Without the TV Drama of Criminal Forensics
UC’s Clinical Autopsies Aid the Living

By David Bracey
david.bracey@uc.edu

Usually associated by the public with TV whoodunits, most autopsies have little to do with crime. Unlike “forensic” autopsies at the Hamilton County Coroner’s Office, which seek clues in murder or suspicious cases or the cause of death in accidents, medical autopsies performed by UC pathologists yield information that benefits the living.

The results of the painstakingly careful procedures provide not only peace of mind, but also invaluable health-related information—such as identification of heritable or contagious diseases—for surviving family members. An autopsy also significantly contributes to medical education and improvement of care.

The pathology and laboratory medicine department’s morgue recently moved from its 30-year-old facilities on the first floor of the Medical Sciences Building to new, state-of-the-art space on the R-level.

The new facilities, which include the latest adjustable tables, improved lighting and negative atmospheric pressure to keep airborne pathogens inside the unit, provide workspace for about 10 pathologists, 12 pathology residents and support staff.

The morgue staff does about 100 autopsies a year for University Hospital and other Health Alliance hospitals, as well as for other facilities in the region, mostly Ohio hospitals and nursing homes.

Like any medical procedure, an autopsy requires informed consent from the family or next of kin. When families receive adequate information about its importance, says Roger Smith, MD, attending pathologist and professor emeritus, they usually agree to an autopsy, and an increasing number (now 15 to 20 percent) are doing so.

See MORGUE page 2

Cutting Back on Steroids Can Help Kidney Transplant Patients

Study Provides Support for Steroid Withdrawal in Kidney Patients

By Amanda Harper
amanda.harper@uc.edu

Preliminary results of a study led by UC scientists suggest that reducing corticosteroid treatment in kidney transplant patients significantly lowers toxic side effects of anti-rejection medications without affecting survival rates.

Steroids are given in combination with other anti-rejection drugs to help suppress the body’s immune system and allow the transplanted organ to function properly. Previous research, however, has linked steroids to an increased risk for cardiovascular disease, high cholesterol and blood pressure, weight gain, diabetes, cataracts and other side effects.

“The drug transplant patients dislike most is steroids,” says Steve Woodle, MD, director of the transplantation at UC and principal investigator for the study. “They see how the drug’s toxicity affects their bodies—their faces swell, they gain weight, they bruise easily—and they know steroids are the cause.”

Steroid-free regimens could reduce health-care costs from transplant-related problems and improve the patients’ quality of life, he says. Despite the known negative side effects of steroids, Woodle says.

See KIDNEY page 3

UC Study Urges Worldwide Ban on Lead-Based Paint

By Amanda Harper
amanda.harper@uc.edu

UC environmental and occupational health experts have found that major countries still produce and sell consumer paints with dangerously high lead levels.

UC’s study team found that about 50 percent of the paint sold in China, India and Malaysia—none of which appear to have regulations on lead—had lead levels 30 times higher than those allowed by U.S. regulations. However, in Singapore, which has well-enforced regulations, only 10 percent of paint samples were above U.S. regulations, the highest being six times the U.S. limit.

Researchers say this lead-based paint production poses a global health threat and call for a worldwide ban to avoid future public health problems. This research will appear in the September 2006 edition of the journal Environmental Research.
Balance Center Revamps Services, Adds Equipment

By Jamie Davis
jamie.davis@uc.edu

Just about everything you do in your daily life—whether it’s walking, driving a car or brushing your teeth—requires balance.

For most people balance is so instinctive they don’t think about it—until dizziness or disorientation signals that something has gone wrong.

And when that happens, UC’s Balance Center is one of few comprehensive care facilities in the area to diagnose and treat the problem. Maintaining balance depends on three complex processes, says Julie Honaker, director of audiology in the department of otolaryngology-head and neck surgery: the sensory system’s ability to accurately determine the body’s position relative to the environment (standing up, for example), the brain’s ability to process that information, and the coordinating movement of the muscles and joints.

The body’s balance sensors include the eyes, the sense of touch and the inner ear—where calcium carbonate “otolithic particles” and fluid inside three paired canals stimulate hair cells to generate the sense of forward, backward and vertical motion in the head.

The Balance Center offers various tests that examine all the balance sensory systems and a person’s ability to execute coordinated movements, both voluntary and involuntary, to maintain balance.

Already one of the best equipped of its kind, UC’s Balance Center recently updated its platform posturography equipment and added several new tests, including a rotational chair and the vestibular evoked myogenic potential (VEMP) test, all of which provide a more comprehensive look at the inner ear balance system than standard technology.

Platform posturography uses a platform with a wall and a floor that move to measure how well patients maintain their balance under different conditions. The rotational chair moves at different speeds to measure the patient’s eye movements. VEMP measures the otoliths’ responses to sound stimulation.

“So many conditions can cause dizziness and disorientation,” says Honaker. “We’re like detectives when we test and evaluate people for balance disorders, because so all the conditions that must be ruled out as the cause. That’s why we’re really excited to add this equipment to our center—it gives us more in-depth options for what’s causing a patient’s balance issues.”

People can develop balance problems because of inner ear conditions, head injury, stroke or other neurological issues, she explains.

“Balance disorders can really disrupt a person’s life,” adds Ravi Sammy, MD, assistant professor of otolaryngology. “They can cause fatigue, shorten the attention span, disrupt sleep patterns and increase the risk of falling, making it difficult to do everyday tasks.”

Balance problems also increase with age, and Honaker, currently studying the risk and fear of falling in the elderly, hopes to establish a program for at-risk patients.

“An autopsy actually helps in grieving,” says Smith, “by answering questions about whether the patient received the needed care, and whether there were factors we didn’t know about. There are many emotional uncertainties when a loved one dies, and an autopsy helps alleviate them.”

“As pathologists we also want to know about other conditions,” adds Patricia Revelo, MD, director of autopsy services. “Alzheimer’s disease, for example, can’t be definitely diagnosed clinically. A lot of conditions look like it. In fact, 20 to 30 percent of diagnosed patients don’t have Alzheimer’s at all, but some other neurodegenerative or vascular disease.”

Since Alzheimer’s runs in families, she says, proper diagnosis can result in surviving children and other family members getting timely genetic counseling or treatment.

A main difference between a forensic autopsy and a clinical autopsy, says Revelo, is that “we do a lot more tissue-section studies and other supplementary testing.”

“We spend more time looking at charts and talking to physicians, getting medical history, trying to determine the hospital course and establishing clinical-pathological correlations.”

The average autopsy at UC takes at least six to eight hours, Revelo explains. The dissection itself requires about two hours. The rest of the time is spent studying the sampled tissues and then writing a detailed report for the clinicians involved in the patient’s care.

“It’s hard work, but it’s necessary,” says Smith. “Even today’s sophisticated imaging technology doesn’t provide all the answers.”

Findings August 2006

MORGUE: UC Autopsies Provide Health Clues for Survivors

from page 1

Copyright © 2006 University of Cincinnati. Material may be reproduced provided permission is granted. The University of Cincinnati is an affirmative action/equal opportunity employer.

By Jamie Davis
jamie.davis@uc.edu

Three-first-year nursing students are receiving awards to help pay for their education, thanks to University Hospital (UH), UC College of Nursing and the 10th annual Cincinnatus Scholarship competition.

Each year, UH and the college present scholarships to minority students who are pursuing their nursing education at UC. This year’s recipients are Traci Irving and Amber Nixon.

Irving, a Shroder Paideia Academy graduate, will receive $40,000 over four years, funded by the hospital. A volunteer at Good Samaritan Hospital, she plans to become a neonatal nurse.

Nixon will receive $10,000 over four years, funded by UH and the College of Nursing. The Gilbert A. Dater High School graduate plans to be a pediatric nurse.

A student who will enter the UC College of Nursing this fall was among a record number of 2,094 people who competed in this year’s annual Cincinnatus Scholarship competition, which evaluates an applicant’s academic excellence and commitment to and participation in community service.

Samuel Matson is the first student entering the UC College of Nursing to win one of the 10 full awards—$72,000 to pay for tuition, fees, room and board books.

In deciding to attend UC, Matson says, “The UC nursing program is one of the best in the country. I like the location of the campus and how there’s always something to do. I also like the mix of people who attend UC.”

Matson is joining the UC Honors Scholars program for academically talented students.
Student-Run Health Project Brings Classroom Experiences to ‘Real World’ Situations

Urban Health Project Places Medical Students into City Health Care Settings to Help Underserved Populations

By Dama Kimmon

dama.kimmon@uc.edu

UC College of Medicine student Banu Bansal to the group’s Over-the-Rhine facility each day.

At AVOC, Bansal spends his time in the community outreach division, working to raise awareness about the organization and its services—which include free, anonymous HIV testing, counseling and education, and distribution of free contraceptives.

“Preventive medicine, and especially AIDS prevention, is so important,” says Bansal. “A doctor should pay attention to what happens not only after a patient comes down with an illness, but before as well. That’s the way I’ll eventually learn how to prevent illness in the first place.”

Bansal, who is entering his second year of medical school, is just one of 22 interns working at 20 different sites this summer as part of one of 22 interns working at 20 different sites this summer as part of two UC medical students, led each year by two codirectors responsible for budget development, fundraising, site selection, recruitment of new “staff” and general promotion.

Funds raised are used to cover administrative costs and promote and to pay the summer interns’ modest stipends. Heidi Husseinzadeh and Abby Loftus, 2006 codirectors, raised nearly $80,000 to support the project and the summer 2006 interns.

The 2007 codirectors, Clare Kloenne and Julia Kloenne, are now beginning fundraising for next year. The two hope to be just as successful as they can continue to support as many, if not more, interns.

Cincinnati is fortunate to have lots of resources for the underserved, but many organizations rely heavily on volunteers to meet the needs of the population,” says Kloenne. “We’d love to be able to support these groups by offering them even more summer internships, because not only are the organizations being helped, our students are also learning a lot.”

The Urban Health Project’s goal is to give the students a chance to better understand how cultural, socioeconomic and environmental factors affect health.

“The hope that our interns will learn to see the whole person and not just his or her physical ailments,” says Kloenne.

In 2006, the Urban Health Project won the Spirit of Service award from the College of Medicine and was also nominated for a Cincinnati Business Courier Health Care Heroes award.

To learn more about the Urban Health Project, visit www.uc.edu/uhp.

UC HEALTH LINE

Surgery May Not Be Best Option for Uterine Fibroids

By Amanda Harper

amanda.harper@uc.edu

Women who suffer from painful, heavy menstrual cycles due to uterine fibroids have a new, noninvasive treatment option that allows them to avoid the operating room completely.

UC interventional radiologists say the procedure, known as uterine artery embolization, is a safe and effective alternative to surgery for certain women who have uterine fibroids.

“Embolization is most appropriate for premenopausal women facing fibroid complications that affect their quality of life and who don’t want to become pregnant again,” says Darryl Zuckerman, MD, an associate professor and interventional radiologist at UC.

Uterine fibroids are benign tumors that form in the muscular wall of the uterus. Fibroids vary in size—from as small as a golf ball to as large as a cantaloupe—but when uterine fibroids nearly all result in abnormal heavy menstrual bleeding and pelvic pain.

Depending on their size and the severity of symptoms, the growths are traditionally treated by a gynecological surgeon, who removes the uterus or just the visible fibroids.

The new noninvasive uterine artery embolization technique, however, doesn’t require open surgery and can be performed by a specially trained interventional radiologist.

“The problem with conventional surgery is that some women experience additional health complications,” explains Zuckerman.

“Uterine artery embolization, on the other hand, yields nearly the same success rates as hysterectomy, but with the benefit of a faster recovery and no major incisions into the body.”

According to the Society of Interventional Radiology, up to 40 percent of American women over 35 have uterine fibroids that require some type of medical intervention. In addition, one-third of the 600,000 hysterectomies performed each year are due to fibroids.

“Clinical research has shown that up to two-thirds of hysterectomies done in the United States could have been avoided,” says Zuckerman.

“Not all fibroids require treatment, but of those that do, not all can be treated with this minimally invasive technique.”

Prior to undergoing uterine artery embolization, the patient is given a mild anesthetic so she is drowsy but still conscious during treatment. The interventional radiologist then makes a tiny nick (2 mm) in the groin to gain access to the femoral artery. Using moving X-ray images as a visual guide, the physician inserts a catheter and guides it into the uterine artery, which supplies blood to the fibroid.

Minuscule plastic particles—no larger than a grain of sand—are then injected via the catheter into the uterine artery, where they block and cut off the fibroid’s blood supply, causing it to shrivel and eventually die.

The procedure takes about an hour, and the patient usually goes home the next day.

“About 90 percent of the women who choose this procedure experience a significant—if not total—relief from heavy bleeding, and about 85 percent have no more pain,” says Zuckerman.

UC radiologists perform about 30 uterine artery embolization procedures each year at University Hospital. For more information or to schedule an appointment, call (513) 584-0792.

UC Health Line features timely health information for consumers.

KIDNEY: Reducing Steroid Treatments

From page 1

physicians have feared that removing them would increase the risk for organ rejection. This study shows that, when corticosteroids are used in combination with the right immunosuppressive agents, we can minimize that rejection risk, while also reducing the negative side effects of steroids,” he says.

The team’s findings were reported July 24 at the meeting of the World Transplant Congress in Boston, where UC researchers presented 55 abstracts and oral presentations, 10 of which related to the corticosteroid-withdrawal trial. This multicenter trial is the first in which corticosteroids were removed prior to 90 days after kidney transplant. The results presented were for the first three years of a projected five-year investigation.

The researchers found that patients who received just seven days of the corticosteroid prednisone after kidney transplant had the same transplant organ survival rate and functionality as those on continuous corticosteroids. In addition, patients on short-term steroids experienced significantly less cardiovascular risk.

These findings, Woodle says, contradict results from a 1995 Canadian study that claimed steroid-free patients begin to lose their transplant organs three years after surgery.

“UC researchers found that the acute rejection rate for steroid-free patients was 16 percent—just slightly higher than the nationwide average of 15 percent. Steroid-free patients, however, reaped substantial health benefits, including reduced cardiovascular risk and weight gain.

Rita Alloway, PharmD, a research professor at UC and co- investigator on the study, adds, “Now we need to further quantify the benefits of steroid-free regimens and their impact on health risks to provide the very best, holistic care to our patients.”

UC researchers also found that corticosteroids were reduced or eliminated from transplant research trials because of a perceived risk for increased acute rejection—are not at any greater risk for rejection than Caucasians and actually enjoy even greater benefits in terms of cardiovascular risk reduction.

Nationwide, the trial enrolled 397 patients, who were then randomized to either a seven-day or a lifetime course of corticosteroid therapy, which started within the first three days of transplant.

Patients in both groups received the steroids in combination with twice-daily immunosuppressive agents designed to help lower the body’s natural immune response to a transplant organ.

The trial was conducted at 26 medical centers across the United States, including UC and the universities of Memphis, Tennessee, Utah and Washington. Woodle and researchers at the participating institutions received honorary and nominal research grants from the study sponsor, Astellas Pharmaceuticals.
New Research Shows Cancer Prevalent in Darker Skin

By Amanda Harper
amanda.harper@uc.edu

"You’re not immune to skin cancer."

That’s the simple message UC dermatologist Hugh Gloster, MD, wants people with dark skin—including blacks, Asians, Hispanics and Native Americans—to take seriously this summer. Although dark-skinned people develop fewer nonmelanoma skin cancers compared with whites, he says, when the disease does occur, it is often diagnosed late. That leads to disproportionately more deaths among minority popu-

lations.

"There’s a perception that dark-skinned people don’t have to worry about skin cancer, but that’s absolutely not true," explains Gloster, an associate professor of dermatology. "Dark-skinned peo-

ple get skin cancer, and because of this belief misconception, most cases aren’t diagnosed until they are in more advanced—and difficult to treat—stages.

"Unfortunately," he adds, "that translates into higher mortality rates.

Skin pigmentation cells, known as "melanocytes," produce a chemi-

cal called melanin that gives the skin its color and helps block out

UV (ultraviolet) radiation. This electromag-

netic field damages from the sun. Dark-

skinned people produce more melanin in the skin, so they are less vulnerable to severe skin "burn" and damage from ultraviolet (UV) radiation. This electromag-

netic field damages from the sun and some artificial light sources, including tanning beds.

"Because dark skin has increased epidermal melanin," explains Gloster, "it provides a nat-

ural skin protection factor of about 30. About 50 percent of the U.S. population will be black, Asian or Hispanic by the year 2050, according to the U.S. Census Bureau, which foretells the importance of early detection and awareness among this population.

"We need to increase public awareness of skin cancer among ethnic minorities if we’re going to decrease cancer-related deaths," adds Gloster. "Prevention is key in fighting this disease."

The American Cancer Society estimates that more than 68,700 people will develop skin cancer in 2006—about 90 percent of them getting the most serious type, melanoma.

Increased number of skin cancer cases in women under 30—and most are either former tanning bed users or people who don’t regularly use sunscreen.

Melanoma, the most aggressive form of skin cancer, appears to develop differently in whites than in darker-skinned people, in whom the disease usually appears on the palms, soles and under the nails. This data suggests that UV radia-

tion is not a significant risk factor for melanoma in dark ethnic groups. However, UV radiation is considered a chief cause of the disease—in specifically from intense early-life and blistering sunburns.

Henney Receives Honorary Degree from Rochester

Jane Henney, MD, senior vice presi-
dent and provost for health affairs, received an honorary doctor of science de-

gree from the University of Rochester.

"As a national leader in academic health care, Jane Henney has been an articulate advocate for science education and for improving the lives of all Americans, Jane Henney says, when the disease does occur, it is often diagnosed late. That leads to disproportionately more deaths among minority popu-

lations.

"There’s a perception that dark-skinned people don’t have to worry about skin cancer, but that’s absolutely not true," explains Gloster, an associate professor of dermatology. "Dark-skinned peo-

ple get skin cancer, and because of this belief misconception, most cases aren’t diagnosed until they are in more advanced—and difficult to treat—stages.

"Unfortunately," he adds, "that translates into higher mortality rates.

Skin pigmentation cells, known as "melanocytes," produce a chemi-

cal called melanin that gives the skin its color and helps block out

UV (ultraviolet) radiation. This electromag-

netic field damages from the sun. Dark-

skinned people produce more melanin in the skin, so they are less vulnerable to severe skin "burn" and damage from ultraviolet (UV) radiation. This electromag-

netic field damages from the sun and some artificial light sources, including tanning beds.

"Because dark skin has increased epidermal melanin," explains Gloster, "it provides a nat-

ural skin protection factor of about 30. About 50 percent of the U.S. population will be black, Asian or Hispanic by the year 2050, according to the U.S. Census Bureau, which foretells the importance of early detection and awareness among this population.

"We need to increase public awareness of skin cancer among ethnic minorities if we’re going to decrease cancer-related deaths," adds Gloster. "Prevention is key in fighting this disease."

The American Cancer Society estimates that more than 68,700 people will develop skin cancer in 2006—about 90 percent of them getting the most serious type, melanoma.

Increased number of skin cancer cases in women under 30—and most are either former tanning bed users or people who don’t regularly use sunscreen.

Melanoma, the most aggressive form of skin cancer, appears to develop differently in whites than in darker-skinned people, in whom the disease usually appears on the palms, soles and under the nails. This data suggests that UV radia-

tion is not a significant risk factor for melanoma in dark ethnic groups. However, UV radiation is considered a chief cause of the disease—in specifically from intense early-life and blistering sunburns.

The procedure is used to treat arteriosclerotic arterial occlusive disease, a type of peripheral arterial disease that causes large blood vessels in the abdomen and pelvis to become narrowed and restricted blood flow. Because it is minimally invasive, says Giglia, the procedure reduces the patient’s post-surgery pain and shortens recovery time.

Fungal Spores Increase Kids’ Allergy Risk

Not all mold is created equal, according to a new UC study reported in the journal Pediatric Allergy and Immunology. Led by UC mold expert Tina Reponen, PhD, the team found that indoor exposures to basidiospores and other airborne fungal spores—specifically penicillium/aspergillus and alternaria—early in life were more likely as they grew older to develop allergies to mold, pollen, pet dander and foods.

This is the first study to show a relationship between specific air-

borne fungal spores and an increased risk for multiple allergies in children. The research is part of the Cincinnati Childhood Allergy and Air Pollution Study, a five-year project examining the effects of environmental pollutants on childhood respiratory health and allergy development.

Life on the Battlefield

Maj. Steve Barnes, MD, and Col. Jay Johannimg, MD, both of UC’s division of trauma and critical care practice, recently performed the first UC Air Force Hospital treatment at the Balad Air Base in central Iraq. The hospital is the busiest U.S. combat-support hospital in Iraq and is the central aeromedical evacuation hub. This was Barnes’ first tour of Iraq and Johannimg’s third.

Child Laparoscopic Case is World’s First

Mark Thomas, MD, a UC assistant professor and transplant surgeon, recently performed what is believed to be the world’s first pediatric laparoscopic liver resec-

tion. The surgery was done on a 2-year-old Mexican boy with liver cancer.

The minimally invasive proce-

dure—which uses several incisions no larger than three inches and specialized instruments that allow the physician to see the inside of the body—requires less recovery time than traditional open surgery.

UC is home to one of the few specialty liver centers of its kind in the world, where Thomas and his team perform about 250 laparo-

scopic liver cases a year.

PHARMACY: New Grad to Present in Brazil

"We need to increase public awareness of skin cancer among ethnic minorities if we’re going to decrease cancer-related deaths," adds Gloster. "Prevention is key in fighting this disease."

The American Cancer Society estimates that more than 68,700 people will develop skin cancer in 2006—about 90 percent of them getting the most serious type, melanoma.

Increased number of skin cancer cases in women under 30—and most are either former tanning bed users or people who don’t regularly use sunscreen.

Melanoma, the most aggressive form of skin cancer, appears to develop differently in whites than in darker-skinned people, in whom the disease usually appears on the palms, soles and under the nails. This data suggests that UV radia-

tion is not a significant risk factor for melanoma in dark ethnic groups. However, UV radiation is considered a chief cause of the disease—in specifically from intense early-life and blistering sunburns.

The procedure is used to treat arteriosclerotic arterial occlusive disease, a type of peripheral arterial disease that causes large blood vessels in the abdomen and pelvis to become narrowed and restricted blood flow. Because it is minimally invasive, says Giglia, the procedure reduces the patient’s post-surgery pain and shortens recovery time.

Fungal Spores Increase Kids’ Allergy Risk

Not all mold is created equal, according to a new UC study reported in the journal Pediatric Allergy and Immunology. Led by UC mold expert Tina Reponen, PhD, the team found that indoor exposures to basidiospores and other airborne fungal spores—specifically penicillium/aspergillus and alternaria—early in life were more likely as they grew older to develop allergies to mold, pollen, pet dander and foods.

This is the first study to show a relationship between specific air-

borne fungal spores and an increased risk for multiple allergies in children. The research is part of the Cincinnati Childhood Allergy and Air Pollution Study, a five-year project examining the effects of environmental pollutants on childhood respiratory health and allergy development.