

Mayo Clinic 150th Collection of Stories

Title: Lowering Rejection Risk in Organ Transplants / Date: March 2014

Intro: Among the more than 120,000 Americans waiting for an organ transplant, thousands are told their likelihood of rejection is too high to take the risk. However, at Mayo Clinic, some of these highly-sensitized patients are still being given their 2nd chance at life. Dennis Douda shows us how.

Video

Audio

Video	Audio
Total running time [0:00]	
Dennis Douda speaking For mor on Mayo Clinic's Kidney Transplant Program: http://www.mayoclinic.org/departments-centers/transplant-center/kidney-transplant	For 12-years this is the routine that Pete Giannaris has had to accept, kidney dialysis 3-times a week. As vital as it is, he admits, it can wear a guy down.
Pete Giannaris speaking	"I knew it's taken a toll on my body."
Dennis Douda speaking	Pete has dealt with kidney disease most of his life, even receiving kidney transplants before. But, this time was different. He was told he would almost certainly reject any donor organ.
Pete Giannaris speaking	"Not many people understand. Oh, you need a kidney, you get on the list, two years later you get your kidney you're fine. You know it's not the story for everybody."
Dr. Mark Stegall speaking	"About 80 percent of people who have had a previous transplant actually have antibodies against other tissue types. They also could have been exposed to the foreign tissue types by a blood transfusion or even pregnancy."
Anissa Swanigan speaking	"I was devastated, shocked, didn't really see it coming."
Dennis Douda speaking	Pregnancy delivered a double blow to Anissa Swanigan. After giving birth a second time her weakened heart condition advanced to heart failure .. and complications scarred her liver so badly it was failing too. Doctors told her she needed a double organ transplant.
Anissa Swanigan speaking	"That's the only way you're gonna survive."
Dennis Douda speaking	She had two <i>big reasons</i> to survive, her two little boys. But, again, high levels of antibodies made her a very poor transplant candidate.

Flu Clinic video	Flu Clinic Video
Dennis Douda speaking	Antibodies are a good thing when they help us fight disease. Vaccines, for example, trigger our immune systems to <i>create</i> antibodies.
Pete in Surgery	/// NATS Pete's Surgery
Dennis Douda speaking	But for some of those waiting to receive life-saving organ transplants, Mayo Clinic surgeon and immunology researcher Mark Stegall says antibodies become the enemy.
Dr. Mark Stegall speaking	"It's a big problem. There are about 9,000 people on the kidney transplant list in the United States right now who have really high levels of antibody to the point that they can't really get a transplant."
Dennis Douda speaking	Pete's in that category, called highly-sensitized. So, Dr. Stegall and his team did a variety of things in advance - to tip the odds in his favor. They carefully selected a living donor for which Pete would have the fewest antibodies. Also, drug research has found a way to reduce antibody-caused rejection rates from 40 percent to less than 10 percent.
Dr. Stegall speaking	"One of the drugs that we were the first to use is a drug called eculizumab. If we give this drug, the antibody binds to the kidney, but it doesn't cause the damage."
Pete's plasma exchange	Pete's plasma exchange
Dennis Douda speaking	Pete also went through numerous rounds of an antibody filtering process called a plasma exchange. Then to try to halt the production of new antibodies in his bone marrow, Dr. Stegall turned to an FDA-approved Clinical trial at Mayo Clinic, using a powerful drug.
	"A drug called Velcade which is actually used in the treatment of cancers of these antibody-secreting cells, but of course, these are not cancer cells."
Dennis Douda speaking	Anissa also underwent drug and plasma exchange therapies.. but her antibody levels were so high, doctors worried her body might still reject the donor organs.
Dr. Richard Daly speaking	"By the time the liver went in, the heart would already be irreversibly damaged by the antibodies. So we reversed the process and did the liver transplant first."

<p>Dennis Douda speaking</p>	<p>Why? Surgical Director of Heart and Lung Transplantation at Mayo Clinic, Dr. Richard Daly, says the liver filters antibodies. In combined kidney-liver or heart-liver transplants his team had observed a reduction in antibodies to that donor.</p> <p>However, in multiple organ transplants, hearts generally go in first because their tissues are more time sensitive. How does the Mayo team get around that?</p>
<p>Dr. Richard Daly speaking</p>	<p>“Choreograph the whole process. We have to have the donor close enough by. We have to have the procurement done and be really completely ready for the organs when they arrive.”</p>
<p>Anissa Swanigan speaking</p>	<p>“It seemed brilliant. Brilliant minds that they collaborated and got together and figured out how to do this thing.”</p>
<p>Pete Giannaris speaking</p>	<p>“I didn’t have anything else to lose. Either I stay on dialysis or a miracle happens and I get this kidney.”</p>
<p>Dennis Douda speaking</p> <p>To contact the Transplant Center: http://www.mayoclinic.org/departments-centers/transplant-center</p>	<p>Innovation that makes a world of difference ... one patient at a time.</p>