

Innovative Diabetes Surgery Program Debuts

Dr. Francesco Rubino heads progressive new WCMC program



Dr. Francesco Rubino

Tackling an epidemic killer in a whole new way, surgeries aimed at treating Type 2 diabetes have the potential to help millions.

And late in 2007, NewYork-Presbyterian Hospital/Weill Cornell Medical Center became one of the first centers worldwide to dedicate an academic medical program to the emerging science of diabetes surgery.

“These types of gastrointestinal surgeries are performed to directly treat diabetes—not just as a by-product of weight-loss surgery,” explained Dr. Francesco Rubino, the newly arrived director of the new section of General Surgery, called Gastrointestinal Metabolic Surgery.

Dr. Rubino has also been appointed associate professor of surgery at Weill Cornell Medical College and director of gastrointestinal metabolic surgery at

NewYork-Presbyterian/Weill Cornell.

As pioneered by Dr. Rubino, diabetes surgery does not shrink the stomach, as typical weight-loss procedures do. Instead, the procedure he developed reroutes the small intestine, leaving the stomach intact.

In a study published in the *Annals of Surgery*, the operation was found to dramatically reduce diabetes in animals, and this effect was unrelated to weight loss. Several centers around the world are now using the breakthrough technique, with impressive results.

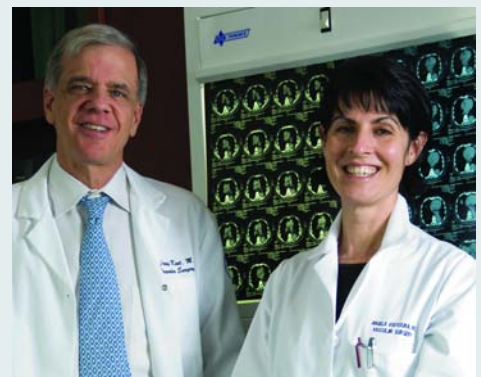
“I am thrilled to welcome Dr. Rubino, a world leader in research in this field, to NewYork-Presbyterian/Weill Cornell, to help us inaugurate our Gastrointestinal Metabolic Surgery program,” said Dr. Fabrizio Michelassi, chairman of the Department of Surgery at Weill >>> **page 4**

It's Not Just a Man's Disease

WCMC turns the spotlight on arterial vascular disease in women

ARTERIAL VASCULAR DISEASE—AN ILLNESS THAT KILLS MILLIONS OF AMERICAN women each year—isn't getting the attention it deserves, say two leading cardiovascular medicine experts at Weill Cornell. And the price for that neglect is being paid in women's lives, they wrote in a recent issue of the *Journal of Vascular Medicine*.

“Arterial vascular disease is an umbrella term for illnesses that involve the different serious problems such as clogging or aneurysm (ballooning) and the closure of arteries throughout the body. Because estrogen helps protect younger women against these problems, it came to be thought of as a ‘man's disease’ among >>> **page 5**



Dr. K. Craig Kent and Dr. Angeliki G. Vouyouka

A Fresh Look at Borderline Personality Disorder

Cutting-edge brain imaging points to causes of the debilitating condition

When dealing with tough emotions, brain centers that are key to impulse control, anger and fear work differently in people with borderline personality disorder compared with healthy individuals.

So concludes a first-of-its-kind brain-imaging study by a team at Weill Cornell who have developed a special technology to accurately track activity in these neurological centers.

By doing so, they've shed exciting new light on the underlying causes of a common and devastating psychiatric illness.

"Up to 2 percent of Americans suffer from borderline personality disorder, which is characterized by impulsivity, emotional instability, anger and interpersonal difficulties," explained lead researcher Dr. David Silbersweig, the Stephen P. Tobin and Dr. Arnold M. Cooper Professor in Consultation Liaison Psychiatry and professor of neurology and psychiatry.

A core difficulty for patients with the disorder is their tendency to "act out" destructively in the context of negative emotions, such as anger, he explained.

"Prior research by us and others had suggested that an area at the base of the brain, in the ventromedial prefrontal cortex, is central to people's ability to restrain behaviors in the presence of emotion," Dr. Silbersweig said.

However, activity in this brain region is difficult to measure via functional magnetic resonance imaging (fMRI).

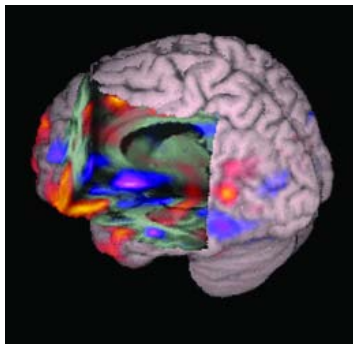
"We had to get around that problem," Dr. Silbersweig said. To do so, an interdisciplinary team at Weill Cornell developed a special fMRI probe to give them a clearer picture.

That technology paved the way for the study,

which involved 16 patients with borderline personality disorder and 14 healthy controls. In their experiments, the researchers had participants take part in a special word test designed to probe behavioral inhibition in a context of either negative or neutral emotional states.

"We wanted to focus on that relationship—how people control their actions when they are impacted by negative emotions," Dr. Silbersweig said.

"We confirmed that discrete parts of the ventromedial prefrontal cortex—the subgenual anterior cingulate cortex and the medial orbitofrontal



Ventromedial prefrontal brain regions showing decreased activity (purple/blue) and limbic regions showing increased activity (orange/yellow) in patients with borderline personality disorder.

cortex areas—were less active in patients versus controls," Dr. Silbersweig said. "If these areas are underperforming, that could contribute to the disinhibition one so often sees with borderline personality disorder."

At the same time, the experiments showed that people with the disorder had relatively heightened activity in the brain's amygdala—a locus for emotions such as anger and fear—and other limbic areas linked to emotional processing.

"Such insights can help provide a foundation for better, more targeted therapies down the line," he said. Ideally, those therapies might target key brain dysfunctions, allowing patients more control over their behaviors.

The findings might also help change how people view psychiatric illness.

"The more that this type of work gets done, the more people will understand that mental illness is not the patient's fault—that there are circuits in the brain that control these functions and that these disorders are tied to fundamental disruptions in these circuits," Dr. Silbersweig said. "And that could help remove the stigma surrounding psychiatric illness." ■

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Getting in “Touch” With A Worldwide Health Crisis

Weill Cornell partners with Touch Foundation and Sanford I. Weill to train doctors in Tanzania

It can be difficult to put into perspective the health care crisis gripping Tanzania. There is no end to the statistics and demographics detailing the disease and poverty that ravage the country. The infant and under-5 mortality rates are rising, having increased more than 25 percent since the 1990s. And in the past quarter-century, life expectancy has actually dropped by eight years.

But perhaps even more telling is this statistic: In New York City, there is one doctor for every 198 people. In Tanzania, there is one doctor for every 29,143 people.

This deficit of qualified medical personnel remains the biggest obstacle Tanzania faces in its efforts to establish a stable, functioning health care system to tend to its ailing population.

That is the case today. But it may not be tomorrow.

Touch Foundation Inc., a public charity dedicated to training doctors, nurses and support staff who are committed to serving their local communities, is working to install a self-sustaining health care infrastructure in Tanzania. The medical arm of that effort is being provided by NewYork-Presbyterian Hospital and Weill Cornell Medical College.

“This is not just another exchange of some doctors and nurses training ‘x’ number of doctors,” said Touch executive



Above: In honor of the commitment and support of Joan and Sanford Weill, the Bugando Medical Complex, including both the Bugando Medical University and the Bugando Medical Centre, was officially renamed “Weill Bugando” on February 17, 2007, with a celebration of songs, dance, speeches and the unveiling of a new entrance sign.

Below: In addition to their faculty, Weill Cornell medical students work side-by-side with Tanzanian students to offer advice and share techniques.

director Jim Brasher. “This is a deep effort for system-wide change.”

Right now, there are fewer than 1,000 doctors in Tanzania, and many Tanzanians—both because of certain cultural biases and because the actual journey to a hospital is often too far—will never see a doctor in their lifetime. Knowing that a serious disease constitutes a significant burden that their families simply cannot carry, a terminally ill Tanzanian is likely to leave

>>> page 6



>>> from page 1

Innovative Diabetes Surgery Program Debuts

Cornell and surgeon-in-chief at NewYork-Presbyterian/Weill Cornell. “The innovative work he has done holds enormous promise for helping millions in

America and worldwide living with obesity and diabetes.”

Dr. Rubino has been at the forefront in recent years in solidifying diabetes surgery’s

place in academic medicine.

In March 2007, he was a principal organizer of an influential Diabetes Surgery Summit in Rome, where he was assistant

professor of surgery at the Catholic University before joining Weill Cornell.

The award-winning surgeon was also director of the Metabolic Surgery Research Program at the IRCAD—European Institute of Telesurgery in Strasbourg, France.

“I am honored to have joined a faculty of extraordinary physicians and surgeons at the Medical Center,” Dr. Rubino said. “The idea of providing a new, specialized program in metabolic surgery is part of a broader effort at the Hospital to offer effective new treatment options for people battling obesity and diabetes. I believe that metabolic surgery will help shape the future of diabetes care over the next few years, and it is possibly the best promise we have ever had to cure the disease.” ■



Dr. Francesco Rubino

The Realities of Public Health

NO ONE IS SAFE FROM POLITICS, NOT even scientists.

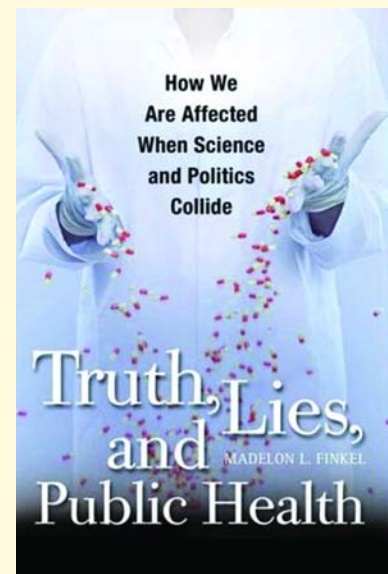
In her new book, “Truth, Lies, and Public Health: How We Are Affected When Science and Politics Collide,” Dr. Madelon Finkel, a professor of clinical public health at Weill Cornell Medical College, illustrates how hard data and scientific findings are often manipulated and even diminished by influences outside the research community.

Dr. Finkel explores how the politicalization of research findings prevents the data from having a strong, direct impact on policymaking. Very often, these political influences can distract the public from the irrefutable results of a scientific investigation. This effect is best observed within such divisive issues

as contraception and stem cell research.

“All too often, we have heard of examples of research studies being used to provide evidence for one point of view or other,” Dr. Finkel writes. “And, as history has shown, there are many instances in which research findings are so clear and so compelling, yet policy decision-making was based on a majority party’s political position regardless of the evidence.”

Dr. Finkel serves as director of the Office of Global Health Education as well as director of Cornell Analytics Consulting Services. She studies health care policy and women’s health issues, and has written 10 books, including “Understanding the Mammography Controversy: Science, Politics, and Breast Cancer Screening.” ■



>>> from page 1

It's Not Just a Man's Disease

doctors when life spans were shorter," explained co-author Dr. Angeliki G. Vouyouka, assistant professor of surgery in the Division of Vascular Surgery at Weill Cornell and a vascular surgeon at NewYork-Presbyterian Hospital/Weill Cornell Medical Center.

However, risks for arterial vascular disease rise steeply once women pass menopause, and with American women living much longer than they did in the past, the condition has posed a growing threat.

"The trouble is, physicians haven't caught up, so arterial vascular disease in women is still understudied, underdiagnosed and undertreated," said study co-author Dr. K. Craig Kent, the Greenberg-Starr Professor of Surgery at Weill Cornell and chief of vascular surgery at NewYork-Presbyterian Hospital.

Add to that the fact that many women in their 70s and 80s are living alone, with sometimes serious deficits in medical care, and the threat of arterial vascular disease rises even more.

For example, in one form of the condition—a blockage of the neck's carotid artery called carotid steno-



Dr. Angeliki G. Vouyouka

sis—it may take less plaque buildup to trigger stroke in women compared with men, the authors say.

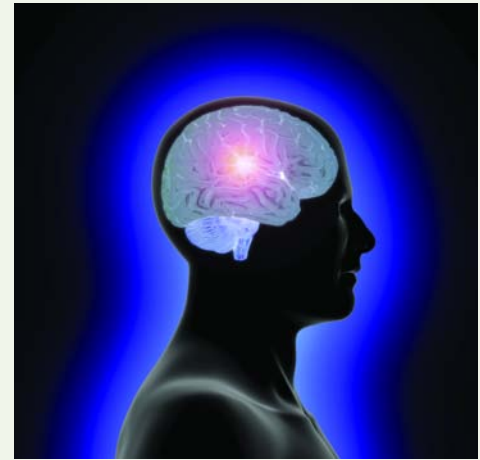
A second form of the condition, aortic aneurysmal disease, involves ballooning and risk of a fatal rupture of the aorta, which carries the blood supply through the trunk.

"Right now, the U.S. Preventive Service Task Force actually recommends against screening for this condition in women," Dr. Vouyouka notes, because it is less common among females. But she and Dr. Kent point out that risk factors such as old age and smoking can boost women's aneurysm risk, "and if they do suffer an aortic rupture it is more likely to prove fatal," she said.

Then there's a third type of arterial vascular disease, called lower-extremity arterial occlusive disease, involving restricted blood flow to the legs. "Risks for this condition rise quickly among older women, and by age 70 men and women are equally likely to have the potentially crippling condition," Dr. Kent said. Women are also more likely than men to require amputation due to the condition.

"Findings like these remain tenuous, however, because we don't have enough data on arterial vascular disease in women," Dr. Vouyouka said. "We need more rigorous research to establish risk factors, disease prevalence and treatment outcomes for women." Some of that research is already under way thanks to recent initiatives from the U.S. National Institutes of Health, but more must be done to erase old notions of arterial vascular disease as a man's problem alone.

"Older American women, many of whom have spent their lives caring for others, deserve no less," Dr. Vouyouka said. ■



These Are Your Brain's Genes on Alcohol

RESEARCH IN CELL CULTURE AND MICE IS

illuminating how alcohol works on specific chemical pathways to trigger the activity of genes in brain cells, scientists say. Reporting in November in *The Journal of Neuroscience*, a team led by Weill Cornell professor of pharmacology Dr. Neil Harrison found that alcohol stimulates a biochemical cascade called the heat shock pathway, which helps cells deal with stressors. Stimulation of the pathway appears to trigger the expression of genes within the neuronal nucleus. "This chain of events may explain some of alcohol's healthy—and unhealthy—effects, but much more study is needed," Dr. Harrison said. ■

Recycling Vesicles Via the Synapse

TINY VESICLES CRAMMED WITH NEURO-

chemical information are shuttled between brain cells via the synapse and then recycled—but how? Using cutting-edge technology and innovative molecular "tagging" techniques, researchers led by Weill Cornell biochemist Dr. Timothy Ryan may have confirmed one theory, at least. "We are the first to observe in real time just how these vesicles are used up and then chemically rebuilt piece by piece," he explained. The finding, which has big implications for brain research, appeared in a recent issue of *Proceedings of the National Academy of Sciences*. ■

>>> from page 3

Getting in “Touch” With Tanzania

his or her village voluntarily and die in isolation, rather than seek out treatment.

“They see themselves as another mouth that is not able to feed itself,” said Tracy Maltz, a New York-Presbyterian/Weill Cornell physical therapist who spent a month in Tanzania this summer and toured some of the country’s medical facilities.

Through the Touch Foundation, Weill Cornell is striving to bring the best medical care possible to every Tanzanian in need. And the key lies in Weill Bugando, a complex that includes Bugando University College of Health Sciences—which will graduate its first class of doctors next year—and Bugando Medical Centre, a 900-bed tertiary care center and teaching hospital.

In recognition of the support and commitment made by Joan and Sanford Weill, the medical facility—once known as Bugando Medical Complex—was renamed Weill Bugando in 2007.

“Seeing the facilities in Tanzania was eye-opening,” Mr. Weill said when he and his wife, Joan, visited the hospital and medical school. “But the real important experience was meeting our residents and faculty there—and seeing how they’re helping to teach the Tanzanian students

who are working to improve the delivery of medicine to their own people.”

Weill Cornell’s presence in Tanzania actually dates back to 2001, when Father Peter Le Jacq, M.D., a Weill Cornell graduate who had been assigned to Bugando Medical Centre as both a doctor and priest, was asked by the Roman Catholic Church to help develop financial, educational and professional relationships in the U.S. for the benefit of Tanzania. About two years later, in large part because of the significant financial contributions of the Weills, Bugando Medical School opened.

“When I recently visited the hospital in Tanzania, every third patient had tuberculosis, AIDS or malaria,” said Dr. Antonio M. Gotto Jr., dean of Weill Cornell Medical College. “Our residents and fellows who go there describe it as a life-transforming experience.”

Both Touch and Weill Cornell have dedicated their resources toward improving the clinical and practical aspects of the medical center. To that end, a program was established where residents from Weill Cornell can spend several weeks in Tanzania, working side-by-side with the medical students there.



COURTESY OF THE TOUCH FOUNDATION

Updating the medical technology at Weill Bugando is a top priority for the Touch Foundation.

Touch sees to it that while students are working with the best, the practical needs of a medical student are being looked after. New dorms have been built. Supplies like stethoscopes are kept stocked. Cafeterias have enough food to feed the students and faculty.

“We tackle procurement issues,” Brasher said. “How can they do the coursework if they have nowhere to eat, nowhere to sleep?”

“The need is obviously tremendous,” said Dr. Andreas Mauer, a third-year resident at Weill Cornell who spent June and July in Mwanza, Tanzania. “[The doctors at Bugando Medical Centre] have very few resources and are understaffed. They have one CT scanner that is broken half the time. We would read X-rays by holding them up to the window. It took two or three days to get lab results back and even then you couldn’t always trust them.”

Malaria, hepatitis and AIDS are ravaging the adult population, while the infant mortality rate is more than 12 times that of the United States. There are between 1.2 and 2.3 million people living with AIDS and more than 160,000 die each year from the disease.

With Weill Cornell providing the finest in medical training, and Touch—through the help of the consulting firm McKinsey & Company—analyzing and addressing the practical needs of the medical school and hospital, a re-vamped Tanzanian health care structure is beginning to take root.

And each year, as more physicians graduate from Weill Bugando and more medical professionals integrate themselves into the local villages, Tanzania can begin to proudly stand on its own. ■

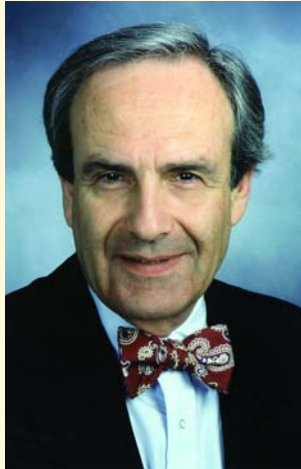
Local women in the Mwanza community who are served by the Weill Bugando Center in Tanzania.



COURTESY OF THE TOUCH FOUNDATION

Dr. Lewis Drusin Receives the James D. Bruce Memorial Award

WEILL CORNELL ART & PHOTOGRAPHY



DR. LEWIS DRUSIN, professor of clinical public health and clinical medicine, has been named to receive the prestigious James D. Bruce Memorial Award, presented by the American College of Physicians (ACP), in recognition of his distinguished contributions in preventive medicine. The award will be given during the annual meeting of the ACP in May in Washington, D.C.

Dr. Drusin has made outstanding contributions to the prevention and study of nosocomial (hospital-acquired) infections and sexually transmitted diseases, publishing more than 50 papers and book chapters. At Weill Cornell, he directs a program placing Public Health and Community Medicine clerkship students in field locations, and helped establish an endowment that offers international rotations to medical students.

Past recipients of the Bruce Memorial Award include Nobel Prize winner Dr. Jonas Salk (polio vaccine); Dr. D.A. Henderson (smallpox eradication); and renowned TB researcher Dr. Walsh McDermott, a professor in public health and medicine at Cornell University Medical College (now Weill Cornell Medical College), who served as a mentor to Dr. Drusin.

Dr. Drusin received his medical degree from Cornell University Medical College. He has been a faculty member of the Medical College and NewYork-Presbyterian Hospital/Weill Cornell Medical Center since 1968. ■

Dr. Bruce McCandliss Receives Prestigious PECASE Award

DR. BRUCE MCCANDLISS, associate professor of psychology in psychiatry, was presented with a Presidential Early Career Award for Scientists and Engineers (PECASE), the highest honor bestowed by the U.S. government upon outstanding scientists and engineers in the early part of their independent research careers, at a ceremony at the White House in November. The important award recognizes Dr. McCandliss' research into the biological basis for language development and dysfunction in developmental disorders such as dyslexia. Dr. McCandliss, along with educational researcher Isabel Beck, started Reading Works, a program that uses computer technology to teach reading skills based on insights from cognitive neuroscience research. The program aids New York City public school students who struggle with basic reading skills. ■



Dr. John H. Marburger III (left), director of the White House Office of Science and Technology Policy, Dr. Bruce McCandliss (center) and Dr. Walter Schaffer, acting director of the Office of Extramural Programs, National Institutes of Health, at the White House award ceremony, Nov. 1.

PROVIDED BY DR. BRUCE MCCANDLISS

Dr. Nicholas Schiff Honored with Astellas USA Foundation Research Award

DR. NICHOLAS SCHIFF, associate professor of neurology and neuroscience and public health, was honored with the Research Award for Innovation in Neuroscience, given by Astellas USA Foundation. Recipients are recognized for "imaginative, innovative research that will advance novel ideas and have the potential to lead to significant breakthroughs in the understanding of the brain and nervous system and related diseases." Dr. Schiff, who also serves as director of the Laboratory of Clinical Neurophysiology, made headlines over the past summer for research that found that a patient with severe traumatic brain injury in a minimally conscious state showed functional improvement after deep brain stimulation. The award was presented during the annual meeting of the Society for Neuroscience in San Diego on Nov. 3. ■

COURTESY OF SOCIETY FOR NEUROSCIENCE



Dr. Floyd Bloom (left), of the Scripps Research Institute, and Dr. Nicholas Schiff.

Making a Splash at the AAMC

Weill Cornell contingent spreads the news about WCMC's global efforts

TALK ABOUT IMPACT.

At the annual meeting of the Association of American Medical Colleges (AAMC) held November 2-7 in Washington, D.C., Weill Cornell Medical College sported a 50'-long, 12'-high display booth that caught the eye of some 4,000 meeting attendees, many of whom stopped by the booth to speak with WCMC representatives about the Medical College and our international programs.

The AAMC's annual meeting is a time for medical college administrators from around the country (and, in our case, around the world) to get together and share ideas for furthering the mission of excellence in medical education. Weill Cornell, working together with Columbia University's College of Physicians and Surgeons and

NewYork-Presbyterian Hospital, developed a panoramic booth that spoke to the strength of the unique relationship of two Ivy League medical schools and the #6 hospital in the country.

In addition to the New York crew from Weill Cornell, several administrators from the Qatar campus were also present to answer questions about their program, including WCMC-Q Dean Dr. Daniel Alonso and Associate Dean for Admissions and Student Affairs Dr. Maya Hammoud. The Qatar representatives spoke proudly about the upcoming May commencement for their first graduating class.

A senior executive from another prestigious medical school summed things up by saying, "You folks from Weill Cornell really know how to make an impression." ■



MICHAEL SELLERS



MICHAEL SELLERS

Left: Attendees of the AAMC's annual meeting in Washington, D.C., stop by the Weill Cornell display booth to learn more about the Medical College's international initiatives.

Right: Eric Fry, director of the Office of Student Affairs in Qatar, speaks with a visitor in front of the WCMC-Q section of the display booth.

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