

Antibiotics and Allergies?

U-M RESEARCH SUGGESTS MICROBIAL CHANGES MAY BE A LINK

If allergies are making your life miserable and you've recently taken antibiotics, the source of your problem may not be your stuffed-up head. It could be the microbes in your gastrointestinal tract.

New research by U-M Medical School scientists Gary B. Huffnagle, Ph.D., and Mairi C. Noverr (Ph.D. 2002) suggests there's a direct connection between microbial changes in the GI tract, caused by antibiotics, and how the immune system responds to common allergens in the lungs.

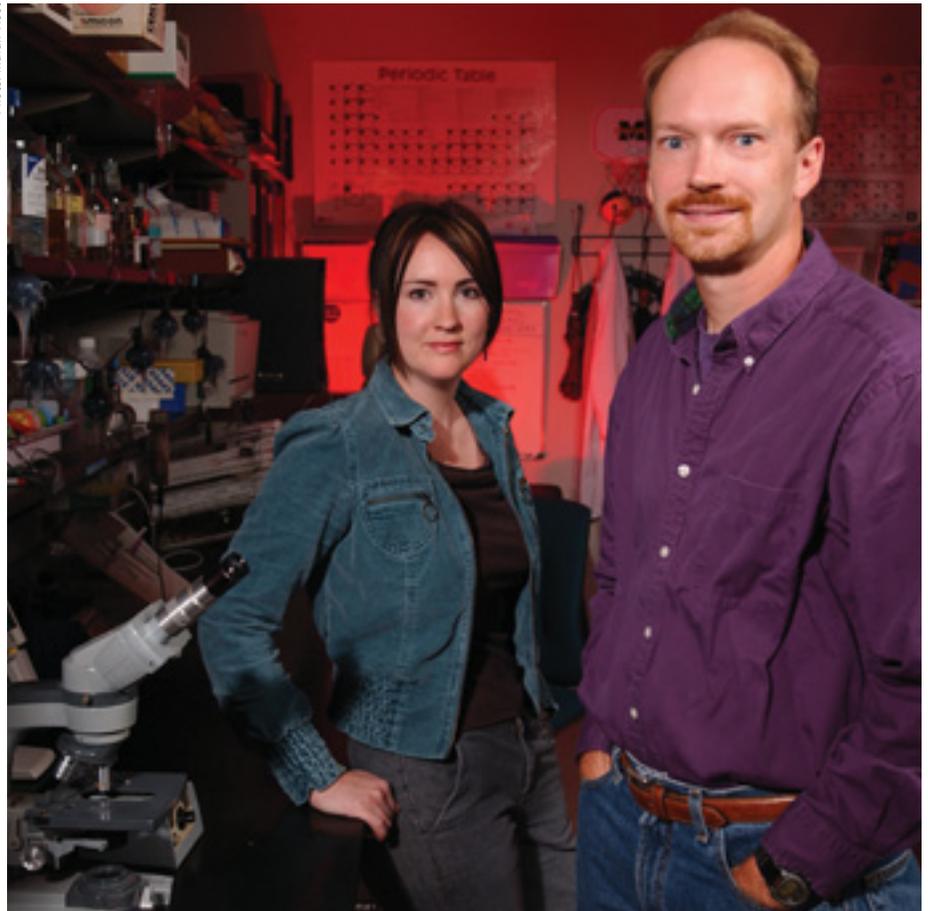
"We all have a unique microbial fingerprint — a specific mix of bacteria and fungi living in our stomach and intestines," says Huffnagle, an associate professor of internal medicine and of microbiology and immunology. "Antibiotics knock out bacteria in the gut, allowing fungi to increase temporarily until the bacteria grow back after the antibiotics are stopped. Our research indicates that these alterations in intestinal microflora can lead to changes in the entire immune system."

Noverr, a U-M research fellow, and Huffnagle used laboratory mice in their experiments, but if the results are confirmed in humans, they believe this research could help explain why cases of chronic inflammatory diseases, like asthma and allergies, have been increasing rapidly over the last 40 years — a time period that corresponds with widespread use of antibiotics.

When we inhale, air flows past mucus-producing cells and tiny hairs designed to trap bits of pollen, dust and spores before they enter the lungs, Huffnagle explains. These trapped particles are swept into the stomach with saliva and mucus as we swallow, exposing immune cells in the GI tract to airborne allergens. This triggers the production of regulatory T cells that modulate the response of allergic T cells to incoming allergens in the lungs and sinuses.

When antibiotics disrupt the normal mix of bacteria and fungi in the GI tract, Huffnagle says

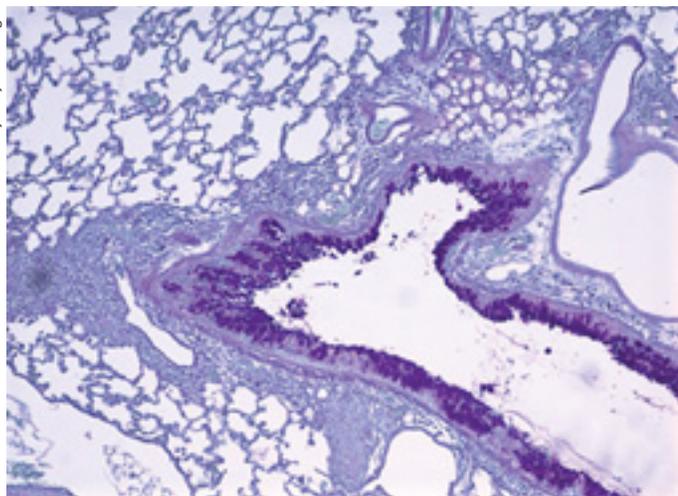
Photo: Martin Vibet



Mairi Noverr and Gary Huffnagle

If results are confirmed in humans, Huffnagle and Noverr believe this research could help explain why cases of chronic inflammatory diseases, like asthma and allergies, have been increasing rapidly over the last 40 years — a time period that corresponds with widespread use of antibiotics.

Courtesy: Gary B. Huffnagle



An allergic response in the airways of a mouse. The dark staining is excess mucus being secreted into the airways – a result of the underlying allergic inflammation.

Courtesy: Gary B. Huffnagle



***Aspergillus fumigatus* mold releasing its tiny spores.**

this somehow interferes with the ability of regulatory T cells to dampen the immune system's response to respiratory allergens. The result is a hyperactive immune response, which can produce allergy symptoms or even asthma.

"If we can determine exactly how microflora in the GI tract affect the immune system, it may be possible one day to prevent or treat allergies and inflammatory diseases with diet changes or probiotics – dietary supplements of 'healthy' bacteria designed to restore the normal balance of microbes in the gut," Huffnagle adds.

Until then, Huffnagle emphasizes the importance of a healthy low-sugar diet, with lots of raw fruits and vegetables, after taking antibiotics to help restore the normal mix of microbes in your GI tract as quickly as possible. "The old saying 'an apple a day keeps the doctor away' may be more true than we thought," he says.

Huffnagle's research has been funded by the National Institutes of Health and a New Investigator Award from the Burroughs-Wellcome Fund. Other collaborators in his

research include Galen B. Toews, M.D., professor of internal medicine; Nicole Falkowski, Rachael Noggle and Rod McDonald, Ph.D., research associates in internal medicine.

—SFP

Read an expanded version of this story:
www.med.umich.edu/opm/newspage/2004/allergies.htm

For patient information on allergies:
www.med.umich.edu/1libr/aha/umalerg03.htm

Photo: Martin Viet



Jeffrey Halter

GERIATRICS AND GERONTOLOGY CENTERS MERGE

The University of Michigan has merged its Institute of Gerontology with the medical school's Geriatrics Center to integrate U-M's internationally recognized clinical, educational and research programs, which are expanding knowledge of the aging process and addressing the health care concerns of older adults.

"Bringing the two aging-related centers together will keep the University of Michigan at the forefront of research and help improve the health and well-being of our rapidly aging population," says Jeffrey B. Halter, M.D. Halter is the director of the Geriatrics Center and a professor of internal medicine in the U-M Medical School. He will continue to serve as director of the newly combined center.

—LG

Read the full press release:
www.med.umich.edu/opm/newspage/2004/geriatrics.htm

Photo: Martin Vibert



John Piette and Michele Heisler

Two-thirds of patients studied said no one on their medical team asked if they were having trouble paying for their drugs. More than half thought their doctors and nurses would not be able to help, and nearly half were embarrassed to raise the issue or didn't think it was important.

Rx Costs:

Doctors Don't Ask, Patients Don't Tell

Millions of Americans struggle every day to pay for prescription medicines, often cutting back on how often they buy or take drugs to save money. According to new studies by U-M and Veterans Administration researchers, many of the sickest of these patients don't tell their doctors what they're doing – even though skimping on medication could harm their health.

“Chronically ill patients are the ones who most need these medications. Yet their doctors don't know they aren't taking them as prescribed,” says John Piette, Ph.D., associate professor of internal medicine in the U-M Medical School and a scientist at the VA Ann Arbor Healthcare System. “As drug costs and the number of chronically ill Americans continue to rise, it's essential that health care providers proactively discuss costs and schedule adherence with their patients.”

Piette co-authored a study, published in the *Archives of Internal Medicine*, which found that two-thirds of 660 chronically ill patients with at least one serious medical problem, who cut back on their prescription drugs to save money, didn't tell their doctors before they started skipping doses or refills.

Two-thirds of the patients said no one on their medical team asked if they were having trouble paying for their drugs. More than half thought their doctors and nurses would not be able to help, and nearly half were embarrassed to raise the issue or didn't think it was important.

Michele Heisler, M.D., a research scientist at the VA Ann Arbor Healthcare System and a lecturer in the U-M Medical School, was a co-author on the study. She maintains the findings reinforce how critical it is for doctors and nurses to take the initiative by asking patients if they're having trouble paying for their drugs and educating them about which ones are most necessary to protect their health. The researchers found that most patients who did speak up got help through free samples, generic drugs or information about assistance programs.

Piette and Heisler recently published results from another study documenting long-term poor health consequences in people who reported cutting back on their medications due to cost.

“The bottom line for patients is: speak up or you might miss a great chance to get help. Don't wait for your doctor to ask if you're having problems paying for medications,” says Piette. “And the bottom line for doctors and nurses is: don't be shy about asking patients if they can afford the drugs you're prescribing, educating them about the importance of sticking to the ones that can help them most, and encouraging patients to speak up if they have trouble paying down the road.”

—KG

For more information on both studies:
www.med.umich.edu/opm/newspage/2004/medcost.htm

www.med.umich.edu/opm/newspage/2004/moneyorhealth.htm

Safe, Easy and ... Ineffective

PULSED DYE LASERS DON'T HELP ACNE

Laser therapy for acne is an appealing treatment: no messy creams, no drugs and minimal risk of side effects. Unfortunately, there also appears to be no benefit, at least with pulsed dye laser therapy, according to Jeffrey Orringer, M.D. (Residencies 1995, 2000), clinical assistant professor of dermatology in the U-M Medical School.

Photo: Paul Jaronski



Jeffrey Orringer

Orringer conducted a clinical trial with 40 patients who were randomly assigned to receive laser therapy on either the left or right side of their face. Results of the study, which were published in the June 16 issue of the *Journal of the American Medical Association*, showed that pulsed dye laser therapy was not effective in treating acne.

"This is not an indictment of all laser therapy for acne," Orringer says. "But we need to study these devices thoroughly before recommending them to physicians, who are spending a lot of money to buy the lasers, and more importantly to patients, who may be seeing no significant clinical benefits."

—NF

Read an expanded version of this story:
www.med.umich.edu/opm/newspage/2004/pulsed.htm

For patient information on acne:
www.med.umich.edu/1libr/aha/aha_acne_crs.htm

Photo: Peter Von Buelow, Taubman College of Architecture and Urban Planning



A World without Boundaries

This summer, Trail's Edge Camp took the dreams of children with disabilities to new heights with a tree house constructed especially for kids who use wheelchairs and ventilators. The tree house was dedicated and officially opened on June 6, an event that also marked the 15th anniversary of Trail's Edge Camp for Ventilator-Dependent Children. Staff from C.S. Mott Children's Hospital and faculty and students from the U-M Taubman College of Architecture and Urban Planning collaborated on construction of the tree house, which took 45 volunteers two years to build. Trail's Edge Director Mary Buschell, a clinical specialist in respiratory care, has been chosen by *Good Housekeeping* for its Health Care Hero Award for her role in the project.

Pictured above: Jill Dobie enjoys the view from the tree house with help from Dick Flowers, a landscape designer from Traverse City and key volunteer on the project.

Encouraging Results, Better Quality of Life

U-M STUDY SHOWS PROMISE IN TREATING CANCER OF THE BLADDER

Researchers at the U-M Comprehensive Cancer Center are testing a new treatment for bladder cancer that combines a chemotherapy drug called gemcitabine with radiation therapy. The treatment reduces the probability that the patient's bladder will have to be removed. Recently published results of a pilot study of 24 patients with muscle-invasive cancer confined to the bladder were promising, according to David C. Smith, M.D., associate professor of internal medicine and urology in the U-M Medical School and co-author of the study.

"The exciting part is that we were able to use gemcitabine at a dose which increases the effectiveness of radiation without causing significant toxicities — and 16 of 24 patients kept their bladders," says Smith. The U-M team chose gemcitabine because it has been shown to make radiation more effective at killing cancer cells and generally does not cause severe side effects. Gemcitabine and radiation therapy combinations have been used to treat pancreatic cancer and head and neck cancers in other U-M clinical studies.

The treatment is still experimental and is most effective for certain types of patients, Smith adds. Standard treatment for most patients with invasive bladder cancer is a cystectomy — surgery to remove the entire bladder — which requires up to a week in the hospital and leaves patients with a reconstructed bladder or urostomy bag.

Instead of a cystectomy, patients in the U-M study had transurethral surgery, a procedure that does not require an incision, to remove the tumor cells, followed by low doses of gemcitabine, along with radiation therapy, for six weeks. All but two patients showed no signs of



David Smith and Howard Sandler

cancer at their first follow-up screening. About four years later, 65 percent of the patients were still cancer-free — similar to results with the more aggressive surgery — and they still had intact bladders.

"Patients were able to finish the entire treatment regimen, and the majority reported few changes in urinary urgency, bowel control and erectile function. Our results suggest gemcitabine with radiation therapy may be an effective way to treat bladder cancer in

selected patients," says Howard Sandler, M.D., a professor of radiation oncology in the U-M Medical School and co-author of the study.

—NF

For an expanded version of this story:
www.med.umich.edu/opm/newspage/2004/bladder.htm

For patient information on bladder cancer:
www.cancer.med.umich.edu/learn/bladderinfo.htm

Gemcitabine and radiation therapy combinations have been used to treat pancreatic cancer and head and neck cancers in other U-M clinical studies, also with encouraging results.

Photo: Martin Vloet



Newborns treated with CoolCap for 72 hours after birth had much lower rates of death and disability than infants who did not receive the brain-cooling therapy.

Photo: Martin Vloet



Cool Cap!

HEAD-COOLING DEVICE
REDUCES — AND REVERSES —
BRAIN DAMAGE IN NEWBORNS

Twelve of the youngest patients at U-M's C.S. Mott Children's Hospital were part of an international clinical study of a head-cooling device called CoolCap, which reduces brain damage in oxygen-deprived newborn infants.

"About one or two in 1,000 babies born at or near their due date are at risk of brain damage due to interruption of blood flow or oxygen during labor or delivery. Those who survive can be left with long-lasting disabling complications such as cerebral palsy. Previously, we had no therapy to reverse this damage once it occurred," says John Barks, M.D., an associate professor of pediatrics and communicable diseases in the U-M Medical School, who was a principal investigator on the study.

Newborns treated with CoolCap for 72 hours after birth, at U-M and 27 other hospitals, had much lower rates of death and disability than infants who did not receive the brain-cooling therapy. The CoolCap trial provided the first evidence in humans that brain damage at birth can be reversed, at least for some babies, according to Steven Donn, M.D., a professor of pediatrics and communicable diseases, who was a co-investigator on the study.

Since December 2003, 12 more infants have received CoolCap treatment at Mott's Holden Neonatal Intensive Care Unit, which has permission from the U.S. Food & Drug Administration to offer CoolCap therapy to all eligible patients as a continuation of the initial research trial. CoolCap is produced by Olympic Medical Corporation of Seattle, and the company is seeking FDA approval to market the device.

—NF

For an expanded version of this story:

www.med.umich.edu/opm/newspage/2004/coolingcap.htm

Above: Steven Donn checks on patient Jayla Pearl-Laniya Parker, who was flown to the U-M from Ohio shortly after birth in order to be connected to the CoolCap device.

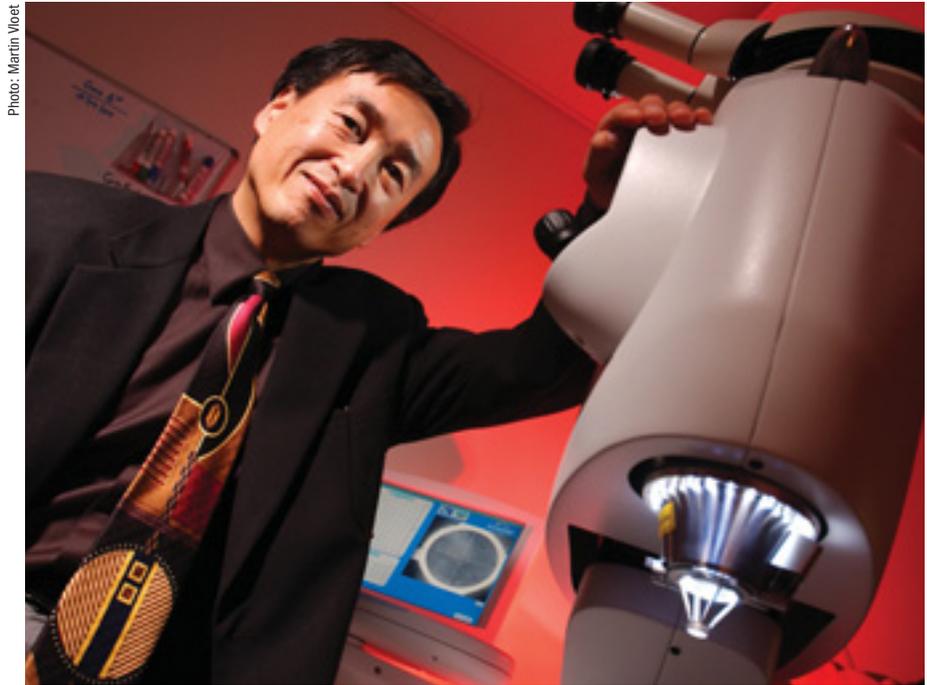
Left: Donn and John Barks discuss baby Parker's condition over her bed in the NICU while awaiting the arrival via Survival Flight of another CoolCap-candidate baby from Grand Rapids.

U-M's Ultrafast Laser May Advance Cornea Transplantation

Kellogg Eye Center researchers are investigating the femtosecond laser – the U-M College of Engineering-developed technology behind the increasingly popular LASIK refractive surgery, also pioneered at U-M – for a type of cornea transplant that surgeons consider extremely difficult.

With support from the National Institutes of Health, H. Kaz Soong, M.D., a professor of ophthalmology and visual sciences, is working with U-M physicist Tibor Juhasz, Ph.D., associate professor of biomedical engineering in the College of Engineering, and Shahzad I. Mian, M.D., a lecturer in ophthalmology and visual sciences, to study use of the femtosecond laser in replacing the back part of the cornea in a procedure known as posterior lamellar keratoplasty.

Cornea transplants restore vision for some 40,000 individuals each year. In standard penetrating keratoplasty, surgeons remove the entire cornea and replace it with a similarly shaped cornea from a donor. In 1997, a Dutch



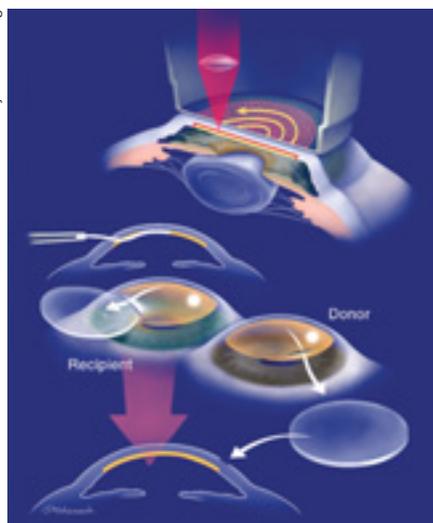
H. Kaz Soong

ophthalmologist devised a surgical method of removing only the back portion of the cornea. Despite several advantages, the procedure was very complex and few cornea surgeons opted to perform it. Soong believes the femtosecond laser will eventually offer a simpler and safer means of removing the back part of the cornea.

The laser creates an incision using rapid pulses that focus on a spot of only 3 microns; speed is measured in femtoseconds, equal to one-quadrillionth of a second. The surgeon uses the laser to make side cuts of a precise depth – about 300 microns (the cornea itself is 500-600 microns thick) – and then to split the cornea's thickness. The posterior portion of the cornea is then removed through the side slit and replaced with the corresponding donor tissue.

The laser process leaves the top layer of the cornea intact. Sutures are unnecessary because the top layer holds the new posterior layer in place. A skilled surgeon, Soong says, "It's like magic." The resulting strength of the cornea, as well as quicker improvement in patients' vision – within a month after surgery, compared to 6-12 months for full-thickness cornea transplants – are promising benefits of the laser procedure. Clinical testing of the femtosecond laser for partial cornea transplant surgery may begin early in 2005.

—BN



After the laser cuts the cornea, the back portion is removed through the side slit and the donor tissue implanted.

Courtesy: H. Kaz Soong

Milestones for Otolaryngology

In October, the U-M Medical School's Department of Otolaryngology celebrated two significant milestones: its 100th anniversary and its 1,000th cochlear implant.

From original quarters in a small operating room under the stairs leading to the surgery theater, Roy Bishop Canfield (M.D. 1899), the first chair of Otolaryngology, began the department in 1904 and remained as professor and chair until 1932, when his life was cut tragically short by a car crash as he returned to Ann Arbor from a medical consultation in Detroit. Canfield oversaw the department's successful growth at Michigan while also pioneering the use of local anesthesia, advancing otolaryngol-

ogy surgical techniques, and establishing a residency program dedicated to disorders of the head and neck.

One hundred years later, on October 1, Steven A. Telian, M.D., medical director of the Cochlear Implant Program, performed the 1,000th cochlear implant. Cochlear implants are electronic devices which bypass damaged hair cells in the inner ear and stimulate the hearing nerve directly. The procedure can provide useful hearing and improved communication abilities to patients who receive little or no benefit from hearing aids. Implants are approved for use in adults and children as young as 12 months.

The U-M Cochlear Implant Program has provided cochlear implants to deaf children and adults for 20 years. The program was established in 1984 with the implantation of a single channel device in an adult. The first multichannel device was implanted in 1986. Currently, U-M performs about 100 cochlear implant surgeries per year, making it the largest program of its kind in the nation.

The Department of Otolaryngology is currently chaired by Gregory T. Wolf, M.D., who joined the medical school from the National Cancer Institute in 1980 and became chair in 1993.

-KH, JP

Chicken Pox Vaccine Exceeds Expectations for Effectiveness and Cost-Savings, U-M Researchers Say

Since it was introduced in 1995, the chicken pox vaccine has saved America hundreds of millions of dollars by preventing severe cases of the disease that used to send children, teens and adults to the hospital. In fact, a study by U-M Medical School researchers has found it to be even more effective than originally predicted at preventing hospitalization and reducing its associated costs.

Fewer infections in children mean less exposure for teens and adults who haven't had the disease or the vaccine, and who are most likely to need hospitalization for symptoms and complications if they get *varicella*, or chicken pox. "Our results show an annual savings of \$100 million since the *varicella* vaccine was introduced, just in the cost of hospital care for people with severe cases," says Matthew M. Davis, M.D., an assistant professor of pediatrics and general internal medicine in the medical school and an assistant professor in the Gerald R. Ford School of Public Policy. Results of the study were published in *Pediatrics*.

The annual hospital cost savings alone are enough to pay a large portion of the total cost of vaccinating all American children against chicken pox, Davis says.

-KG

Photo: Martin Voet



Matthew Davis

For an expanded version of the story: www.med.umich.edu/opm/newspage/2004/chickenpox.htm

For patient information on chicken pox: www.med.umich.edu/1libr/pa/pa_chickenp_hhg.htm

Stem Cell Exploration Thriving at U-M

SCHOOL'S ENDOWMENT FOR THE BASIC SCIENCES PROVIDES KEY STIMULUS

What a difference a year makes. It was just over 12 months ago when Sue O'Shea, Ph.D., learned that she would receive \$2.3 million from the National Institutes of Health to establish an "Exploratory Center for Human Embryonic Stem Cell Research" — one of only three such centers in the country.

Today, the U-M Medical School's embryonic stem cell laboratory is a frequent destination for U-M scientists, post-docs and graduate students who are studying one of three human embryonic stem cell lines available in the center. Two technicians and a lab manager handle the care and feeding of the notoriously finicky stem cell colonies, and also train researchers to work with the cells. Seven U-M scientists have received funding from the center to support pilot research studies with human embryonic stem cells. A new graduate course in stem cell biology is standing room only, and plans are underway to host an international symposium on stem cell science.

"We've had more requests for training by researchers and technicians than we can possibly respond to," says O'Shea, a professor of cell and developmental biology. "The interest has been very gratifying, but literally overwhelming. It's a good problem to have."

Embryonic stem cells are primitive cells removed from a five-day-old embryo called a blastocyst. When grown in a culture dish under the right conditions, these cells retain the ability to self-renew, or make copies of themselves, indefinitely. Using growth factors, scientists are learning to make embryonic stem cells differentiate, or change, into any type of cell in the human body.

Funded by the National Institute of General Medical Sciences, the new research center was created to provide U-M scientists with a local source of human embryonic stem cells and access to the specialized equipment and training required to work with them.

"Nobody's lab is set up for research with human embryonic stem cells, because they



Sue O'Shea

require a degree of care that most people don't take when working with cell lines," O'Shea says. "So for now, U-M investigators work with our technicians inside the core laboratory facility. Eventually, we hope to train people to do the work in their own labs."

The Endowment for the Basic Sciences is managed by chairs and directors from the medical school's nine basic science departments and institutes, who decide together how to distribute proceeds from the endowment.



Doug Engel

The original colonies of human embryonic stem cells in the U-M research center came from WiCell Research Institute in Madison, Wisconsin; BresaGen of Athens, Georgia; and the University of California, San Francisco. They are all federally approved sources of stem cell lines for use in NIH-funded research.

O'Shea spent the last year working with center technicians to develop quality control procedures to ensure that cell lines in the research center are free of chromosomal abnormalities and contaminants. Stem cell colonies are tested frequently to make sure they remain in the same pure undifferentiated state in which they were received. "Quality control is important, because the cells need to be identical. We don't want to create a Michigan sub-clone of the Wisconsin cell line," O'Shea says.

Doug Engel, Ph.D., the G. Carl Huber Professor of Developmental Biology and chair of the medical school's Department of Cell and Developmental Biology, directs one of the current U-M studies using human ES cells from the new center. Engel is studying how hemato-

New Role for a Common Virus?

BK CONNECTION WITH PROSTATE CANCER SUGGESTED BY U-M RESEARCH

poietic, or blood-forming, cells grow early in an embryo's development.

"The reason scientists want to pursue research with human embryonic stem cells, as well as with more specialized adult, or tissue, stem cells, is that we don't know the true potential for either," he says. "We need to continue both avenues of research until we find out that one is superior to the other. My guess is both types of stem cells will end up being important for different uses."

O'Shea credits financial support from the Endowment for the Basic Sciences — a program created by Dean Allen S. Lichter, M.D. — with helping her get the new embryonic stem cell center up and running so quickly. In fact, without an initial pilot grant of \$500,000 from the endowment, she doubts that her proposal for an NIH-funded center would have been approved at all.

"It was hugely important, because it allowed us to start up the core," O'Shea says. "One of the factors NIH looks for is institutional commitment. The fact that we already had a lab in place and stem cells in hand made it possible for us to compete successfully with other universities that have made substantial investments in human ES cell biology."

The endowment was established in 2002 with funding from the Dean's Office. It is managed by chairs and directors from the medical school's nine basic science departments and institutes, who decide together how to distribute proceeds from the endowment. They can be used for recruitment, retention, equipment purchases or to support new research initiatives, like O'Shea's human embryonic stem cell laboratory.

"Creating the endowment was really a stroke of genius on the dean's part, because it has forced us to think institutionally and invest in areas that will benefit research in multiple departments," says Engel. "To my knowledge, no other medical school has a program like this that puts the decision of where science should be going in the hands of department chairs."

—SFP

Chances are excellent that your urinary tract is home to a pathogenic organism called the human BK virus. Most of the time, the virus resides quietly in the kidneys without causing problems. But in people with a depressed immune system — especially those who have just received a kidney transplant — the virus can cause serious kidney and bladder disease.

Now, new research by U-M Medical School scientists suggests the intriguing possibility that this common virus may also play a role in prostate cancer — the second-leading cause of deaths from cancer in American men. Results of the research were published in *Oncogene*.

A team of scientists directed by Michael J. Imperiale, Ph.D., a professor of microbiology and immunology, have found DNA and proteins from the BK virus in prostate tissue with abnormal cell changes. Called atrophic lesions, these changes can be the first step in a series of progressive cell changes leading to prostate cancer.

"We are not saying that BK virus causes prostate cancer, but our results do suggest that the virus plays a role in the transition from normal to uncontrolled growth of prostate cells," says Imperiale.

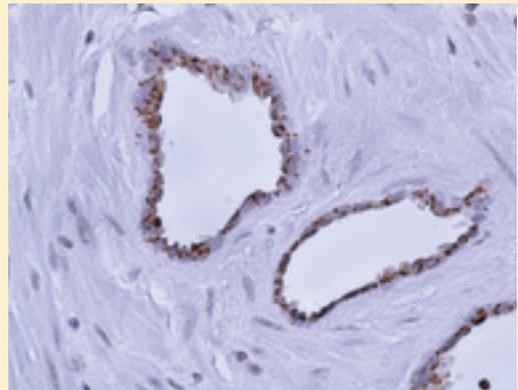
BK is a human virus in the polyomavirus family. Scientists have found BK virus in several types of human cancer, and it has been shown to cause kidney tumors in laboratory mice.

Read an expanded version of the story:

www.med.umich.edu/opm/newspage/2004/prostatevirus.htm



Michael Imperiale



Many scientists think abnormal prostate cell changes like those shown here could be the first step in the transition to prostate cancer.

—SFP

Blood Test May Predict Success of Breast Cancer Treatment

REDUCTION OF WAIT-TIME AND PROCEDURES COULD PROVE SIGNIFICANT

Women with advanced breast cancer who have more tumor cells circulating in their bloodstream die sooner than women with fewer of these cells and their cancer progresses more rapidly, according to a new study by researchers from the U-M Comprehensive Cancer Center and 19 other cancer centers throughout the country.

The study found that about half of 177 women whose breast cancer had metastasized, or spread, and who were starting a new treatment, such as chemotherapy or hormone therapy, had elevated levels of circulating tumor cells in their blood system. Investigators defined an elevated level as five or more tumor cells in a blood sample.

Thirty percent of these women still had higher numbers of circulating tumor cells three to five weeks after beginning a new treatment and their cancer progressed very rapidly compared to women whose tumor cell levels dropped during that time, or who never had elevated cell

levels. The study used a new technology called CellSearch™ that isolates and characterizes tumor cells. Results of the study were published in the *New England Journal of Medicine*.

“Identifying the number of circulating tumor cells in patients with metastatic breast cancer, especially at the time of their first follow-up after starting a new therapy, may provide an early, reliable indication of whether that therapy will be successful,” says senior study author Daniel Hayes, M.D., clinical director of the Cancer Center’s Breast Oncology Program and a professor of internal medicine in the U-M Medical School.

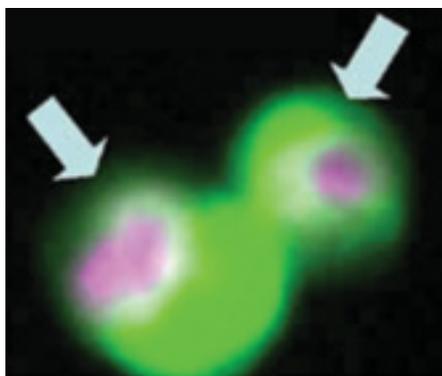
Currently, to determine if a therapy for metastatic breast cancer is effective, women must wait up to four months after beginning the treatment and then undergo a series of tests, including bone scans and X-rays. If the technique used in this study proves effective, doctors could determine within several weeks if the therapy is working, with only a routine blood sample from the patient.

Immunicon Corporation funded the study and developed the CellSearch™ system. Hayes has received grants from and served as a consultant for Immunicon.

Photo: Martin Vloet



Daniel Hayes



Arrows indicate two cancer cells isolated from the blood of a patient with metastatic breast cancer using the CellSearch technology.

Read an expanded version of this story:
www.med.umich.edu/opm/newspage/2004/tumorcell.htm

For patient information on breast cancer:
www.cancer.med.umich.edu/learn/breastinfo.htm

—NF

Field producer Matthew Testa (with camera) of the Discovery Health channel, films staff in the Pediatric Neurology unit. From left are Sucheta Joshi, M.D., clinical associate professor; Rocio Lopez-Diego, M.D., resident physician, and Dean Moore II, third-year medical student. (August 11, 2004, The Ann Arbor News. All rights reserved. Reprinted with permission.)



Those First Days

NEW YORK TIMES TV COMES TO UNIVERSITY HOSPITAL

The University of Michigan Health System and New York Times Television are cooperating on a 10-part documentary about medical professionals experiencing their first days in a new role. The group includes interns, residents, fellows, attending physicians and student nurses.

Last summer, as many as eight videojournalists were filming at University Hospital to capture a day in the life of medical professionals, including moments of learning, teaching, and caring for patients and their families.

The series is tentatively titled *1st Days* and will air in January 2005 on the Discovery Health channel. NYT-TV pro-

duced *Resident Life* at Vanderbilt University Medical Center, which aired on TLC in 2003 and can still be seen in reruns. *1st Days* will have some similarities to *Resident Life* but with an increased emphasis on the learning/teaching process.

U-M is the only location where the first season of *1st Days* was filmed. A variety of professional staff were identified and shadowed; all volunteered to participate in the project. About 100 hours of filming are required to produce a one-hour television program.

—MBR

White Coats for a Class of New Recruits

Orientation week for the 170 students in the Class of 2008 culminated in the annual White Coat ceremony on Sunday, August 8, during which each student for the first time donned the white lab coat that is emblematic of their medical education over the next four years.

Chosen from nearly 5,000 applicants, this year's entering class represents 31 states, with 47 percent of students coming from the state of Michigan. Forty-four percent of the class is female, and the average age is 23. Biology, biomedical science, chemistry, the humanities and engineering were the predominant fields of undergraduate study of incoming students this year. Eight students are enrolled in the Medical Scientist Training Program, pursuing Ph.D.s along with their medical degrees.

—RK

