Physicians on the Medical Staff at Baylor University Medical Center “Save the Spleen” in Pediatric, Adult Pancreatectomies
Contrary to popular belief, total pancreatectomies don’t always require spleen removal. In many cases, with both adults and children, spleen preservation can help prevent long-term infections—but it involves technical challenges, which is why Baylor Scott & White Health is one of the few in the country to do it.

First Baby Born from Transplanted Womb at Baylor Dallas Could Arrive in 2018
Baylor Dallas is among the first few sites in the U.S. to offer women a transplanted uterus—and with it, a chance to become pregnant and carry a child without a surrogate. If results are promising from this initial pilot study of 10 patients, even more women may have the chance to participate within the next few years.

Clinical Studies in the Advanced Lung Disease Program
Four clinical research studies have recently been launched at the Advanced Lung Disease Program that could improve diagnosis and treatment for patients with advanced lung diseases, or who have received a lung transplant.

Case Study: Use of ECMO as a Bridge for Lung Transplantation
The advantages of using an established extracorporeal membrane oxygenation (ECMO) system among patients with significantly compromised lung function are many, but for one 58-year-old patient who came to Baylor Dallas with advanced lung disease, they boiled down to just one word: lifesaving.
Researchers from Baylor Annette C. and Harold C. Simmons Transplant Institute presented results from the latest studies on organ transplantation and patient care at the 2016 American Transplant Congress held in Boston in June. The event provides an important opportunity for Baylor Scott & White Health researchers to contribute to the organ transplant community while benefiting from the research of other transplant teams. Attendees heard presentations on a variety of topics, such as the impact on kidney function in liver allograft recipients by the presence of AT1R antibodies, a comparison of outcomes from patients with completion versus total pancreatectomy with islet autotransplantation, and outcomes of liver transplants with aorto-hepatic conduit versus transplants without aorto-hepatic conduit. View a complete listing of the presentations and abstracts at: www.baylorhealth.edu/transplantcongress.

**Surgeons on the Medical Staff at Baylor University Medical Center Perform First Total Artificial Heart Bridge-to-Transplant in North Texas**

For patients with heart failure whose health cannot sustain immediate organ transplantation, a total artificial heart can offer better outcomes while waiting for a donor organ—and it’s all through the likes of a 14-pound portable device carried in a backpack.

**Focus on Education: Living Donor Transplant**

Living organ donors are on the rise for kidney and liver transplant recipients – a result of a concentrated and intentional effort to inform and educate the public about the advantages, risks and rewards of living organ donation. In support of this effort, Baylor Dallas recently hosted several sessions, including the 5th Annual Donor Advocate Symposium at the Magnolia Hotel in Dallas.

**Left Ventricular Assist Devices: Extending Options for Advanced Heart Disease**

Considered a “bridge-to-transplant,” an LVAD can help a patient survive until a donor heart becomes available for transplant and can also be used as destination therapy. These devices are quickly becoming a viable option for patients facing advanced heart disease, as well as heart transplant candidates.
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Physicians on the Medical Staff at Baylor University Medical Center “Save the Spleen” in Pediatric, Adult Pancreatectomies

Make a roster of the body’s most essential organs. Did the spleen make the team? Likely not.

But that doesn’t mean that the organ should be removed at every surgical opportunity—even though it often is, such as during pancreatectomies with auto-islet cell transplant. That’s why physicians on the medical staff at Baylor University Medical Center at Baylor Annette C. and Harold C. Simmons Transplant Institute are among the few in the country making a concerted effort to save the spleen during these procedures.

“During a total pancreatectomy, many other centers remove the spleen with the pancreas, mainly because the blood supply to the pancreas is shared by the spleen,” said Peter Kim, MD, transplant surgeon on the medical staff of Baylor University Medical Center at Baylor Annette C. and Harold C. Simmons Transplant Institute. “Most patients don’t have problems if their spleen is removed, but there is a slightly higher chance that certain types of long-term infections will develop.”

Called overwhelming post-splenectomy infection (OPSI), those infections are possible, albeit very rare. Also concerning, Dr. Kim added, is that spleen removal can affect blood cell count which may increase clotting risk.

“So our philosophy is that if we can leave the spleen in, it’s better overall,” he said. “Especially in young patients, because if they have 60 to 80 years ahead of them, we don’t want them to have an infection later in life and have a harder time fighting it because they don’t have the spleen.”

So why doesn’t everyone preserve the spleen?

“Because it requires surgeons to maintain blood flow to the spleen, which can be surgically challenging,” Dr. Kim said, adding that there are two ways to do so. One involves dissecting the splenic artery and the vein away from the pancreas, which preserves the spleen’s primary blood supply. The latter involves removing the splenic artery and vein, but leaving in the spleen’s secondary blood supply, the short gastric vessels.

Both approaches involve highly technical and advanced surgical skills, but physicians on the medical staff at Baylor Dallas favored the first method. By retaining the spleen’s primary blood supply, it gives the organ its best chance at preservation.

“We don’t want to remove the splenic artery and vein, but if that becomes unsafe because of previous inflammation, we will instead work to preserve the short gastric,” he added. “We can tell right away, in the operating room, if the spleen lives or dies.”

Because children are least likely to have prior inflammation, they’re most eligible for the first spleen preservation approach—something Dr. Kim wants anyone with pediatric pancreatitis patients to know.

“We can pretty much preserve all of the essential structures and only take the pancreas out so that the patients have longevity long-term,” Dr. Kim said. “Contrary to the beliefs of a lot of people, we can do this very safely with improved outcomes and fewer complications.”

How do Surgeons Save the Spleen?

Physicians on the medical staff of Baylor University Medical Center at Baylor Annette C. and Harold C. Simmons Transplant Institute are using two surgical approaches to preserve the spleen during pancreatectomies with auto-islet cell transplant:

1. Save the Splenic Artery (Preferred Approach): involves dissecting the splenic artery and the vein away from the pancreas, which preserves the spleen’s primary blood supply.
2. Save the Gastric Vessel (In Cases of Inflammation): involves removing the splenic artery and vein, but leaving in the spleen’s secondary blood supply, the gastric vessels.
First Baby Born from Transplanted Womb at Baylor Dallas Could Arrive in 2018

It’s expected that by 2018, Baylor’s first baby born from a transplanted uterus could enter the world. That infant is what researchers hope will be the successful outcome of a clinical trial at Baylor Annette C. and Harold C. Simmons Transplant Institute which aims to give women a new womb, and with it—a chance to become pregnant and carry a child to term.

As part of a national and widely publicized trial, physicians at Baylor Dallas implanted wombs in 10 women with absolute uterine factor infertility (AUI). The process involved a multi-disciplinary collaboration at Baylor University Medical Center among obstetrician-gynecologists (ob-gyns), fertility specialists and the transplant team.

“The entire process of transplantation, fertilization, prenatal care and delivery—they’re all connected as part of this study, and they’ll all take place at Baylor University Medical Center at Dallas,” said Giuliano Testa, MD, principal investigator and surgical chief of abdominal transplantation at Baylor Dallas. “All of these components are integrated with one goal in mind: helping women who’ve been previously unable to have a baby.”

Baylor announced its involvement in January 2016, and in the time since, the team has received an average of two inquiries per day. The surge of interest has amounted to about 200 potential recipients and 50 potential donors who are being evaluated for eligibility which requires: 1) Recipients: 20 to 35 years old with absolute uterine factor infertility, intact ovaries and the desire to carry a baby to term, among other criteria; and 2) Donors: 40 to 65 years old and have previously carried at least one baby to term, among other criteria.

Though protocol limits the first phase to 10 donor/recipient pairs, Dr. Testa emphasized that many more women could have their chance in the future.

“In March, a patient at the Cleveland Clinic became the first person in the United States to receive a uterus transplant. Two weeks later, however, an infection prompted physicians to remove the woman’s

“This is the beginning of what we hope to be a great history for medicine, but it really is the beginning.”

— Giuliano Testa, MD
transplanted womb. On the heels of that news, physicians at Baylor and elsewhere have intensified efforts to prevent similar situations.

“It was something that hit very hard and will never be forgotten,” Dr. Testa said. “So through aggressive antifungal management and other preventive measures, we’re working very hard to put a process in place to help us ensure the safety and effectiveness of this procedure. It’s a special opportunity that could benefit several women who hope to carry their own biological children, so we want to offer it to as many people as we can.”

“Since mid-September, four women have received womb transplants from living donors at Baylor University Medical Center at Dallas. Three of the womb transplants were removed after tests showed poor blood flow. One woman still has her transplanted uterus and has shown no signs of rejection. The medical research team remains optimistic she could become the first uterine transplant recipient in the U.S. to make it to the milestone of uterine functionality.

“This is the beginning of what we hope to be a great history for medicine, but it really is the beginning,” says Dr. Testa.
Clinical Studies in the Advanced Lung Disease Program

Four clinical research studies have recently been launched at the Advanced Lung Disease Program that could improve diagnosis and treatment for patients with advanced lung disease, or who have received a lung transplant. Together, the research represents the Advanced Lung Disease Program’s continuous efforts to improve outcomes for patients with advanced lung disease and lung transplant recipients.

“Although lung transplantation has become an accepted therapy for end-stage lung diseases, there are still many unanswered questions,” said Howard J. Huang, MD, associate medical director for lung transplantation and medical director of lung transplant research for Baylor University Medical Center at Dallas. “A key objective is to identify new treatments or diagnostic tests to improve outcomes and extend the survival of lung transplant patients.”

#1: Antibody Therapy for Interstitial Lung Disease in Systemic Sclerosis

Starting this fall, investigators will begin recruiting patients for an international, multicenter Phase 2 study for patients with systemic sclerosis (SSc), a rare autoimmune disease characterized by progressive fibrosis in multiple organs. Systemic sclerosis-related interstitial lung disease (SSc-ILD) is a major cause of mortality and has few effective medical therapies.

As one of 18 U.S. centers participating in the trial, Baylor Dallas will explore abituzumab, a humanized monoclonal antibody that targets alpha V integrins. This class of integrins has been shown to activate TGF-beta signaling, a central molecular pathway in the pathogenesis of fibrotic lung diseases.

“Pulmonary fibrosis in patients with systemic sclerosis is one of the leading causes of mortality and morbidity for that population,” Dr. Huang said. “Because abituzumab targets a pathway we know to be involved in fibrosis, it represents an attractive strategy that has, in preclinical data, shown efficacy in animal models of liver and pulmonary fibrosis.”

#2: Antiviral Drug for Respiratory Syncytial Virus Infection in Lung Transplant Recipients

Respiratory Syncytial Virus (RSV) infections have been associated with significant graft dysfunction. The lung transplant program is participating in a Phase 2b trial comparing the efficacy of oral GS-5806 (Presatovir) with standard therapy. Presatovir is a novel, orally active RSV fusion protein inhibitor that has been shown to accelerate viral clearance in preclinical and clinical testing.

“In immunocompetent adults, RSV doesn’t cause major issues,” said Puneet S. Garcha, MD, lead investigator of the study, “but in lung transplant patients, it can cause viral infection, inflammatory response, bronchiolitis that can lead to pneumonia, and if untreated, subsequent graft dysfunction and development of chronic rejection. So we have to treat it very aggressively.”
#3: Blood Test for Lung Transplant Rejection Monitoring

Researchers are also evaluating a novel blood-based diagnostic test to monitor lung transplant rejection as part of a multicenter pilot study. This test works by detecting donor-derived cell-free DNA (cfDNA) in a lung recipient’s blood. Pilot studies in heart transplant patients have demonstrated good correlation between circulating cfDNA levels and rejection. The goal of this study is to develop a relatively inexpensive and minimally invasive method for early detection of acute rejection, which otherwise is diagnosed by a biopsy. Acute rejection occurs in up to 40 percent of lung transplant patients within the first year.

#4: Molecular Assay for Pulmonary Fungal Infections

A fourth study, now in active recruitment, is assessing a PCR-mass spectrometry assay to rapidly test bronchoalveolar lavage fluid for fungal infections—which can cause severe disease in both immunocompromised and immunosuppressed patients. Compared to traditional culture-based techniques that can take days or weeks to result, this new molecular assay enables testing for multiple fungal organisms from a single sample, with high sensitivity and a 24-hour turnaround.

“Potentially, this is a quick way to determine the appropriate drug a patient needs to be on or whether there is any infection at all,” Dr. Huang said. “Molecular testing is definitely the wave of the future. These tests are going to give us rapid feedback so that we can take better care of patients with data that doesn’t take weeks to turn around.”

Molecular testing is definitely the wave of the future. These tests are going to give us rapid feedback so that we can take better care of patients with data that doesn’t take weeks to turn around.

— Howard J. Huang, MD

Clinical Trials

Baylor Dallas is actively recruiting patients for a clinical trial related to systemic sclerosis. If you have a patient who may qualify, call

Courtney Kinsey (Patenaude), BS
Clinical Research Analyst (Heart, Lung Transplant & Pulmonary)
Baylor Research Institute
214-818-7899
Case Study: Use of ECMO as a Bridge for Lung Transplantation

Extracorporeal membrane oxygenation has become an established option for those patients with acute respiratory failure who fail conventional therapy. However, it is now being utilized to support patients who deteriorate while waiting for a lung transplant.

As a result of ECMO’s effectiveness in both bridge-to-transplant and mechanical ventilation contexts, Baylor Dallas’ ECMO program is a uniquely active one, deploying immediate ECMO support to patients at other hospitals both in and out of the state.

Patient: A 58 year-old male with undifferentiated interstitial lung disease (ILD), gastroesophageal reflux disease (GERD) and Barrett’s esophagus was transferred to Baylor Dallas in acute respiratory failure, requiring 60 liters oxygen via high-flow nasal cannula. He continued to deteriorate despite aggressive medical management. A transplant evaluation was quickly completed resulting in his being listed on his fourth hospital day.

ECMO: As the patient’s respiratory status declined, physicians initiated ECMO as a bridge-to-transplant. While on ECMO, a multidisciplinary team of nurses, physical therapists and nutritionists worked with the patient regularly to ensure that his nutrition and physical conditioning could be optimized.

Transplant: On day 11 of the patient’s hospital stay, an organ became available, and a bilateral sequential lung transplant was performed. He was able to be removed from ECMO support 24 hours after the transplant.

Recovery: This hospital course was complicated by his weakness and delirium; however, he was able to be weaned from the ventilator and discharged approximately three weeks after his transplant.

Results: The patient is now one year post-transplant, with excellent graft function – FVC 3.62 (80 percent), FEV1 1.280 (79 percent), FEV1/FVC (77 percent).

“ECMO was the life-sustaining intervention for this patient – because without ECMO, his mortality was approaching 100 percent,” said Puneet S. Garcha, MD, FCCP, assistant medical director of lung transplantation on the medical staff at Baylor Dallas.

“Interstitial lung disease patients with an acute exacerbation do not do well on the ventilator due to inability of the fibrotic lungs to oxygenate and ventilate. ECMO was able to buy him time on the waitlist until suitable donor lungs were available.”

How Does ECMO Work?

ECMO systems supply short-term lung and heart support by pumping blood outside the body for removal of carbon dioxide and oxygenation. ECMO systems extract blood cells from the veins and return them to either the arteries or veins in patients with lung or heart failure.
In February 2016, a Baylor patient became the first person in North Texas to receive a beating heart after six weeks spent using an artificial one. Surgeons on the medical staff of Baylor University Medical Center successfully performed the heart transplant on a 52-year-old man who had been using the SynCardia Total Artificial Heart Freedom device after a January 2016 heart attack left his native heart irreparable.

On the heels of that successful procedure, surgeons on the medical staff at Baylor University Medical Center at Dallas expect to perform more bridge-to-transplant cases involving the FDA-approved SynCardia technology, which weighs under 14 pounds and can be portably carried in a backpack. As a complete and artificial replacement for both ventricles and four heart valves, the device restores immediate blood flow through mechanical support until a donor human heart can be found.

“We estimate that up to 10 percent of the heart failure population would be better served with a total artificial heart, as opposed to direct transplant,” said Gonzalo Gonzales, MD, chief, heart transplantation and mechanical circulatory support at Baylor Dallas. “For them, conventional left ventricular assist devices would not be ideal for anatomical and technical reasons; therefore, biventricular support through the artificial heart is the best option.”

The alternative, he added, would involve biventricular support with bilateral ventricular assist devices, but research suggests that the total artificial heart provides better transplant survival outcomes. In a 2014 study, researchers reported an 88 percent survival rate 60 days post-implantation among patients in progressive decline despite medications, compared to a typical rate of 50 percent without the device.

“It’s an aggressive approach, but our large center has the capacity to provide a vast array of options for heart failure patients,” Dr. Gonzales said, adding that Baylor participated in the early research affirming the device’s efficacy and safety. “Baylor now offers every option for our heart failure patients, and we’re thrilled to do so, because there are few centers that can.”

In all cases, the artificial heart is designed as a bridge for patients with end-stage biventricular heart failure who are waiting for a donor human heart. While the longest anecdotal case of an artificial heart was four years, physicians stress that the critical period is a six-month window.

In Baylor’s first case, surgeons had removed the man’s heart because damage to the organ was so extensive that repair surgery or other mechanical assist devices would not help. They then replaced it with the total artificial heart because his current health would not have sustained a complete transplant at the time.

“With fewer donor hearts becoming available, it is critical to offer these opportunities to bridge our patients to transplant,” Dr. Gonzales said. Only 2,200 donor hearts become available every year in the U.S., and according to 2012 research, half of patients on waitlists had been waiting for a year or more. While wait times vary, Baylor Dallas has a median wait time of eight days for status 1A heart transplant patients and less than two weeks for status 1B from the time they are listed to transplant, one of the shortest wait times in the country.
Living organ donors are on the rise for kidney and liver transplant recipients at Baylor Annette C. and Harold C. Simmons Transplant Institute in Dallas and Fort Worth. In 2015, 50 of the 147 kidney transplant recipients at Baylor University Medical Center in Dallas got their gift of life from a living donor. A friend or family member stepped up and said “I want to give while I live” and became an organ donor. One in five of the kidney transplant recipients at Baylor Scott & White All Saints Medical Center – Fort Worth received their organ from a living donor. In addition, the living donor liver transplant program at Baylor Dallas is one of the busiest in the nation.

In November, Baylor hosted the 5th Annual Donor Advocate Symposium at the Magnolia Hotel in Dallas. The day-long conference provided answers to donor and recipient questions and also educated attendees about options for increasing participation in the living donor process. Giuliano Testa, MD, FACS, MBA, surgical chief of abdominal transplant on the medical staff at Baylor Dallas, is the program director.

“I truly believe this symposium makes it easier for clinicians to address the tough questions that patients with end-stage organ failure are asking,” says Dr. Testa. “They want to know how to bring up the subject with their patients. Patients want to know about the risk to their donors. The highlight of the symposium was our donor panel that shared what it was like to go through the living donor process.”

In recent years, this conference has attracted hundreds of nurses, social workers, coordinators, clergy and clinicians who have an interest in living donor transplantation. This year we had nearly 200 registered.

Some of the topics for the 2016 Donor Advocate Symposium included:
- Respect for Organ Donors
- Best Practices in Live Kidney Donation
- Anonymous Living Donation
- Protecting Donor Privacy
- Pressuring the Donor

In addition to the Donor Advocate Symposium, the transplant staff at the Baylor Annette C. and Harold C. Simmons Transplant Institute routinely hosts community question and answer sessions about living organ donation for transplant recipients and their families and friends. These events are typically held on a weeknight and are open to the public. During these sessions, doctors and transplant coordinators from the liver and kidney teams answer questions and share experiences about the donation and transplant process.

“I think this casual face-to-face time with the surgeons on our medical staff and our other staff is a good introduction to the living donation for both the potential recipient and the potential donor,” says living donor liver coordinator, Lana Casica, RN. “Patients and family members are able to learn about the donation process, including the evaluation, operation and recovery, in a more informal setting. It provides the opportunity to ask lots of questions, and those in attendance benefit from hearing answers to questions they may never think to ask.”

Living donor transplantation offers immediate organ availability and is a planned operation which can avoid the progression of the recipient’s disease and its potential life-threatening complications.

“I think the more we can educate and share information about live donor transplant, the less mystery and fear there will be,” says Tiffany Anthony, MD, transplant surgeon on the medical staff at Baylor Dallas.

At our living donor Q & A events, patients receive tips on how to bring up the subject of live organ donation with family, friends and co-workers. They also learn how to discuss why they need an organ transplant and why living donors make the best donors.

According to Dr. Anthony, “we want our patients to have every opportunity to gain improved health through transplantation, and with the ever-increasing national organ shortage, living donation often offers the best option for a good outcome.”

To find out more information about upcoming Question and Answer sessions, visit baylorhealth.com/kidneytransplant.

This increase in living donors is the result of a concentrated and intentional effort to inform and educate the public about the advantages, risks and rewards of living organ donation.
We all know that advanced heart failure is among the leading causes of death, more than lung or breast cancer. Add to this, the fact that only 2,500 heart transplants are done in the U.S. every year, but hundreds of thousands of people would benefit from some form of cardiac replacement therapy, and you have a problem in need of a solution.

Physicians on the medical staff at Baylor Annette C. and Harold C. Simmons Transplant Institute at Baylor University Medical Center in Dallas say there are three major options presented to these patients: Palliative care, which helps ease the patient’s symptoms but doesn’t solve the problem; heart transplant, which has a short wait time; or mechanical therapy, which includes a Left Ventricular Assist Device (LVAD).

An LVAD can be used as a bridge-to-transplant, meaning it can help a patient survive until a donor heart becomes available for transplant. It can also be used as destination therapy, an alternative to heart transplant that provides long-term support in patients who are not candidates for transplant. These devices are quickly becoming a viable option for patients facing advanced heart disease, as well as heart transplant candidates.

“LVADs have revolutionized the care of heart failure because they’re exponentially growing, especially when compared to the high demand and low supply of donor hearts,” said Brian Lima, MD, cardiothoracic surgeon on the medical staff at Baylor Dallas.

According to Susan Joseph, MD, cardiologist on the medical staff at Baylor Dallas, that growth is due to their overwhelming success. Baylor Dallas offers the full spectrum of tools and therapies for advanced heart failure, making it one of the leading centers in the U.S. for heart failure, the second busiest heart transplant center in the U.S. and quickly becoming one of the top LVAD implanting centers in the U.S.

Despite amazing progress in recent years, “The greatest need of this therapy is to increase awareness and understanding of warning signs and symptoms of advanced heart failure,” says Dr. Joseph.

Baylor has answered this call with teams of physicians, nurses and assistants who travel to outreach clinics throughout Texas, delivering world-renowned transplantation medicine and education to an expanding network of communities. This passion to bring hope to patients and their families, joined with advanced technology and the ability to deliver quality health care, puts Baylor at the forefront of advanced heart disease therapy.

“Left Ventricular Assist Devices: Extending Options for Advanced Heart Disease”

These are patients whose alternatives are not just crippling, but are at imminent risk of dying from heart failure. We’re taking people with short life expectancies and getting them to their transplant and extending their years.

- Susan Joseph, MD
Transfer Information

Baylor Annette C. and Harold C. Simmons Transplant Institute is the integration of transplant services at Baylor University Medical Center at Dallas and Baylor Scott & White All Saints Medical Center - Fort Worth. Together, Baylor Dallas and Baylor Scott & White - Fort Worth are one of the largest multispecialty transplant centers in the country.

For more information, please call 1.800.774.2487.

With one phone call, a physician can request additional information, an appointment for a patient, or a consult. Call 1.800.774.2487 and a Baylor Annette C. and Harold C. Simmons Transplant Institute representative will assist you.

To learn more about the transplant programs and criteria, visit BaylorHealth.edu/Transplant.

If you wish to be taken off this mailing list, please call 844-74BSWMD.

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