic cancers? All the latest bladder-, kidney- and prostate-cancer therapies are based on targeting the right population to the right drug. We are investigating ways to attack a specific tumor in a specific patient with a specific drug. There are hundreds of different types of cancers, each with molecular signatures. The best strategy, therefore, is to develop tumor-specific therapies and use them to treat the subset of patients most likely to respond, based on the molecular signature of their tumor.

A good example of this is the drug Zytiga (abiraterone acetate), which received FDA approval earlier this year for treatment of late-stage prostate cancer. In 2005, UCLA was one of the first centers in the country to offer this promising drug to patients who failed every possible prostate-cancer therapy, including chemotherapy. We first identified the drug’s potential to work in a select group of patients and now have patients who have been on the drug for more than three years and are still going strong. Some of these patients were in a wheelchair and are now walking. If you tailor the right therapy to the right patient, you can achieve dramatic results. UCLA is now involved with testing the efficacy of this drug in earlier stages of this disease. Another example is the drug Sunitinib, a new class of targeted kidney-cancer therapy that we began testing at UCLA in 2003. It was FDA approved in 2006, and there’s been a proliferation of six more drugs like it, or better, since then. We made every one of those drugs available to our patients years before being approved by the FDA.

What is the next step in achieving your long-term vision for the institute? The institute is being housed in temporary space until a permanent, state-of-the-art facility is completed. We currently hold clinics on a separate day each week for prostate-, kidney- and bladder-cancer patients. While our patients already reap the benefits from our patient-centered concept, our next step is to bring all of our resources together under the same roof so that we achieve the necessary synergy to move forward at a faster pace. Such an effort will benefit not only the patients, but also the many oncology fellows from the U.S. and abroad who are trained at the institute and then move on to other academic institutions to become professors and future scientific leaders.
Gastroenterology

Broad Range of Endoscopic Procedures Emerging as Major Nonsurgical Interventions

At major medical centers, an increasing number of gastrointestinal illnesses are being diagnosed and treated through the nonsurgical approach known as interventional endoscopy.

“Many procedures that were once the domain of the surgeon can now be done in a more minimally invasive way,” says V. Raman Muthusamy, M.D., associate clinical professor of medicine at the David Geffen School of Medicine at UCLA and director of interventional endoscopy, a newly created position within UCLA Health System that reflects the field’s emergence.

“Through the endoscope we can now perform biopsies, resect precancerous and early cancerous lesions, inject substances to relieve pain or provide anti-tumor therapy, deliver cautery and even seal up small holes,” explains Dr. Muthusamy. “We are covering the full spectrum of digestive diseases through a broad set of endoscopic techniques that, in some ways, are approaching surgical capabilities.”

Some early-stage cancers and polyps that would have previously required surgical removal are now often treated endoscopically, Dr. Muthusamy says, through a technique called endoscopic mucosal resection. In some advanced cancers, stents can relieve obstructions for patients with tumors blocking the gastrointestinal tract. Interventional endoscopists are accessing the bile duct and pancreas to remove gallstones or overcome obstructions that might otherwise require surgical exploration. The small bowel, the area between the stomach and the colon, was historically difficult to access with endoscopes, now, through a new device, Dr. Muthusamy and his interventional endoscopy colleagues are able to perform a procedure called spiral enteroscopy, enabling them to go deep into the small bowel to treat disorders in that area.

Similarly, Barrett’s esophagus with dysplasia was a condition that often required surgical removal of the esophagus to head off the development of cancer; now in many cases interventional endoscopists are able to use their instruments to resect, burn or freeze away the affected cells and prevent the development of cancer and the need for surgery.

Endoscopy is also being used to treat other gastrointestinal disorders. With endoscopic ultrasound — a procedure that combines endoscopy with ultrasound imaging to create more detailed pictures — a patient suspected of having a pancreatic tumor, for example, can be diagnosed and biopsied, the tumor can be staged, and the nerves innervating the pancreas can be injected through the endoscope to relieve pain.

UCLA has also begun to use endoscopy to improve the results of bariatric weight-loss surgery. More than 2-million people in the United States have undergone such surgeries, most commonly in the form of gastric-bypass procedures, which create a small upper pouch that is reconnected to the small intestine as a physiological and psychological strategy for reducing food intake. But a large percentage of these patients begin to regain weight after a period of time, in part because their surgically created gastric pouch begins to stretch, allowing for increased consumption.

For the past year, interventional endoscopist Rabindra R. Watson, M.D., has been involved in the development of techniques that improve the surgical outcome by reducing the volume of the pouch endoscopically.

Endoscopic techniques offer several advantages over surgery, notes Dr. Watson, who joined UCLA’s growing group of interventional endoscopists in September. These advantages include fewer complications, faster recovery times, the ability to combine and tailor diagnostic and therapeutic procedures to patients’ needs, and the fact that the interventions are reversible.

For example, Dr. Watson is currently engaged in research to use an endoscopic technique not just to improve the results of gastric-bypass surgery but as a primary procedure for bariatric surgery. In addition to being significantly less invasive, the approach, which Dr. Watson and colleagues hope to bring to clinical trials in the near future, could be used to assist patients in their initial weight-loss and diabetes-control efforts, with patients eventually being returned to their original anatomy.

Plans call for UCLA’s growing practice to include several interventional endoscopists working in conjunction with other surgical and medical teams to provide the most effective and least invasive care tailored to each patient’s circumstances. In addition to patient care, the program will train future interventional endoscopists, while serving as a focal point for the development and testing of new techniques and technologies.

“We were once distinct entities, black and white, increasingly we are morphing into shades of gray,” Dr. Muthusamy says of interventional endoscopists and gastrointestinal surgeons. As the two disciplines meet near the middle, he adds, new opportunities for collaboration will arise.

Dr. Muthusamy also foresees his program working closely with medical and radiation oncologists as endoscopic techniques continue to become more important to the diagnosis and treatment of GI cancers.

“Endoscopy represents a natural progression of medicine and technology,” Dr. Watson says. “We went from performing surgery through large incisions to the keyhole incisions of laparoscopy. The next step is doing things through endoscopy that we couldn’t have done before, thanks to new technology, new devices and the refinement of endoscopic skills.”
Treatment Options Available to Control Overactive Bladder

Overactive bladder, a form of incontinence characterized by symptoms of urinary urgency or frequency, affects millions of women, often wreaking havoc with quality of life. "Many women are forced to curtail their social and physical activities, as well as intimacy," says Christopher Tarnay, M.D., director of female pelvic medicine and reconstructive surgery for the Department of Obstetrics and Gynecology. "Overactive bladder can lead to lowered self-esteem and is associated with an increased risk for depression."

Both behavioral changes and medications can be effective in alleviating the problem. But for many women, at some point they prove not to be enough. "It can be very frustrating," says urologist Shlomo Raz, M.D., head of UCLA’s Division of Female Urology, Reconstructive Surgery and Urodynamics. "However, patients who are resistant to behavioral changes and medications should know that there are effective options available."

Three options include botulinum toxin (Botox) and two forms of nerve stimulation. Behavior modification, the first line of therapy for women experiencing urgency or frequency incontinence, typically falls into two categories: dietary changes such as fluid and caffeine restrictions, and pelvic-floor-muscle strengthening exercises. "There is good evidence that both of these approaches help approximately 60 percent of women," says Dr. Tarnay, though he notes that compliance with pelvic-floor strengthening tends to be more difficult for women as they age.

Pharmacotherapy targeted toward bladder relaxation can also be effective. But Dr. Raz notes that more than half of patients stop taking medications within three months. "Some patients stop because they aren’t able to tolerate the side effects, which can include dryness in the mouth, constipation and vision issues," he says. "Cost can also be a factor, and some women don’t want to have to take a drug every day. And others are just not responding to medication and require further help."

For patients who are resistant to behavioral modification and pharmacotherapy, one effective option is neuromodulation through stimulation of sacral root 3, the nerve the controls the bladder. "The procedure, known as InterStim therapy, starts with the percutaneous insertion of a small electrode near the sacral nerve roots. Patients use an external pulse generator for up to a week to determine the response level and optimal intensity; if there is a positive response, they undergo placement of permanent electrodes, along with an implantable device often referred to as a “bladder pacemaker.” Both procedures are outpatient and performed under local anesthesia.

"This device delivers an electrical frequency that can ablate and suppress urinary urgency and frequency," says Larissa Rodriguez, M.D., co-director of the Division of Female Urology, Reconstructive Surgery and Urodynamics. "This is a skin surgery — nothing deep — and is reversible. It has been demonstrated to be effective in women who are resistant to traditional therapies."

A different form of neurologic-stimulation therapy, also performed by both UCLA physicians, is percutaneous stimulation of the tibial nerve. Typically administered through one or more sessions per week for approximately six weeks, the procedure employs a small electrode to stimulate the nerve that runs just posterior to the ankle, using an acupuncture-like methodology. "It’s important to counsel patients on this risk, Dr. Tarnay notes. But even after being counseled, many decide it’s worth going ahead, calculating that the prospect of self-catheterization is preferable to chronically being wet and in a diaper, or having to stay home and toileting as many as 20 times a day. "Many women describe being a slave to their bladder, or that they are shackled to the toilet. They are looking for something to change that.”

Other relatively new option for patients whose overactive bladder is resistant to behavioral and pharmacotherapy approaches involves the intravesical injection of Botox into the bladder muscle through an outpatient procedure approximately every six months. This treatment has the effect of blocking the muscle overactivity of patients with urgency or frequency incontinence. "Botox is easy, well tolerated, reversible, and it improves urgency and frequency symptoms in a great number of patients," says urologist Ji-Hong Kim, M.D.

"Many women describe being a slave to their bladder, or that they are shackled to the toilet,” Dr. Tarnay says. "They are looking for something to change that.”

The most significant downside to Botox is the risk of urinary retention, which occurs in approximately one in four patients. "Botox is a viable option, and we see dramatic improvement in up to two-thirds of patients," says Dr. Tarnay. "However, it’s not surprising that if you’re blocking the release of neurotransmitters to reduce the involuntary smooth-muscle activity of the bladder, the rates of retention will be high, requiring many patients to catheterize themselves at home.”

On the other hand, Botox has not yet been approved for refractory overactive bladder, so patients may have to pay out of pocket. In the absence of long-term data, it is also unclear whether patients will eventually develop resistance to the injection’s effects. "Neuromodulation is more of a long-term solution," Dr. Raz says.