## NewYork-Presbyterian

Spring 2009

## THE SKILL OF A SURGEON

Dr. Tomoaki Kato, World-Renowned Multi-Organ Transplant Specialist, Pioneers Innovative Techniques and Procedures at New York-Presbyterian

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# THE SKILL OF A SURGEON

Dr. Tomoaki Kato, Surgical Director of Liver and Intestinal Transplantation at NewYork-Presbyterian/Columbia, performs groundbreaking transplantation procedures, including multi-organ surgeries, in adults and children.

### As is often the case in life, fate played a

hand in deciding the surgical specialty Tomoaki Kato, MD, would ultimately pursue. Finishing his surgical residency at Osaka University Hospital and Itami City Hospital in Japan, Dr. Kato planned to come to America to study either vascular surgery or transplantation specialties that were not commonly offered at the time in his native country. "I went to my vascular professor for a letter of recommendation and he told me he was busy and to come back in a month. The transplant professor said he would write it right away, and so that is how I decided," says Dr. Kato. The rest, as they say, is a remarkable history.

Dr. Kato is the recently appointed Surgical Director of Liver and Intestinal Transplantation at NewYork-Presbyterian Hospital/Columbia University Medical Center and Assistant Professor of Surgery at Columbia University College of Physicians and Surgeons. He completed a clinical fellowship in transplantation at the University of Miami/Jackson Memorial Hospital, in Miami, where he was subsequently appointed to the surgical faculty in 1997, and promoted to full professor in 2007. Dr. Kato served as a surgeon and senior leader of the Liver and Transplantation Center at Miami's Jackson Memorial Hospital, beginning in 1997, and at the University of Miami Hospital (previously Cedars Medical Center), beginning in 2004.



Today Dr. Kato is widely known for performing unique and innovative surgeries in adults and children, especially in the area of multi-visceral surgeries. He has performed nearly 100 of these cases since 2001. In March 2008, Dr. Kato removed and re-implanted six organs in a 63-year-old Miami woman – believed to be the first case of its kind in the world. In addition, he helped pioneer a procedure called APOLT (auxiliary partial orthotopic liver transplantation) that resuscitates a failing liver by attaching a partial donor liver, making lifelong immunosuppressant drugs unnecessary, and the first successful human partial bladder transplantation involving the transplant of two kidneys together with ureters connected to a patch of the donor bladder.

According to Dr. Kato, APOLT was developed in Europe in the late 1980s and early 1990s. "It came to the United States and a few cases were performed, but the results were very poor, so the procedure was abandoned," says Dr. Kato.

In 2004, Dr. Kato started to routinely offer APOLT in children with acute liver failure. "APOLT is a hybrid transplant procedure. We keep part of the old liver and put the transplant liver in as well," explains Dr. Kato. "The transplanted liver will support life and protect the child from brain injury, and months later when the original liver starts to regenerate, the new liver atrophies and almost disappears, no longer needed." Since then,



Dr. Tomoaki Kato and Dr. Jean Emond, Chief of Transplantation at NewYork-Presbyterian/Columbia, respond to questions from the media during a press conference held on the day of Heather McNamara's discharge. The chart at the right describes the ex vivo tumor resection with auto-transplantation that was performed by Dr. Kato and his team of seven surgeons and eight other clinicians during the 23-hour procedure.

A webcast on this historic surgery, including discussions by the clinical and surgical teams, can be viewed at http://www.or-live.com/nyp/2555/

Dr. Kato has performed seven more cases and notes that nearly every child is off immunosuppressant medications and supported by their own liver. Most recently, Dr. Kato led an extraordinary surgery at NewYork-Presbyterian Morgan Stanley Children's Hospital for removal of an "inoperable" abdominal tumor in a seven-year-old girl.

In joining NewYork-Presbyterian/Columbia, Dr. Kato embarks on what he calls the next stage of his medical career. "The first stage of a surgeon's career is training. The next is career development – learning how to do surgery and becoming comfortable with your skills, pursuing academic initiatives, making presentations. The next 10 years are spent utilizing your skills in the advanced stage as a senior leader of a program, and that is what drew me to accept the exciting offer to join Columbia," he says.

"I am thrilled to welcome Dr. Kato to our transplant team. His considerable talent and vision will help build on what is already one of the nation's top transplantation programs," says Jean Emond, MD, Chief of Transplantation at NewYork-Presbyterian Hospital/Columbia University Medical Center and Vice Chairman of the Department of Surgery and the Thomas S. Zimmer Professor of Surgery at Columbia University College of Physicians and Surgeons. "His appointment represents an important part of our strategic transplant initiative, which will involve recruiting the nation's top experts and expanding our research efforts – all with the aim of giving patients the best possible treatment options."

Dr. Kato served on the United Network for Organ Sharing (UNOS) Pediatric Committee in 2005 and 2006. He has authored or co-authored more than 180 scientific papers in peer-reviewed journals and is also actively involved in promoting organ transplantation in Japan. In addition, he is helping to establish transplant services in children in underserved countries, including Venezuela, where transplantation is not widely available.

## **HISTORIC SURGERY PERFORMED IN PEDIATRIC PATIENT**

On March 10, Heather McNamara, a 7-year-old girl from Long Island, NY, returned home a little more than four weeks after undergoing surgery that involved the removal and partial re-implantation of six organs in order to resect an otherwise inoperable abdominal tumor.

The 23-hour surgery, which began on February 6, was led by Dr. Tomoaki Kato at NewYork-Presbyterian Morgan Stanley Children's Hospital and is the first reported pediatric case of its kind.

Dr. Kato and his team of seven surgeons and eight other clinicians removed nearly every major organ in Heather's abdominal cavity – small and large intestines, liver, pancreas, spleen, and stomach. Three separate surgical teams worked to remove the tennis ball-sized tumor, which was tangled around vital organs and essential blood vessels. One team worked on the abdominal cavity, while two others prepared the small and large intestines and liver, which were kept healthy outside the body using cold preservation fluid of the kind used in transplantation.

Throughout the surgery, Heather's father, Joseph, a firefighter, was on standby as a transplant donor in case his daughter's liver was too damaged;



it was determined to be healthy and viable. The liver and small and large intestines were re-implanted. However, her pancreas, spleen and stomach non-vital organs that had been compromised by the tumor — were unsuitable for re-implantation.

While the tumor was rare, Dr. Kato notes that the surgical approach could be used for more common cancers. "Any time a tumor wraps itself around an organ's blood vessel, it has been generally considered inoperable because in order to remove the tumor, you must cut the blood supply. Our solution is to take out the organs just as you would in transplantation. This allows us to remove the tumor from the organs and the abdominal cavity. When this is done, we re-implant the organs, then repair and reconstruct the vessels using synthetic material such as Gore-Tex. Our surgery shows this is possible, and could potentially save the lives of dozens of adults and children every year," says Dr. Kato.

#### **Searching for Answers**

Heather was diagnosed with an unusual tumor in early 2008, and underwent surgery to remove the tumor from her stomach, followed by chemotherapy, to which she did not respond. The rare, inflammatory myofibroblastic tumor was growing rapidly throughout her abdominal cavity.

The McNamaras consulted doctors from Miami to Philadelphia and were told that the tumor was inoperable and to prepare for the worst. Heather's mother, Tina, said that the family went from doctor to doctor looking for answers. "We weren't giving up. We couldn't imagine turning around and saying we're out of options," says Mrs. McNamara.

"I would look at Heather and just say, 'There's somebody out there, we have to keep looking, we've got to keep searching, and we will find that person,'" recalls Mr. McNamara. "And we did with Dr. Kato."



Heather McNamara and her father Joseph (far right) visit with members of her health care team: (from left) Steven Lobritto, MD, Medical Director, Hepatology and Liver Transplant Program, Kara Ventura, NP, and Mercedes Martinez, MD.

## KEEPING CURRENT ON CLINICAL TRIALS

#### **PARTNER Clinical Trial**

#### **Co-Principal Investigators**

Martin B. Leon, MD Associate Director, Cardiovascular Interventional Therapy (CIVT) Program NewYork-Presbyterian/Columbia

**Craig R. Smith, MD** Interim Surgeon-in-Chief Chief of Cardiothoracic Surgery NewYork-Presbyterian/Columbia

*For more information, call* (212) 342-5555.

The PARTNER (Placement of AoRTic traNscathetER valves) trial is a Phase 3 multicenter study for patients with severe aortic stenosis who are poor candidates for openheart valve replacement surgery due to age or other concurrent health factors. The transcatheter valve procedure, which takes about 90 minutes to perform as compared with four to six hours for open-heart surgery, uses the Edwards SAPIEN transcatheter heart valve. Made of bovine pericardial tissue leaflets hand-sewn onto a metal frame, the valve is implanted via one of two catheter-based methods-either navigated to the heart from the femoral artery in the leg, or through a small incision between the ribs and into the left ventricle. The valve is then positioned inside the patient's existing valve, using a balloon to deploy the frame, which holds the artificial valve in place. Both procedures are performed on a beating heart, without the need for cardiopulmonary bypass.

The PARTNER trial will also be available through the Ronald O. Perelman Heart Institute at NewYork-Presbyterian/Weill Cornell, led by surgeon Karl H. Krieger, MD, and interventional cardiologist Shing-Chiu Wong, MD.

## **NEWS AND NOTES**

#### IN MEMORIAM: MARY WILBER JENSEN

Mary Margaret Wilber Jensen ("Maggie"), a graduate of Cornell University Medical College, and a resident at The New York Hospital, died on April 1, 2009 in Redding, Connecticut. A graduate of Wellesley College, she attended Cornell University Medical College from 1947 to 1951, followed by an internship, assistant residency and a year of research at The New York Hospital. In 1952, she married Grady Edmonds Jensen. Dr. Jensen served for many years as a volunteer at the Greenacres School library in Scarsdale, and as a member of the Altar Guild at The Church of St. Joseph of Arimathea, Elmsford. She was 84 years old at the time of her death. She and her husband were married for 57 years. In addition to her husband, she is survived by three children – Timothy Sage Jensen, Margaret Eliza Jensen and Caroline Grosvenor Jensen Klein, five grandchildren, and a brother, Robert Sage Wilber.

## 2008 "TIME 100" NAMES NEWYORK-PRESBYTERIAN PHYSICIANS

Two of NewYork-Presbyterian Hospital's physician-scientists – Mehmet C. Oz, MD, and Nicholas D. Schiff, MD – were named to *Time* magazine's 2008 annual list of the 100 most influential people in the world. They were among only 19 individuals worldwide to be included in the category of scientists and thinkers.

#### Dr. Mehmet C. Oz

Honored for his compassion toward patients and for his commitment to communicating the message of good health to a broad



audience, Dr. Mehmet Oz is the Director of the Cardiovascular Institute at NewYork-Presbyterian/ Columbia and a Professor of Surgery at Columbia University College of Physicians and Surgeons. Dr. Oz also serves as Vice Chairman of Cardiovascular Services in the Department of Surgery. He performs over 300 heart surgeries annually, including coronary bypass and aneurysm surgery, minimally invasive heart surgery, mitral and aortic valve surgery, and adult cardiac transplantation. Dr. Oz is the author of more than 400 publications, book chapters, and medical books, and serves as the health expert on The Oprah Winfrey Show and the chief medical consultant to Discovery Communications. He has also authored five New York Times bestsellers, including You: The Owner's Manual, You: The Smart Patient, You: On a Diet, You: Staying Young, and *Healing from the Heart.* In the Fall of

2009, Dr. Oz will host a syndicated series on health and well-being enabling him to share his medical expertise with millions nationwide.

#### Dr. Nicholas D. Schiff

A leading authority on neurological disorders of consciousness, Dr.

Nicholas Schiff was recognized for his research in deep brain stimulation for the treatment of near-coma patients, an approach that



could significantly impact the standard of care in chronically unresponsive individuals. Dr. Schiff is an Associate Attending Neurologist with NewYork-Presbyterian/Weill Cornell and Associate Professor of Neurology and Neuroscience at Weill Cornell Medical College. He is also the Director of the Laboratory of Cognitive Neuromodulation, where he conducts research that bridges basic neuroscience and clinical investigative studies of the pathophysiology of impaired consciousness, the neurophysiological mechanisms of arousal regulation, and the effects of deep brain electrical stimulation

techniques on forebrain integration. In 2007, Dr. Schiff received the prestigious Research Award for Innovation in Neuroscience from the Society for Neuroscience. He was the lead author of a breakthrough study published in the August 2, 2007 journal Nature, reporting that a 38-year-old man who spent more than five years in a minimally conscious state as a result of a severe head injury is now communicating regularly and recovering his ability to move after having his brain stimulated with pulses of electric current. The findings provide the first rigorous evidence that any procedure can initiate and sustain recovery in such a severely disabled person, years after the injury occurred.



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Office of Medical Affairs NewYork-Presbyterian Hospital 525 East 68th Street New York, NY 10065 www.nyp.org/alumni Nonprofit Org. U.S. Postage Paid Permit No. 7491 New York, NY

### SIGN UP FOR CME

Continuing Medical Education (CME) activities are provided through Columbia University College of Physicians and Surgeons: www.cumc.columbia.edu/dept/cme or (212) 305-3334 and Weill Cornell Medical College: www.med.cornell.edu/education/programs/con\_med\_edu or (212) 746-2631. Both institutions are accredited by the Accreditation Council for Continuing Medical Education (ACCME) to authorize and issue CME credit.

#### 19th Annual Course: A Comprehensive Review of Movement Disorders for the Clinical Practitioner

Sponsors: Columbia University College of Physicians and Surgeons, Baylor College of Medicine, and World Federation of Neurology
Dates: July 27 - 30, 2009
Location: St. Regis Resort, Aspen, Colorado
CME Credits: 21.5 AMA PRA Category 1
For more information/registration, call: (212) 305-3334 or visit columbiacme.org.

#### Indications and Controversies of Minimally Invasive Spine Surgery: Hands-on Symposium

Sponsor:Weill Cornell Medical CollegeDates:December 10 - 12, 2009Location:Weill Cornell Medical College, New York CityCME Credits:15For information/registration, visit www.cornellneurosurgery.com.

## **IT'S ALL ABOUT ACCESS**

The NewYork-Presbyterian Physician Access Transfer Center will coordinate your patient's transfer to the tertiary services available at NewYork-Presbyterian Hospital.

#### One call 1-800-NYP-STAT

For a physician referral to any one of our 5,500 physicians across all specialties, call the **Referral Call Center** at **1-877-NYP-WELL** 

## **PROFESSIONAL RESOURCES**

**NewYork-Presbyterian Alumni Website – nyp.org/alumni** Launched in March 2009, the new Alumni Association website serves as a valuable resource for the more than 10,000 physicians who have trained at NewYork-Presbyterian.

## Physician Career Initiative – An On-line Career Service nypsystem.org/physicians

The Physician Career Initiative (PCI) alerts residents, fellows and alumni trained at NewYork-Presbyterian and NewYork-Presbyterian Healthcare System hospitals to potential employment opportunities within System affiliated hospitals and regional physician practices. To register, go to www.nypsystem.org/physicians. You will receive e-mail announcements of available positions that match your criteria and career requirements.

#### Educational Programs – nyp.org/pro

• Webcasts

- Medical Presentations
- CME Activities
- Newsletters

*For more information about campus-specific Alumni Associations, contact:* 

Tamiko B. Collier NewYork-Presbyterian Hospital/ Columbia University Medical Center 654 West 170th Street New York, NY 10032 (212) 342-0954 tac9036@nyp.org

Catherine E. Warner NewYork Weill Cornell Medical Center Alumni Council (CAC) 525 East 68th Street, Box 123 New York, NY 10065 (212) 821-0948 centeralumni@med.cornell.edu www.med.cornell.edu/about/cac