[MUSIC PLAYING]

AMIT TEVAR: I'm going to talk about high risk donors and why we are giving infected kidneys to our recipients. OK? So specifically, I'm going to talk today about HIV and Hep C, but we're going to hit on everything as well. So for those of you who will play some part in the transplant process, it's difficult to understand unless you're taking the phone calls in the middle of the night how tough it is to get your patient a transplant. And you wonder why sometimes-- to follow up on Antoinette's question-- when do we pass up on stuff and when do we say, god, let's go ahead and try it and see what happens? Because it is really tough to get our folks a transplant.

So if you look nationally, there are 113,000 people that are waiting for a transplant. And last year, we did about 21,000 kidney transplants. A majority of those folks that are on the list right now are never going to make it to transplant. OK? If we're liberal, looking at a 25% waitlist mortality, for kidney, we're looking at a similar number over the period of that five or six years that they're on the waitlist.

I always put up these two slides in whatever talk I give because I need an excuse to kind of impress upon people what's truly the benefit of kidney transplant. What happens with kidney transplant, people get used to dialysis. They have their friends there. They go there. Our current no-show rate in clinic is close to 40% because people are very comfortable with dialysis. What they don't understand is you don't have a very good survival on dialysis. So your 10-year survival on dialysis is actually 28%. People that actually get transplant do much, much, much better.

And this is actually a nice look at exactly what that means for you as far as expected wait time. So for example, if you are a 30-year-old healthy male like myself, and you're expected-- a little delay in chuckles, thanks. I'm expected to have an additional 45 years of life, OK? If I'm maintaining my healthy lifestyle like I am now. If I'm on dialysis, I'm expected to have an additional 12 years of life. So imagine telling a 30-year-old, hey, by the way, you're not going to have a 45th birthday on average. Transplant triples that time. You're looking at an additional 30 years of life.

So when you talk to your patients and when I talk to patients, I tell them the same thing. Forget about the benefits of eating potatoes and bananas, not being on a fluid restricted diet, not being on dialysis three times a week, but you're doubling and sometimes tripling your lifespan. OK? So there's profound benefits that are tough to digest that it's important for us in this room to convey to them. At the end of the day, we talk all these numbers. We talk about risks and benefits. And this is actually a very-- this was my first year of practice. I was skinny, and you can see I'm really tired there.

So this is actually Larry McGonagall-- great guy. He got an SPK, did great, and he's the reason that we do transplants. So he's a guy who was 30 years old, type 1 diabetic, end stage renal disease. Lived with his mom, horrific lifestyle, completely blind. Since that time after his transplant, he moved out from his mom, got a job. Had his first beer, he ate pizza. Actually got engaged-- maybe twice-- and finally got married. So, doing well, and this is why we do transplants. So whenever I'm looking at a case in the middle of the night, I think of Larry. Would this be something that I would do for him? Would this be something I'd do for a family member?

Transplant starts really early. Most of us in the room are focused on transplants. We're focused on the actual last possible step of transplant, right? The actual operation, getting people a matched organ, getting them through the surgery-- it starts way before, OK? And this is actually where we need to focus a lot of our attention towards. As much as we have CKD vein preservation protocols, we need to have the same thing for our live donor options, getting people referred for transplant early.

So the first step actually starts outside of the transplant center. When you get the first CKD 4, moving on to 5, that first talk that you have about education and what your options are, how transplant benefits you, dialysis can be avoided, that's the most important talk that you get. And we're not the ones to usually give that. Usually it's our friends and family, dialysis centers. Then you get the referral. Then you get the eval. Then finally you get listed, and you go for live donor or cadaveric transplant.

All right, so for those of you in the room that aren't in the day-to-day, there's four parts to transplantation. OK, so number one is you got to get referred in, and you gotta get your eval done. Evals are tough. And I think that back row is our eval pistons of the program. Because you're actually pre-opping someone for a major surgery five years down the road. And more importantly, you're also not just getting all the checkboxes done, you are educating that patient that they need to find a live donor, that their survival is x on the waitlist. That when Tevar calls in the middle of the night with, I got this guy who's an IV drug user who's Hep C positive, that might be a great option for you.

So that's the first line, and that's the most important line that we have within the program is educating our patients on what they can expect, what their options are, and being proactive about it. We do a full medical eval. It's quite a process. We look at cardiovascular cancer as obesity and kind of fix things so that they can get listed. Now once you're listed, it is this vague, ambiguous place where no one knows where they're at. So we're doing an interesting CMU study where we're actually talking to people on the waitlist, and they have zero idea about what you taught them in pre-op clinic.

So when you ask them, what is your wait time, the answers come anywhere from one to five years off of their actual wait time. They have zero idea. They think that the minute that they walked into clinic, that they're on a list. They don't know where they're at. They don't know that it's five years. They don't know there's live donor options. Interestingly enough, when you ask them what's the mortality of a live donor nephrectomy, their answers range anywhere from 10% to 20%. That's what they believe. And so we have a long way to go as far as where they are on the waitlist.

Then you get put into the wait time. And Martin touched on it a little bit. It varies based on blood type, number of years of dialysis, if you're a kid or not. And gosh, I encourage anyone here who's from a referring practice or from a dialysis unit, call us. We know the answers. You don't have to live in a vacuum of knowledge about where your patient is. We don't have exact idea, but we have some idea exactly where they stand. And then finally, there's transplant.

All right, and I noticed we didn't, so I'm going to talk briefly about UNOS and what it means and how we're regulated, just to the point of saying that we are the most regulated field in medicine, bar none. There is no other field. You ask your general surgeon, what's your hernia recurrence rate, they have no idea. You ask your AAA guy, what's your mortality rate, they have no idea. Ours are six month. If you don't report it, they check the master database. And if you're wrong, you get cited. You get cited enough, you get shut down. Very simple, OK? So it is the most regulated. If you want to see how well we do as a team, go to the website, srtr.org. It's right there. All the insurance company uses it.

So we are actually mandated by the government. We have this thing called OPTN and SRTR. They facilitate organ distribution, and everything is really fair here in the US. OK, it's unlike anywhere else in the world. If you are Barack Obama, or Donald Trump, or Joe Public from the south side of Pittsburgh, you get the same spot on the waitlist. You gotta put in your time like everyone else.

So in the middle of night, we get organs that become available. There is a national computer system that spits out this list. And we have to go right by that list. I can't skip. I can't deviate. So when you guys get upset with me in the morning and why would you use a 21-year-old kidney in a 75-year-old guy, that's what the list said. And I got to go by it.

So here's where we live. You guys have seen this slide before. So in 2017, this region, which is our region right here, OK, which includes Pennsylvania, West Virginia, DC, Delaware, Maryland, and unfortunately, New Jersey, the armpit of New York, we did seven to so close to 2,500 kidney transplants. OK? So keep that number in mind. We did 2,500 kidney transplants. In that same year, 2017, we added an additional 5,000 people to the list. OK, so the math doesn't really work out in your favor on that. No amount of Chinese tariffs will make that OK.

The waitlist already has 13,000 people on it. OK, so 13,000 people on the list, 2,500 transplants, and this is an aggressive part of the country. We do things that other parts don't do. And we add an additional 5,000. When you list someone, that's what they're up against. That's what they have to get through. We'll skip this. Here's the middle of the night-- gosh, this got smaller. This is actually what it looks like on my phone when I'm looking at it.

So when we get a phone call in the middle of the night, this is what we're looking at. So this is actually a actual match run. 51-year-old, KDPI, 54%, terminal creatinine of 1.4. Relatively OK kidney. OK, so it's actually coming out of our OPO. So that means we get first dibs on it. So it comes to us first. And you can see that our first patient, which is blocked out, is number 20. That's not the best kidney in the world.

But 19 people have to get out in front before it gets to our first patient. Then we go 24, 25, and then all the way down to 34. OK. And you can see there is a sheet of yeses on the right side of that. That means every other center has already accepted it. And it got placed at number 16. That's what your patients are up against, and this is why we really push live donation as a possible option for these guys.

Here's another one. This is actually I think-- this actually comes out of outside of our OPO, KDPI of 96. It may be a good kidney. We'll see what the biopsy looks like. Creatinine was, I think, 0.8. All right, and again, even on this one, it got offered regionally to us first. First one was 73 was the first acceptance. Our first patient was all the way down at 92, and that was the first option we had for transplant. So when you look at these in the middle of the night-- and in an average night, you'll probably take a couple of these offers-- it's depressing for our folks. It's amazingly competitive. Liver is even worse. It's tough to get an organ for your patients. And anything that we can do to make their options better, we should do and we should embrace and we should maximize.

So one of the things that we have done is the Hope in Action trial. We are one of 20 centers in the country that are in the Hope trial. And I'll give you a quick background of what that means. So number one, 50% of people who are well controlled in North America on HIV are not dying due to AIDS. And this is a lot different than 10, 15 years ago. Most of their deaths are CV and respiratorial illnesses, and then end stage liver and end stage kidney disease.

In the past, it was very illegal in the US to approach and use anyone who is HIV positive as a potential donor, and that changed recently. And it actually started with a pretty bad-ass surgeon, Elmi Muller. And she looks like that in real life. Looks like she's always angry. But she's very, very good. So she's actually a transplant surgeon in Cape Town and did the first HIV to HIV transplant, mostly out of sheer necessity, where they have close to a 35% HIV infection rate. And so she did not have adequate donors. She had people dying and went ahead and just said, you know what? We have no options. Let's go ahead and do it.

So the initial outcome on four patients was actually pretty good. At one year, she published an NEGM. Over the next three to five years, she did an additional 27 patients and actually had excellent outcomes. Good infection rates, minimal rejection rates, and good survival both in graft and kidney. So the one year acute rejection rate was close to 8% and three-year rejection rate close to 22%. Nine-year update, which was presented last year, was 49 HIV to HIV, and these are all deceased donor. No live donors yet.

And it was limited because there weren't a lot of people that were young and dying of HIV there. So actually survival, again, was excellent. One and three-year survivals were 89%, five-year survival, 73%. And graft survivals, one year, it looks like a live donor program, 92%. So, excellent survivals long term. Death at eight years, it was stroke. And the reasons for graft are they were usually rejection, one episode of venous thrombosis, and then chronic rejection.

So here's a difference between South Africa and us. Again, the population, if you look at people that have HIV in South Africa-- 5.6 million versus 1.1 million. Considering that South Africa is only 53 million strong versus 316 million, it's a very small percentage. So 17% of the population there is HIV positive. So they do have a very minimal drug resistance rate of less than 5%, whereas we are much more western in our use of medications. And we have a 10% to 18% resistance rate.

A completely blank slide, you can just pretend what you like there. So in 2013, the US government put together the Hope Act. And this was initially run by Barack Obama and was looked at legalizing liver and kidney donation from HIV positive persons to another HIV positive person under the guise of a research protocol. So not open season, not as standard of care, but under a research protocol. So the Hope Act was initiated. It had bipartisan approval. Unanimously passed by the US House representatives, one of the few things that is bipartisan nowadays, and signed into law by Barack Obama.

The gentleman actually on the left of that was a medical student who applied for residency at UPitt. And on his CV, he has this picture. It's like wow, that's pretty impressive. So in '15, the Hope Act went into play. And it allowed revision of the laws prohibiting the use of HIV and allowed us to finally start using them. In November, we actually had revision, and then in November 23rd, we actually developed research criteria. So we could do actually HIV to HIV transplants under a research protocol for now. And it was legal in all 50 states.

So again, and I can't stress this enough, in the US, you can do HIV negative to HIV positive. So if you are an HIV positive recipient, you can actually get a transplant. You don't need to be in a research protocol. If you are using an HIV positive organ for a live donor and cadaveric, you have to be research protocol. That means an IRB-approved sanctioned protocol by your institution. Outside the US, it's different. So South Africa, UK, Switzerland allow it outside of a research protocol. The US is actually under a research protocol.

And we've been doing these for a while. So actually at our program and others, we've actually been doing a fair number. So last year, let's say last year, we did actually 160 transplants were done on HIV positive. Very, very positive reflection of their survival benefit. Liver, we did a fair number as well. And usually, we're picking out people that are going to do well. So obviously, if your CD4 is above 200, if you don't have any previous opportunistic infections, if you are compliant, see your ID doc, and everyone's in agreement, then we move forward.

A pretty good organ shortage. 46% of people that are-- candidates are greater than 60 are going to die before they get a deceased donor. And HIV folks are disproportionately affected. They have a higher wait-list mortality, less likely to be placed on a wait-list, and less likely to undergo transplant.

So whenever we talk about an organ shortage, the exact next words that come out are expanding the donor pool. And one way is to actually include people that have HIV positive to the donor pool. And again, keep in mind, this benefits two people. So if you have an HIV person on your list, they take a cadaveric organ out of the general pool. So the non-HIV person right below them, that organ goes to the HIV person first.

If you have an HIV positive organ, that goes to the HIV positive recipient. They get pulled out of line and the next person moves up to receive the next organ.

So the Hope Trial had a very simple goal, and it still does. It's to look at the use of HIV positive deceased donors that's safe and effective compared to the use of HIV negative deceased donors. So the criteria are pretty simple. No infection, CD4 count of more than 200, you have to have a study team that knows and describes your antiretrovirals. And the endpoints are patient survival. And then secondary, graft survival and infection.

So the pilot protocol was put out in '16. In March, the first US HIV donor positive to recipient positive kidney and liver transplants were done. Super small slide, I could've gotten this smaller, but I tried not to. I can see it perfectly, by the way

So Hope was introduced in '13. In '15, we had final amendments. '16 we had the trial, and in '17, we got finally a U01 award. Actually allowed us to actually do a multi-center trial. And we are one of 20 active centers. In fact, is Martin still here? Martin actually did the first two HIV positives in the state of Pennsylvania, about three or four months ago. Both patients are doing well.

So we do look at a randomization that's automatic. So number one, you have to be an eligible for an HIV positive. UNOS offers up either an HIV negative donor, or an HIV false positive, or an HIV positive. OK? So they are acceptable to reach all three of these organs. They get their transplant. Currently we've done 59 in the United States. Again 27, are normal cadaveric, with no HIV. And then 17 are donor positive confirmed to donor recipient positive.

Now 15, which is interesting, are actually false positives, which means they came in HIV positive. Normally, these organs would be immediately discarded because no one's going to risk that. But they turned out to be negative after we looked into it further.

All right. So now, HIV folks can register as organ donors. We actually actively initiate registration at the HIV clinic. We do work with CORE in getting these people through the transplant process. We've already done two, and we have multiple more that are on the list. So we are currently actively offering HIV positive patients HIV positive organs within UPMC under a research protocol.

Questions at all? Yes?

AUDIENCE: [INAUDIBLE]

AMIT TEVAR: Two. Two. Yep, first two in Pennsylvania. Yep. So we've done two and we have actually, I think, six on the list right now. Yes?

AUDIENCE: Do you see this being rolled out only to major centers, or like we have the amazing [INAUDIBLE] department. Not every transplant facility has access to that. Is that going to limit availability? Are there going to be a lot of regulations?

AMIT TEVAR: Yeah, Rose brings up a good point, and I agree with that. I don't think everyone should do this. Because I think what happens is everyone gets the idea that it's a matter of putting a HIV positive into an HIV negative-- HIV positive into HIV positive. It's only because we have robust nephrologist. We have interactive surgeons. We have a great ID department. We have awesome coordinators. We're paying attention.

I think if you are a smaller program that doesn't have the means for that, you should refer to a bigger program. So, yes, I do think so. In fact, I don't think that we'll ever get to a point where it's rolled out of standard of care. That's my own personal opinion. Yes?

AUDIENCE: Do you import and export to the other [INAUDIBLE]?

AMIT TEVAR: Yeah, so we actually-- I can tell you that the ones that we took were DCDs that were turned down. Because they were only offered to those 20 centers. So those 20 centers-- we actually communicate a lot between the centers on, hey, what do you think? Is this one good or is it bad? And you got your pick. So you don't to take a 60-year-old DCD. You can wait for a 25-year-old DCD.

AUDIENCE: Do you do anything different in the OR for these patients [INAUDIBLE]

AMIT TEVAR: So we do not. So we do have a stick kit. So whenever you get stuck from an HIV patient, they know the exact phenotype of HIV that you're going to get stuck with. And [INAUDIBLE] we'll have actually different retrovirals for you, for your prophylaxis period. We do not. And again, in transplant, if it's an HIV positive case, to reduce transmission, everyone knows, I will actually exclude residents from the case because they're the most likely to get stuck because they're enthusiastic and put their hands in front where they shouldn't be.

But no, we don't do anything special. We do have a lot of protocols as far as biopsies, and lymph nodes, and blood that has to get sent.

AUDIENCE: [INAUDIBLE]

AMIT TEVAR: It does, it does. And again, when we accept these organs, it's a middle of night discussion between ORC, CORE, surgeon on call coordinator, and ID. So we have all that history in front. If we don't know and we think they're multi-drug resistant, we oftentimes will skip those.

Man, good questions. Not softballs. All right. Wait until the next set, then.

All right. We're going to talk next about Hepatitis C and the trial that we're rolling out. And since this is mostly a kidney room, I'm going to hit the basics of Hep C. So again, a pretty epidemic disease. Three million people are infected in the US. I see a lot of commercials for this now. 170 million people are infected worldwide. Becomes chronic in about 75% of folks.

And this is one of the few things that's been cool in my career. I've got to see a disease get almost eradicated. I thought that about measles, too, I guess.

So when I started out in transplant, almost every liver I did was Hep C. And we did huge Hep C. We had these protocols on which livers to use for Hep C positive folks. We knew that African-Americans had the largest recurrence rate. And it was what we did every day. I can't tell you the last time I've transplanted a Hep C positive patient. In fact, I will tell you last time I got an offer for an A Hep C positive, we have three on the liver list that are Hep C positive.

So this disease has been changed dramatically. And that's within about five or six years. So even back in 1998-- and let's go back to 2011, when you're using Pegasus Ribavirin for treatment. You have a 55% SVR rate. And what SVR means, Sustained Viral Response 12. Which means that for 12 weeks after treatment, you have no evidence of any replicating HIV virus.

Keep in mind, it's Hep C virus. You're going to be Hep C positive for life. So you have the antibodies, but you actually have no virus. And that means you have a sustained cure.

So what's interesting is in '11, you had a 55% percent response rate. And if you had to predict things that we mean you have a low response rate, they would be the things that most commonly cause you'd have cirrhosis. So genotype 1 Hep C, HIV, fatty liver, metabolic syndrome, and bad fibrosis. Those are the predictors of having a low response rate. So again, not very efficacious treatments.

And then, voila. we? Hit 2013, our multi-drug direct acting antivirals hit out. And now we have 75%. And now, you know, now they're just showing off. They say, I'm 99%, not 98%. It's kind of like the BIC razors. You know, four blades, then five blades, then 17 blades.

There are so many drugs that are available right now, you can't keep track. You go to the ASLD, and you can't actually digest the amount of drugs coming in. And each one is even more efficacious. It's got a shorter treatment period. They're treating even resistant ones now. They've got better safety profiles. You can use them at any dose in end stage renal. It's a pretty impressive evolution of this.

So Hep C has changed in the US. And this is actually another cool thing that's happened within my career. We've seen now direct acting antivirals actually hit multiple genotypes, and have actually excellent treatment. We still have a huge rise in acute Hep C infection.

So number one, we have two things. We have great treatment for chronic Hep C people. But we have a lot more acute Hep Cs coming in because we have no screening modalities in place. And if you look, you see a lot of commercials for, treat your Hep C. Go see a doctor. Someone's playing softball with their golden retriever in slow motion.

But you don't see a lot of hey, avoid opioids. Or go get Hep C screened if you're young. You don't see those commercials because we don't do anything like that.

So prior to 2010, this is actually amazing. We had a huge incidence of African-Americans-- 25% of all chronic Hep C was African-American, metropolitan, coastal. So you're looking at African-Americans in the large cities in the coast, East and West. That's where most of the Hep C was located.

Now, since 2010-- and keep in mind, epidemiology changes don't happen in eight years, except for this. And since 2010, now we have young-- meaning very young, 18 to 29-year-olds. We have equal male and female. Before that, we didn't have a lot of female Hep C. We just didn't. Now we have equal male-- it's exclusively non-urban. And it's Kentucky, Tennessee, West Virginia, Virginia, Ohio, Appalachia.

And if you look at heat maps, which I know Dana loves, it's people that are in the most impoverished areas in the United States, people that are using heroin. And heroin, the gateway drug for heroin is obviously opioids. So you go opioids, heroin, acute Hep C.

And here's a great heat map. The one on the left looks at the top 220 counties that have acute Hep C. And this is a separate map. And again, this is all public access. I just Google this. And then Control C, Control V. It's very easy.

If you look, all the hotspots there, poverty. They match up perfectly. These are two different sites. So your acute Hep C and your opioid crisis is exactly correlated to the poverty rates in the United States. And again, if you look, there's a huge purple spot-- no UPNC representation-- right at West Virginia. That's the hotspot. That's the epicenter. That's exactly where we have the opioid crisis.

Now, you think that Pittsburgh's immune? We are opposite of immune. We have actually some of the highest opioid rates in the country. We actually have the highest overdose rates in the country. And we have the largest number of opioid related deaths in the country.

So you look at Erie County, there up 32%. That's from previous years. These are massive amounts. And if you look at the age of all of these people, they're all less than 40.

I can tell you Martin and I, and the rest of the surgeons at nighttime, when we see these offers, it's been a dramatic difference. No longer are they 55-year-old DC from Philadelphia. It's a 32-year-old acute drug overdose from Erie. Those are ones that we get now.

So real quick-- and the reason this is important is because you have to realize where CORE runs. CORE actually has all of West Virginia, except a couple of counties, the entire Western half of the state, and then two random counties up in New York. That's our service area. That means every single person that dies in those areas gets referred directly to CORE for organ referral and organ donation.

All right. So a couple of things that everyone needs to know about before we talk about increased risk. So there's two different things that are important to keep in mind.

People can be Hep C antibody positive, which means that you have active Hep C or you had Hep C in the past and was treated. Once you get Hep C, you're antibody positive for life.

Then you have NAT positive, which means that your Nucleic Acid Testing shows actively replicating Hep C. We have the same thing for Hep B, and we have the same thing for HIV.

You have to know the definitions, especially when you're talking about this to your patients. And number one, if you're Hep C antibody positive, which means you have exposure, and your NAT positive, you have Hep C. It's actively going on in your body.

If you have Hep C antibody positive and NAT negative, that just means that you have no active infection. We don't know what the risk is. We have a couple of very preliminary studies coming out of Cincinnati, coming out of here. We don't know what your risk is. It's dependent on the organ.

If you antibody positive-- antibody negative and NAT positive, that means you're in a very, very interesting window, where you actually are replicating but you have not replicated long enough that you have developed antibodies that are enough for detection. You are still FC positive then. And then, if you're negative antibody, negative NAT, you have no infection.

So what we worry about is the eclipse period here. So if you have-- let's say you decide to take your Hep C laden needle and shoot up your heroine on Monday, what is your eclipse period till you're actually viremic. And during that eclipse period, you're not going to be NAT positive, you're not going to be antibody positive. And that's where we run the risk of having an increased risk organ that may develop Hep in the future, and transmit it to recipients.

These are actually some of the most troubling slides you'll see. This is actually the donor ages by Hep C. So this is Hep C only, through time. If you look, if you go down to 16, we've dropped from an average age of 47 down to 35. That's the average age. So we're seeing 18-year-olds, 20-year-olds, 25-year-olds coming in with deceased donor that are Hep C positive.

If you look at deceased donor by mechanism of death-- so this is drug overdose, 2017, 13%. 13% of all organ donors were drug overdose. More than we had for car accidents. Let that digest. Let that sink in.

So what's driving this big rise? We saw it last year. Last year it was epidemic. Every donor was the same. 25-year-old Hep C positive, DCD, drug overdose, found with 60 minutes of downtime. So drug intoxication is-- 50% increase in drug intoxication deaths from 2014 to '16.

So in the kidney world, we have some catching up to do. We don't see a lot of Hep C because Hep C is a liver specific virus. So liver has actually done a great job of keeping the discard rate low.

For kidneys of Hep C positive, we started doing this about five years ago. 40% of Hep C positive kidneys are thrown in the trash because we just do not have people to put them into that are Hep C positive.

I can tell you, our center, we just had a Hep C donor two nights ago. Both kidneys-- one was thrown in the trash, one was actually exported out. We currently have no Hep C positives on our list. And when we list them, we tell them roughly a wait time of six weeks if you have zero for PRA.

So again, if you look at our utilization rate, it's really, really poor. We actually discard a fair number of kidneys, and even more so on the Hep C side. 43% of those kidneys are thrown out.

We have started-- there was actually a pretty important trial that happened, coming out of U-Penn. This was the Thinker trial. This was more of a, let's demonstrate that we can do it. And this looked at taking Hep C positive kidneys that were genotype specific into Hep C negative recipients with no known resistance patterns, treating them with drug afterwards. It was a clinical trial. It was done on an IRB fashion, the correct way. And looked at efficacy of doing this.

And so, of course, as expected, they did a very, very robust intro to the trial, where they were actually listing people after they understood that they were going to be infected with Hep C. And then actually allowing them to enroll, then giving them the Hep C positive organ, and then treating them right afterwards.

So we look to do the same thing here. We do have a trial that's currently active. The reason that we are perfect for this trial is number one, we live right above West Virginia. Our OPO manages West Virginia. So we live in the middle of the opioid epidemic.

The institution, the coordinators, the surgeons, the nephrologist, we have a lot of trial experience. We are used to being on the cutting edge. And we understand the importance of follow up and maintaining these patients.

So the trial, just to be brief, looks at doing Hep C positive to Hep C negative. We currently are actively enrolling for this trial. We expect our first-- I think the first lung was done, is that right? The first lung was done a couple weeks ago. No, the first heart was done a couple weeks ago. We expect our first kidney to be done in the next month or so.

And just to give you an idea, CORE, looking at the total number of-- this is 2017, had 33 patients that were Hep C positive within the area. That number is supposed to go up some more. So again-- and I'll end on one note. So increased risk and PHS increases, what this means-- and I think for all of the coordinators, providers, surgeons, nephrologists here, you should look at this kind of in a broad sense.

Number one, when we talk about increased risk, which we talk about almost every night, you have to figure out what it means. Is it increased risk to the patient? Increased risk the provider? Are you really able to articulate the risk to your patient?

And I can tell you that as a whole, I think we do a terrible job of this. We don't know what those risks are. And we give some blanket statement like, it's really, really low. No one knows what that means.

Is your patient able to digest that risk? And these patients depend on you. And I look at my coordinator pool in the back. When they call the middle of the night, they trust you guys more than they trust me or anyone else. And when you say, yes, I think it's going to be OK, that's what they depend on.

And what's your risk of end-stage renal disease and end-stage liver disease? Is the risk of acquiring HIV or Hep C or Hep B from increased risk donor more or less than your risk of dying while waiting for an organ? And a lot of our folks-- this is Western Pennsylvania-- have cultural problems with using PHS increased risk organs.

And if I go back to the first slide, the only information we get is yes/no. It's very binary. So PHS increased risk means that either you are or you aren't. We don't quantitate. We don't specify. And we don't release that information to patients.

So the criteria are very, very simple. So these are-- what it means to be 2013 PHS increased risk. So if you had, in the past 12 months, sex in exchange for money, man with man sex, women with sex with a man with MSM behavior, sex with anyone who's known to have HIV, Hep B or Hep C, preceding 12 months only. So if you had it 14 months ago, you're no longer increased risk.

Sex with someone who had sex in exchange for money. So obviously, prostitution. If you had sex with anyone who has injected drugs IV or intramuscular for the previous 12 months. These are one set of criteria.

The other ones are anyone who is less than 18 years of age and you don't know any medical history. A child who has been breastfed by a mom who is HIV positive. And if you had injected drug use IV for any particular reason in the previous 12 months.

So those are the requirements to actually get labeled as increased risk. Figure out what that means. The risk of transmission is actually one in 10,000. It's actually very, very low. And again, keep in mind that everyone that we do take for PHS increased risk is NAT negative.

So a couple of things. Number one, focus on your patients. Figure out what's best for them. Know the numbers. Know the facts. Know the data. They depend on you for this.

Number two, you have to expand the donor pool. The Region 2 slide is awful. Your patients don't have a chance of getting an organ unless you expand the donor pool.

Communicate on all levels. So your dialysis unit, to the transplant team, to the patients need to all know exactly what they're getting into. When Harry and I first got here, most of our patients had been told by the referring docs to not accept PHS increased risk. For no particular-- we got blocked on this routinely. Middle of the night, they said, well, I want someone who is a non-smoker, which makes no sense. I want a donor, IV drug use, absolutely not.

It took us a good five years to change that. But those were a lot of organs that we were passing up on.

Communicate. Know the risks. And let go of those little dogmatic things that prevent our patients from getting them. And yes, we are actively transplanting our folks with HIV positive to positive, and Hep C positive to Hep C negative, both under research protocols.

All right, guys. Thank you very much. Questions?