

# Intestinal and *Ex Vivo* Transplant at NewYork-Presbyterian Hospital/ Columbia University Medical Center

## Intestinal Transplant Team Combines Skills to Serve Patients

Intestinal and multivisceral transplantation is an emerging field in solid organ transplantation, and is offered to select patients with complex abdominal pathologies. Only about 200 such cases are performed worldwide each year.

Intestinal transplantation is reserved for patients with life-threatening conditions of intestinal failure, including complications of long-term total parenteral nutrition (TPN), and liver failure. Advances in surgical techniques, immunosuppressant medications, and post-operative monitoring have significantly improved survival rates in the last decade, rendering transplantation before liver failure ensues a viable option for more patients.

NewYork-Presbyterian Hospital/Columbia University Medical Center is a leader in intestinal and multivisceral transplantation, and one of only a few centers in the country with such a program. In addition to performing these procedures in children, our team conducts these operations in adults with disorders such as; Gardner's syndrome/familial adenomatous polyposis (FAP); mesenteric venous thrombosis or arterial thrombosis; Crohn's disease; desmoid tumor with intra-abdominal infiltration; trauma; mesenteric vein injuries; endocrine tumors; infiltrative diseases leading to intestinal failure; short bowel syndrome; intestinal pseudo-obstruction; and congenital dysmotility.

The intestinal/multivisceral transplant team includes highly experienced surgeons and a dedicated gastroenterologist, nurse practitioner, social worker, psychiatrist, and nutritionist who guide patients through what can be a lengthy and challenging recovery. The team is led by Tomoaki Kato, MD, Professor of Surgery and Chief of the Division of Abdominal Organ Transplantation—an expert in liver and intestinal transplantation who performed these procedures for ten years at the University of Miami

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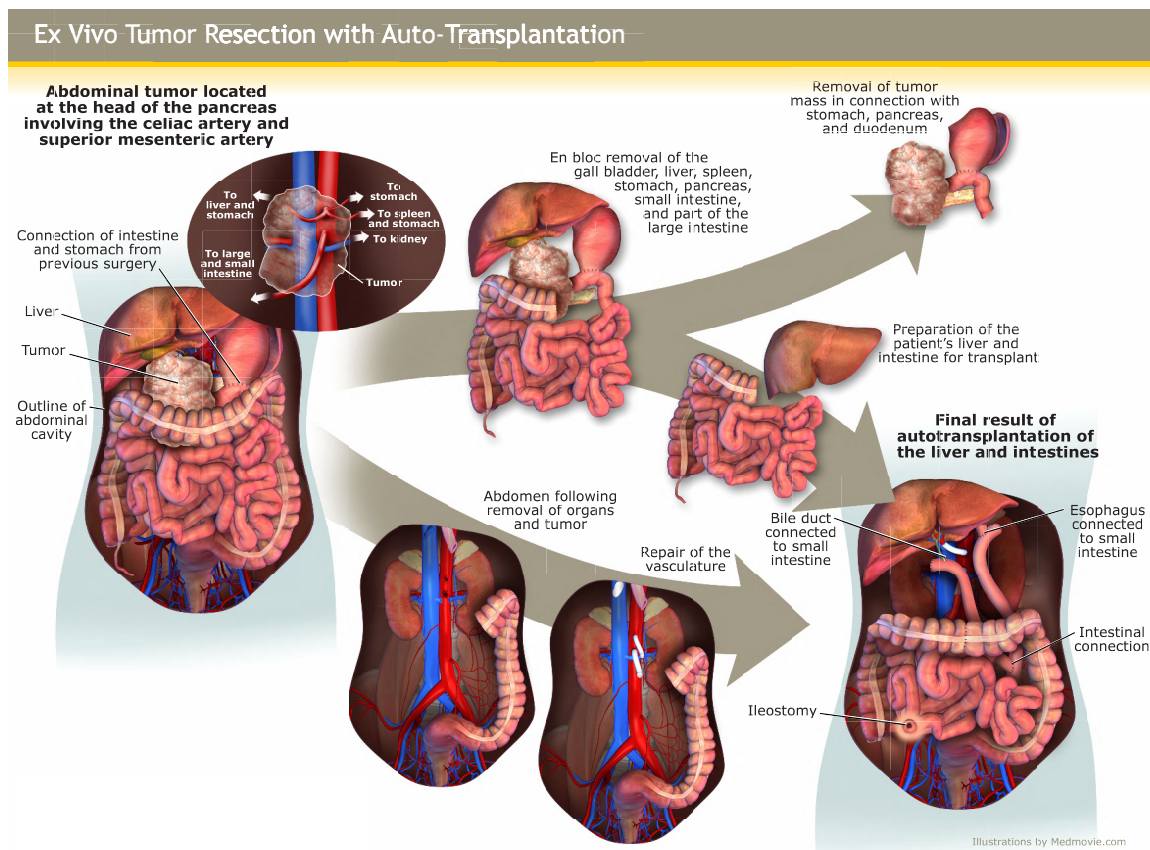
## Center Excels in Performing Rare *Ex Vivo* Resections

*Ex vivo* tumor resection with auto-transplantation is an innovative technique that is useful to treat extensive, otherwise unresectable tumors and lesions. NewYork-Presbyterian Hospital/Columbia University Medical Center transplant surgeons, led by Dr. Kato, have successfully performed *ex vivo* surgical procedures in which surgeons removed five or more organs from patients with deeply embedded abdominal tumors, excised the tumors from the organs, and then re-implanted the patient's own organs.

In order to perform *ex vivo* resections successfully, a medical center must have extensive knowledge of organ transplantation. NewYork-Presbyterian has extraordinary experience with the transplantation of the liver and other solid organs, including the kidney and pancreas, and applies this knowledge to the optimal care of patients requiring *ex vivo* resection.

Dr. Kato and a team of surgeons used the *ex vivo* approach to resect 15 pounds of liposarcoma entangling surrounding organs of a 59-year-old man during a highly publicized 43-hour operation in December 2009. The team also performed another well-publicized case in February 2009

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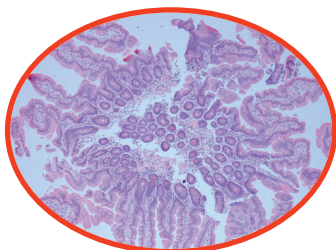


Comprehensive,  
supportive care for  
intestinal and *ex vivo*  
transplant patients.

### **Intestinal Transplant Team** continued from front

before joining NewYork-Presbyterian in August 2008.

The team was joined in 2010 by Sukanya Subramanian, MD, Assistant Professor of Clinical Medicine, a gastroenterologist from the University of Chicago who brings special expertise in pharmacology, pharmacogenomics, and immunology, and experience managing patients with small bowel and inflammatory bowel diseases.



Jejunal biopsy from a small bowel transplant patient with normal villous architecture; it is negative for rejection.

### **Ex Vivo Resections** continued from front

on a seven-year-old girl from Long Island. In a historic 23-hour operation, they used an *ex vivo* approach to take out entire abdominal organs temporarily and remove a deep abdominal tumor entangling all major blood vessels of the viscera.

*Ex vivo* resections may be applied to various tumors that are unresectable using conventional surgical approaches, including liver tumors, pancreatic tumors, and sarcomas. Patients require a strong network of supportive services post-operatively—including nutritional and psychosocial support—to ensure the integrity of organ reconnections and their adequate function. Dr. Subramanian directs the care of these patients to optimize their recovery.

## **Support Services**

We form close, personal relationships with our patients because of the intensity and length of their treatment. We provide compassionate, holistic care. Patients benefit from the expertise of a dedicated nurse practitioner, Monica Velasco, NP.

**Nutritional Support and TPN:** Our patients require specialized nutritional guidance, provided at NewYork-Presbyterian/Columbia by a dedicated dietitian: Kelly Sparks, RD. All patients with intestinal failure require TPN, both before the transplant as well as during initial recovery. David S. Seres, MD, Associate Professor of Clinical Medicine, is a leader in nutritional support and partners with clinical nutritionists to help patients maintain adequate nourishment and to transition well to the use of the new bowel.

**Pathological Follow-up:** Intestinal transplant patients must be carefully followed post-transplant to monitor the integrity of the transplanted organ(s). Periodic biopsies are analyzed by our specialized transplant pathologists—led by Helen Remotti, MD, Assistant Professor of Clinical Pathology—and used to tailor immunosuppressive therapy.

**Immunology:** The intestine is a highly immunogenic organ, and post-transplant sequelae can be dramatic. Our team is strong in the area of immunology and applies this expertise to the careful assessment of each patient.

**Infectious Disease:** Infectious disease is the most common complication after an intestinal transplant. We provide pre-operative screening and post-operative follow-up. The team features a dedicated infectious disease specialist: Marcus Pereira, MD, Instructor in Clinical Medicine.



### **Making an Appointment**

To refer a patient to our intestinal/multivisceral or *ex vivo* transplant team, please call 1-877-LIVER-MD (1-877-548-3763).

For more information about NewYork-Presbyterian's Transplant Services, visit [nyp.org/transplant](http://nyp.org/transplant).