

# NewYork-Presbyterian Organ Transplantation

**A National Leader in  
Organ Transplantation**





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# A National Leader in Organ Transplantation

**NewYork-Presbyterian is a national leader in the transplantation of organs such as the heart, lung, liver, kidney, and pancreas.** Our transplant surgeons at NewYork-Presbyterian/Columbia University Medical Center and NewYork-Presbyterian/Weill Cornell Medical Center perform these procedures on an almost daily basis. Our transplant programs have existed for decades, affording us some of the highest transplant surgery volumes and excellent outcomes. We performed more transplants over the last decade (2007-2016) than any other transplant center *in the country*. People come to us from across the nation and around the world for our reputation for providing many types of transplants with shorter waiting times than other centers — and with a history of expertise that is impossible for many other hospitals to match.



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# The Most Transplants. The Longest History. The Best Outcomes.

## A History of Firsts

NewYork-Presbyterian has pioneered many innovations that have revolutionized transplantation and set today's standards.

- The first successful **pediatric heart transplant** in 1984, on a 4-year-old boy.
- The first *ex vivo* **lung transplant** in 2011, saving the life of a 59-year-old woman.
- Pioneered the kidney-paired donation, in which one altruistic living kidney donor who is willing to donate to any patient awaiting transplantation begins a chain of **kidney transplants** that otherwise would not be possible – for patients with willing but incompatible living donors.
- One of the first institutions to perform split **liver transplantation** (dividing one donated liver between two different patients) and **auxiliary liver transplantation** (attaching a portion of a healthy donor's liver to a recipient's diseased liver to support the recipient during recovery).

## World-Class Transplantation Teams

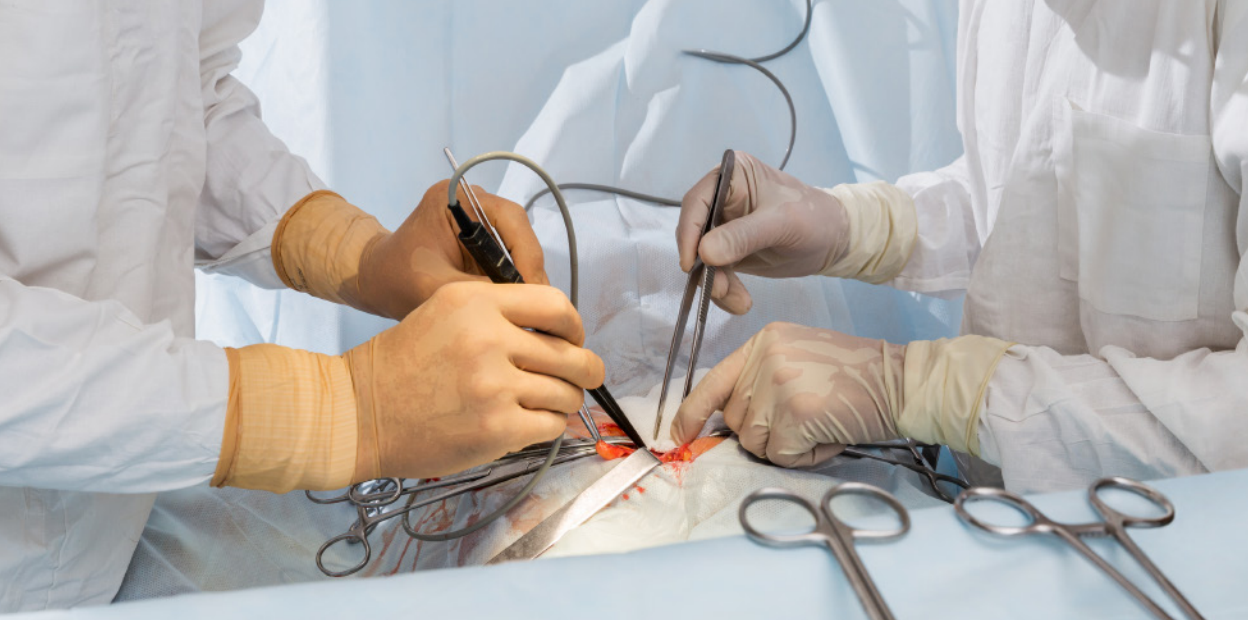
Transplantation is a major procedure, and organ recipients need lifelong care and follow-up. Our transplant teams are comprised of experts from every medical specialty — all in one medical center — including:

- Transplant surgeons
- Medical doctors such as cardiologists, pulmonologists, nephrologists, endocrinologists, hepatologists, gastroenterologists, immunologists, and intensivists (ICU doctors)
- Transplant nurses, nurse practitioners, and physician assistants
- Social workers
- Nutritionists
- Pharmacists
- Physical and respiratory therapists
- Psychiatrists and psychologists
- Financial counselors
- Transplant coordinators who help coordinate every facet of care



We have independent Donor Advocate Teams who are dedicated to the health and well-being of people who are considering donating a kidney or liver lobe. Team members help potential donors learn about the donation procedure and determine whether organ donation is the best decision. They advocate solely for donors and act independently of the needs of recipients.





## One of the Most Experienced Heart Transplant Programs

The Heart Transplantation Program at NewYork-Presbyterian is one of the largest and most experienced heart transplant programs in the nation. For over 40 years, we have been leaders in all phases of transplant — including risk stratification, candidate selection, donor selection, bridging to transplant with mechanical support device therapy, and decision-making regarding the need for a dual organ transplant.

- **High volume.** More than 2,500 adult and pediatric heart transplants have been performed at NewYork-Presbyterian since 1977.
- **Long-term survival.** Our survival rates consistently meet or exceed the national average. Some of our long-term survivors received their transplants more than 30 years ago, before the advent of many of the now commonly used immunosuppressive therapies and other screening strategies that have vastly improved our patients' quality and quantity of life.
- **Experience with complex cases.** We consistently treat patients with serious, high-risk conditions, such as cardiac amyloidosis, diabetes-related end-stage organ damage, and HIV.
- **Bridge-to-transplant support.** For more than 25 years, NewYork-Presbyterian/Columbia has been a pioneer in the field of mechanical support for people with advanced heart failure, offering left ventricular assist devices (LVADs) to support weak hearts.
- **ECMO support.** Extracorporeal membrane oxygenation (ECMO) — a way to artificially oxygenate the blood — is available for some people with end-stage heart failure who are waiting for a heart transplant.

### Who Is Eligible?

Patients may be eligible for a heart transplant if they have severe heart failure that cannot be effectively treated using other approaches. These include patients with:

- Congenital heart disease (CHD), including complex CHD and Fontan circulation
- Congestive heart failure
- Coronary artery disease
- Cardiomyopathy
- Heart valve disease

## Her Beat Goes On

**Only two months had gone by since Cherie Aimée said “I do” to her husband, Doug, at their wedding in October 2008 when she found out she had Hodgkin’s lymphoma.** Eight months after she finished chemotherapy, her heart stopped. She had end-stage heart failure and needed a transplant. But five years needed to elapse between her cancer diagnosis and the transplant before she could be a candidate, due to the immunosuppressive drugs she would have to take.



**Unable to be helped at her local hospital, Cherie was transferred to NewYork-Presbyterian,** where she received mechanical heart and lung support as an inpatient and the implantation of a long-term left ventricular assist device (LVAD) to help her heart pump blood. During the years she waited to become eligible for a transplant, she took yoga three days a week and wrote a book about fashionable ways to wear an LVAD bag. In October 2014, a heart donor became available and she received the organ she had long awaited.

**Today Cherie, a motivational speaker and writer, is a staunch advocate for organ donation. “I can’t thank my heart donor personally,” she says, “but I can give back — and that’s my purpose.”**



## A Major Center for Lung Transplantation

Lung transplantation can prolong and dramatically improve quality of life for patients with severe noncancerous lung disease and no other treatment options. The major center for lung transplantation in the New York Tri-State area — the Center for Advanced Lung Disease and Lung Transplantation at NewYork-Presbyterian/Columbia — is one of the oldest in the United States, established in 1985.

- **Better survival.** Since 2001, we have performed more than 800 operations, with a one-year patient survival rate of 91% and five-year patient survival of 68% — much higher than the national average five-year survival of 55%.
- **Sicker patients.** In the United States, lungs are allocated to candidates based on the Lung Allocation Score (LAS) ranking, which reflects disease severity. Our center serves a sicker population of patients with much higher LAS. At the time of transplant, approximately 60% of our listed patients have an LAS over 50, compared to less than 30% in other centers in the U.S.
- **ECMO as a bridge to transplant.** Some hospitalized patients with severe lung disease require support with ambulatory extracorporeal membrane oxygenation (ECMO) while waiting for a lung transplant. Our ECMO Program has been designated a Platinum Level Center of Excellence for the Excellence in Life Support Award from the Extracorporeal Life Support Organization.
- **Expanding the pool of donor lungs.** Less than 20% of donor lungs are viable for transplantation. Our Program participated in a pivotal study showing the effectiveness of “Ex Vivo Lung Perfusion (EVLP),” a technique that allows for more precise evaluation of donor lungs outside the body to assess whether they are suitable for transplantation. Ongoing research to optimize EVLP focuses on keeping the lungs outside of the body longer while developing various treatments and advanced reconditioning techniques before transplant surgery.

### Who Is Eligible?

Lung transplantation is an option for people with end-stage lung disease, most often from:

- Interstitial lung disease and pulmonary fibrosis
- Cystic fibrosis (we have the largest adult cystic fibrosis program in the New York metropolitan area)
- Pulmonary hypertension
- Chronic obstructive pulmonary disease
- Sarcoidosis
- Other less common lung disease

## Dancing through Life

**Emily Gorsky had been managing her cystic fibrosis her entire life, though over time it progressively worsened and prevented her from doing the things she loved to do — most importantly, dancing.**

She needed lung transplantation, but while on the waitlist, her condition rapidly deteriorated and her lungs completely failed. Extracorporeal membrane oxygenation (ECMO), a way to artificially add oxygen to her blood, became her only option to survive until a potential donor was found.

While receiving ECMO, Emily felt that she could breathe comfortably. ECMO afforded her the opportunity to walk within and outside of the intensive care unit (ICU) daily, interact with her friends and family, and maintain her strength while she awaited transplant in the ICU. **After two weeks of ECMO support, Emily received a double lung transplant. Just a few weeks later, she was able to go home. Now, Emily plans on fulfilling her dream of dancing again.**





# Innovating Liver Transplantation

At the Center for Liver Disease and Transplantation, our transplant team has performed more than 2,000 liver transplants, with outcomes that meet or surpass national and regional averages. Our transplant rate (the likelihood of getting a transplant while on the waiting list) and waiting list survival far exceed all other programs in the region.

- **Best chance for getting a liver transplant.**

At NewYork-Presbyterian, patients are more likely to receive a liver transplant than at other hospitals in the region.

- **Distinguished transplant centers.**

We transplant livers into adult patients at NewYork-Presbyterian/Weill Cornell and NewYork-Presbyterian/Columbia. Children can receive a liver transplant at NewYork-Presbyterian Morgan Stanley Children's Hospital.

**Nearly half of the pediatric transplants and up to 20% of the adult liver transplants we perform are from living donors — far greater than the national average of 2% to 5%.**

- **Living donor transplantation.** We have

one of North America's largest living donor liver transplantation programs. Ours is the only program in the country to perform living liver donor surgery via laparoscopy, operating through small incisions. We also have the required number of experienced surgeons to perform paired exchanges (or swaps) between two pairs of donors and recipients.

- **A variety of transplant options.** One liver can be donated to two patients ("split liver transplantation"), a living donor can donate a portion of liver tissue to a recipient, or a portion of a donor's liver can be attached to a patient's diseased liver to support it while it heals and regenerates ("auxiliary liver transplantation").

- **Expertise hepatitis C and HIV.** NewYork-Presbyterian is one of very few institutions to provide transplantation for people co-infected with hepatitis C and HIV, and has led the development of new oral hepatitis C drugs to treat patients before and after transplant.

- **Transplantation in people with cancer.** We are one of very few centers performing liver transplantation in patients with bile duct cancer and certain rare cancers of the liver, such as neuroendocrine tumors, as well as hepatocellular carcinoma.

## Who Is Eligible?

Liver transplantation is an option for people with end-stage liver disease, most often from:

- Acute liver failure
- Chronic liver failure and cirrhosis
- Alcoholic liver disease/cirrhosis
- Autoimmune hepatitis (where the body attacks the liver)
- Fatty liver disease
- Drug-induced liver failure
- Cancer of the liver, including primary liver and bile duct cancer and selected other cancers that involve only the liver.
- Primary biliary and primary sclerosing cholangitis (inflammation of the bile ducts, causing scarring)
- Viral hepatitis, including hepatitis B and C

## Meeting Challenges Head On

**Within weeks of her birth in January 1997, Julianna Reid's mother knew her daughter wasn't thriving. Her newborn jaundice got worse and she was losing weight.** Doctors at an Albany hospital near her Hudson, New York home diagnosed her with biliary atresia: ducts that carried bile out of her liver were dysfunctional, damaged, or undeveloped, causing liver damage. Reconstructive surgery sustained her for two months but ultimately failed. Her surgeon referred her to NewYork-Presbyterian/Columbia University Medical Center for a liver



transplant, performed on her first birthday by Jean C. Emond, MD. Her donor: her father, Leonard, who contributed a fifth of his liver to regenerate a new liver in his daughter.

**Julianna became the first recipient of a living donor liver transplant at Columbia's then-new liver disease center.**

Julianna's recovery was an extraordinary success, but it was just the beginning of an odyssey. In 2002, Julianna developed post-transplant lymphoproliferative disease, a condition resulting from the high doses of the immunosuppression medication cyclosporine she took after her transplant. She traveled to NewYork-Presbyterian/Columbia for

chemotherapy in 2002 and again in 2006, when the cancer resurfaced, able to receive all the treatments she needed in the same medical center from a coordinated team of specialists. **Today she has a clean bill of health.**

"I always believe God gives his hardest battles to his strongest soldiers, and Julianna's treatment team will forever be my soldiers," said her mother, Janell Rossi. "There were so many hard times, and times I thought she wasn't going to make it. But she pulled through. You have to believe in the hospital."

**"It's a great hospital," Julianna agreed. "It's never going to be easy. You just have to be strong because it will all work out."**

# The Nation's Leader in Kidney Transplantation

Our kidney transplant programs at NewYork-Presbyterian/Weill Cornell and NewYork-Presbyterian/Columbia completed more kidney transplants between 2007 and 2016 than any other hospital in the United States. They are two of the largest living donor kidney transplant programs in the country and the longest-running programs in our region.

- **Excellent survival rates.** We have achieved excellent survival rates for our patients and their transplanted kidneys (grafts), despite the fact that we transplant a diverse group of patients and may utilize organs turned down by other transplant centers.
- **Expanding living donor kidney options.** NewYork-Presbyterian has performed paired donor exchanges since 2004, for two (or more) kidney/donor recipient pairs whose blood types are not compatible or when the recipient has antibodies against the donor. Recipients “swap” donors so each can receive a compatible kidney.
- **Incompatible kidney transplantation.** We are one of few institutions to offer “incompatible” kidney transplants for patients who would normally rapidly reject the donated kidney. We use a process called plasmapheresis, in conjunction with medications, to reduce antibody levels in the transplant candidate’s blood to an acceptable level.
- **Minimally invasive surgery for donors.** Our surgeons use laparoscopy to remove a donated kidney through one to four small incisions, enabling the kidney donor to return to normal activities generally within three weeks.
- **Improving life after transplant.** Our doctors have developed medication regimens that avoid the long-term use of steroid therapy to prevent organ rejection, sparing many recipients from the adverse side effects of these drugs.

**“Our kidney transplant program is the oldest in New York and a leading living donor center. We’ve completed more than 5,000 transplants. We can often help people that other programs may not be able to help. That’s a result of the expertise here.”**

*— Sandip Kapur, MD, Chief of Transplant Surgery and Director, Kidney and Pancreas Transplant Programs, NewYork-Presbyterian/Weill Cornell Medical Center*

## Who We Care For

Our kidney transplant programs offer comprehensive, coordinated medical and surgical care for patients with failing or injured kidneys, particularly those with:

- Diabetes
- Advanced cardiac or liver disease who may be candidates for combined heart-kidney or liver-kidney transplants
- Glomerular disease
- High blood pressure
- Lupus (systemic lupus erythematosus and lupus nephritis)
- Congenital kidney disorders — a group of rare conditions that are present at birth and are typically passed through families
- Polycystic kidney disease

## In the Line of Duty

**Retired Mount Vernon police officer Joseph Cappuccilli, 48, was sitting at his dining table one evening in 2016 when his feet began to swell.**

After a trip to the emergency room, he learned he was in end-stage kidney failure — a complication of several years of hypertension and an autoimmune disease. His choices: a kidney transplant or a lifetime of dialysis. His wife placed a post on social media, including a desperate plea on the New York City Police Department (NYPD) Facebook page, seeking a kidney donor. It caught the eye of Mark Chamberlain, 58, a retired NYPD officer.

In addition to having served as police officers, they both shared the honor of having been 9/11 first responders. They would soon find out they had something else in common: Mark was a match to donate a kidney to Joe. His decision to come forward and selflessly help a fellow officer was made without hesitation. “From the moment I made up my mind, I knew I was going to be a match for Joe. I just knew it,” Mark recalls.

**They met for the first time on transplant day at NewYork-Presbyterian/Weill Cornell Medical Center in April 2017. The operation was a success, and both patient and donor are doing well. Says Joe, “If I can bring attention to the cause of organ donation, that’s all good. NewYork-Presbyterian is second to none.”**





## A Leader in Pancreas Transplantation

Pancreas transplantation can provide a new lease on life for some people with type 1 diabetes. It restores the body's ability to control blood sugar levels, allows most people to stop using insulin, and can even slow the progression of diabetes and reverse complications such as eye and nerve damage. NewYork-Presbyterian has one of the largest pancreas transplantation programs in New York State and cares for patients with the most complex medical and surgical challenges.

- **A history of excellence.** Surgeons at NewYork-Presbyterian/Weill Cornell and NewYork-Presbyterian/Columbia have performed pancreas transplants for many years, amassing a wealth of experience that translates to exceptional patient care.

**NewYork-Presbyterian offers combined pancreas-kidney transplantation, enabling the transplanted pancreas to protect the new kidney from the damage caused by diabetes.**

- **Combination transplantation.**

We offer pancreas transplantation in combination with kidney transplantation, enabling the transplanted pancreas to protect the new kidney from the damage caused by diabetes and treating both the diabetes and the kidney failure.

- **Caring for complex cases.** Our patients include people with medical issues that may pose barriers to transplantation, such as advanced age and other co-existing medical conditions.

### Types of Pancreas Transplants

- **Simultaneous pancreas-kidney transplantation.** For people with kidney failure who need a kidney transplant but do not have a living donor; they are placed on the waiting list for a deceased donor who can provide both organs.
- **Pancreas after kidney transplantation.** For those who have already received a kidney transplant and qualify for a pancreas transplant due to their inability to control their diabetes despite aggressive medical care.
- **Solitary pancreas transplantation.** For people without kidney disease who have life-threatening complications of diabetes.

### Who Is Eligible?

Candidates for pancreas transplantation include people with type 1 diabetes who have developed serious complications such as:

- End-stage kidney disease (nephropathy) that may require a kidney transplant
- Eye problems (retinopathy)
- Nerve discomfort (neuropathy)
- Inability to sense when blood sugar is low ("hypoglycemic unawareness"), a life-threatening condition
- Incapacitating clinical and emotional problems associated with insulin therapy
- Consistent failure of insulin treatment to manage diabetes and its complications
- Select patients with type 2 diabetes may also be eligible for pancreas transplantation.



## Innovation and Research in Transplantation

In addition to providing excellent patient care, NewYork-Presbyterian is a leading innovator of novel ways to monitor transplant outcomes, reduce the risk of organ rejection, detect rejection earlier if it does develop, and improve selection criteria to enable more patients to benefit from organ transplantation. Patients may have opportunities to participate in clinical trials.

- **The Transplant Initiative.** Launched by NewYork-Presbyterian/Columbia, the goal of this effort is to gain a deeper understanding of the biology of transplantation, creating a center of excellence for translational research designed to improve patient outcomes.
- **Genetic determinants of success.** Researchers are exploring genetic factors in donors and recipients that could influence outcomes after transplantation.
- **Noninvasive detection of organ rejection.** Biopsy has been the conventional way to detect organ rejection. NewYork-Presbyterian/Weill Cornell investigators created a urine test that is highly accurate for detecting early signs of organ rejection in transplanted kidneys and identifying which individuals may be at risk for rejection. NewYork-Presbyterian/Columbia researchers are measuring gene expression in peripheral blood to diagnose acute lung rejection. Investigators are also seeking new ways to predict liver transplant rejection.
- **New immunosuppression regimens.** Researchers are developing and assessing novel post-transplant immunosuppressant regimens for a variety of transplants which have fewer side effects and risks than conventional drug combinations. They are also studying the association between immunosuppressants and elevated cancer risk in transplant recipients.
- **Inducing tolerance.** Investigators in bone marrow transplantation at NewYork-Presbyterian/Columbia are applying their knowledge to solid organ transplants and evaluating investigational drug regimens that induce immune tolerance to a transplanted organ, even those from unrelated and mismatched donors. NewYork-Presbyterian/Weill Cornell researchers used a special antibody that blocks an adverse immune reaction to achieve organ tolerance in patients who received mismatched kidney transplants. Induction of tolerance may make it possible for some organ recipients to forego a lifetime of immunosuppressant drugs.
- **Improving life after transplant.** NewYork-Presbyterian/Weill Cornell researchers are studying new medications to improve kidney function in recipients of kidneys from deceased donors.
- **Liver transplantation in people with hepatitis.** Center for Liver Disease and Transplantation Investigators are conducting studies of hepatitis B and C therapies, both before and after liver transplantation.

## Sign Up and Save a Life

There is an urgent need for organ donors. On average, 18 people die each day in the United States while waiting for organ transplants. You can make a difference by signing up to become an organ donor. Tell your loved ones about your decision to be a donor.

- **In New York:** You can register to become an organ donor by visiting [www.liveonny.org](http://www.liveonny.org) or [nyp.org/transplant](http://nyp.org/transplant). You can also sign up when you register at the Department of Motor Vehicles and when you register to vote.
- **Across the country:** Become an organ donor by visiting [www.organdonor.gov](http://www.organdonor.gov) or [nyp.org/transplant](http://nyp.org/transplant).
- **Living donor:** It is now possible for a living person to donate a kidney, a portion of the liver, a portion of a lung, and, in some rare instances, a portion of the pancreas. Visit [www.liveonny.org](http://www.liveonny.org) or [nyp.org/transplant](http://nyp.org/transplant) to learn more about Living Organ Donation.



### Did You Know...

- 1 organ donor can save up to 8 lives
- More than 121,000 people nationally are waiting for a transplant
- Nearly 10,000 people are waiting in New York State
- Every 10 minutes, the transplant waiting list grows by 1
- Every 18 hours, someone in New York State dies waiting for an organ
- Only 27% of New York State residents are registered organ donors versus 50% of residents nationwide

## Make an Appointment

### HEART TRANSPLANTATION

NewYork-Presbyterian/Columbia  
Heart Failure and Transplantation Program  
212-305-7600

### LUNG TRANSPLANTATION

NewYork-Presbyterian/Columbia  
Center for Lung Disease and Transplantation  
212-305-7771

### LIVER TRANSPLANTATION

Center for Liver Disease and Transplantation  
NewYork-Presbyterian/Columbia  
877-LIVER-MD (877-548-3763)

NewYork-Presbyterian/Weill Cornell  
646-962-5483

### KIDNEY AND PANCREAS TRANSPLANTATION

NewYork-Presbyterian/Columbia  
Renal and Pancreatic Transplant Program  
212-305-6469

NewYork-Presbyterian/Weill Cornell  
Kidney and Pancreas Transplant Programs  
212-746-3099



Organ Transplantation

**[NYP.ORG/TRANSPLANT](https://www.nyp.org/transplant)**