

# Transplant Update

A Report from Baylor Annette C. and Harold C. Simmons Transplant Institute Volume 5 • Number 2



## Living Liver Donation: An Attractive Option for Some Patients

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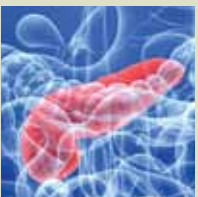
Advanced liver disease is debilitating, even for the healthiest of liver disease patients, much less those who wait years for an organ from a deceased donor. Patients at Baylor Annette C. and Harold C. Simmons Transplant Institute are benefitting from another option: living donor liver transplantation.



## Kidney Transplant Program Focused on Excellence

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Baylor University Medical Center at Dallas and Baylor All Saints Medical Center at Fort Worth perform more than 200 kidney transplants a year, making the combined programs the largest kidney transplant program in the Dallas/Fort Worth area. The total number of kidney transplants performed since the program's inception more than 25 years ago is approaching 3,000.



## Study Shows Benefit of Auto Islet Cell Transplant after Total Pancreatectomy

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Patients with refractory chronic pancreatitis experience severe, intractable pain. They frequently develop long-term narcotic dependence. They have difficulty maintaining their jobs and relationships. They are high users of medical facilities with frequent trips to the emergency room and hospital admissions.



## Combination of Drugs Improves Function of Cells in Auto Islet Transplant

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Baylor University Medical Center at Dallas is one of the few medical centers in the world to offer autologous islet cell transplant after total pancreatectomy (TP-AIT) for patients with chronic pancreatitis. In fiscal year 2013, Baylor Dallas performed a record 24 auto islet cell transplants.



## Heart Transplant Program Grows to Third Largest in Nation

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In 2013, the heart transplant program at Baylor University Medical Center at Dallas—currently the number-one program in Texas in terms of volume—ranked among the top five largest heart transplant programs in the nation.



## Considering Adult Lungs for Pediatric Transplant Patients

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Lung transplantation changed significantly in 2005 with the institution of the lung allocation score (LAS). The LAS was created in an attempt to ensure that the patients who were in the most need could receive lungs. Prior to the LAS, the only determinant was how long they were waiting.

## Living Liver Donation: An Attractive Option for Some Patients

Advanced liver disease is debilitating, even for the healthiest of liver disease patients, much less those who wait years for an organ from a deceased donor. Patients at Baylor Annette C. and Harold C. Simmons Transplant Institute are benefitting from another option: living donor liver transplantation.

The program—the only active one in Texas in the last two years—gives patients the opportunity to improve their overall quality of health and life by receiving a liver transplant sooner rather than later. Since the program began in 2011, the surgeons on the medical staff at Baylor University Medical Center at Dallas have performed 15 transplants with excellent outcomes for both recipients and donors.

“These patients faced long waits on the existing transplant list and likely would have died without the option of a living donor, as their diseases do not qualify them with the priority necessary to receive a deceased donor liver according to UNOS, the national allocation system,” said Giuliano Testa, MD, FACS, MBA, surgical director of living liver donor transplantation and physician on the medical staff at Baylor Dallas.

In the procedure, the entire diseased liver is removed from the recipient, and in its place half of the donor’s liver is transplanted into the recipient. Within approximately a month, the partial liver in both the donor and recipient grows back to near-full volume. Outcomes are similar to those who receive a liver from deceased donors.

Any patient who is listed for a liver transplant is eligible for a living donor transplant. Patients with multiple underlying problems who could withstand a regular transplant may not be able to withstand a living donor

transplant, because they receive only half a liver. Donors must be between 18 and 55 years of age and in excellent health.

As with all transplants, patient safety, quality care and a focus on excellent outcomes are at the top of the agenda with living donor liver transplantation. Surgeons on the medical staff at Baylor Dallas have both the experience and expertise to manage this complex surgery.

“This is a very technically demanding surgery, so it should be performed at a transplant center where surgeons have experience and expertise in this particular procedure,” Dr. Testa said. “We have minimized the risks to the donor through a strict and meticulous

evaluation process. A special protocol for the care of donors takes an ‘all-hands-on-deck’ approach, including every facet from surgery and anesthesia to nursing care.” ■

**Giuliano Testa, MD, FACS, MBA,**  
surgical director of living donor liver  
transplantation at Baylor Dallas,  
reviews patient information with  
**Melissa Graham, RN.**



### Quick Facts

- Over 29 years ago, Baylor pioneered the first liver transplant program in the Southwest.
- One of three programs in the nation to perform 3,752 liver transplants.\*
- Baylor’s expertise in the areas of hepatitis B and C is internationally renowned.

\*Volumes are based on liver transplants at Baylor University Medical Center and Baylor All Saints Medical Center.



## Kidney Transplant Program Focused on Excellence

Baylor University Medical Center at Dallas and Baylor All Saints Medical Center at Fort Worth perform more than 200 kidney transplants a year, making the combined programs the largest kidney transplant program in the Dallas/Fort Worth area. The total number of kidney transplants performed since the program's inception more than 29 years ago is 3,740.

Careful donor organ selection, the experience and expertise of nine fellowship-trained surgeons on the medical staffs of Baylor Dallas and Baylor Fort Worth, and follow-up care by transplant nephrologists on the medical staffs result in outcomes that exceed national averages.

“Donor organ selection is done from the initial organ offer by the surgeon in consultation with a nephrologist, which is not always the case with other programs,” said Nicholas Onaca, MD, surgical director of kidney transplantation. “Because surgeons screen the organs themselves, we may be able to perform a transplant with an extended criteria donor or donation after cardiac death.”

The vast majority of living kidney donations are performed laparoscopically, allowing



**Baylor University Medical Center at Dallas and Baylor All Saints Medical Center at Fort Worth perform more than 200 kidney transplants a year.**

donors to recover faster, with most leaving the hospital in two to four days and returning to work in six weeks. To further improve a donor's experience, Baylor has begun performing robotic donor nephrectomies, which increase the surgeon's accuracy.

Baylor immunosuppression protocols are tailored to certain patient demographics and disease conditions. The protocols are constantly reviewed by surgery and nephrology, with changes or improvements made based on outcomes data.

Plans are under way for a desensitization program, which is available at only a few transplant centers in the United States. Highly sensitized patients exhibit high levels of antibodies against the HLA antigens of

some of the potential donor population, leaving them with long wait times for receiving a donated organ. And once transplanted, they have a greater risk of graft loss from rejection.

“The number of patients on the waiting list who are highly sensitized is increasing, so we believe we have an obligation to start this program,” Dr. Onaca said.

A weekly Kidney Transplant Outreach Clinic in Lubbock offers both pre-transplant evaluations and post-transplant care to patients in the area. For many patients, it is not feasible to routinely travel to the Dallas/Fort Worth area. This outreach clinic is an initiative of HealthTexas Provider Network. ■

### Quick Facts

- With 3,740 kidney transplants performed, our kidney and kidney/pancreas program is one of the largest in Texas.\*
- According to the Scientific Registry of Transplant Recipients (SRTR) one-year survival rates, survival rates for Baylor kidney recipients exceed the national average.

\* Volumes are based on kidney transplants at Baylor University Medical Center and Baylor All Saints Medical Center.

## Study Shows Benefit of Auto Islet Cell Transplant after Total Pancreatectomy

Patients with refractory chronic pancreatitis experience severe, intractable pain. They frequently develop long-term narcotic dependence. They have difficulty maintaining their jobs and relationships. They are high users of medical facilities, with frequent trips to the emergency room and hospital admissions.

At Baylor University Medical Center at Dallas, these patients may be candidates for a total pancreatectomy followed by an autologous islet cell transplant (TP-AIT). Baylor Dallas is the preeminent center in the southwestern United States, and one of the few medical centers in the world to offer this innovative therapy.

In this procedure, the pancreas is surgically removed and taken to the lab, where the patient's own islet cells are extracted. These cells are then infused into the patient's liver through the portal vein, where they take hold and ideally begin to produce insulin again on their own. This reduces the risk of brittle diabetes and provides substantial pain relief. Patients may need insulin to regulate blood sugar, but in some cases, the patients remain insulin free.

"Our main goal is to reduce or alleviate a patient's pain and retain the pancreatic endocrine function of the islet cells," said Marlon Levy, MD, FACS, surgical director of transplantation at Baylor All Saints Medical Center at Fort Worth. "This is a promising treatment option for patients who have run out of options to get relief from their symptoms."

While a previous study at Baylor Annette C. and Harold C. Simmons Transplant Institute confirmed that TP-AIT has a significant impact on reducing pain, there was no scientific data to document its impact on a patient's overall quality of life. Researchers

at Baylor recently conducted a study of 16 patients with chronic pancreatitis who underwent the procedure.

A questionnaire developed to assess quality of life allowed an extensive review of patients' global health status and physical, role, emotional, cognitive and social functioning pre-transplant and post-transplant. Researchers also measured specific symptoms such as pain, fatigue, nausea, vomiting, insomnia, appetite loss and constipation. The results showed all functional scales and symptom

scales were significantly improved in all patients after TP-AIT.

"We expected that when a patient's pain and narcotic dependence are removed their quality of life would improve, and our study confirms this," Dr. Levy said.

Dr. Levy presented the results of this study at the International Pancreas and Islet Transplant Association (IPITA) meeting, held in September, 2013 in Monterey, Calif. ■

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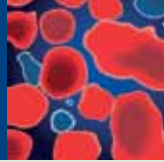
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**Marlon Levy, MD, FACS**

### Quick Facts

- First facility in the Southwest to be approved by the American Society of Transplant Surgeons as a surgical training program in pancreas transplantation.
- Pancreas patient survival rates at Baylor University Medical Center and Baylor All Saints Medical Center exceeded the national average for one-year survival.
- The program\* has performed 226 pancreas transplants.

\* Volumes are based on pancreas transplants at Baylor University Medical Center and Baylor All Saints Medical Center.



## Combination of Drugs Improves Function of Cells in Auto Islet Transplant

Baylor University Medical Center at Dallas is one of the few medical centers in the world to offer autologous islet cell transplant after total pancreatectomy (TP-AIT) for patients with chronic pancreatitis. In fiscal year 2013, Baylor Dallas performed a record 24 auto islet cell transplants. Since the program began, Baylor has performed 72 auto islet cell transplants for patients with this debilitating condition.

A team of transplant surgeons and research scientists from Baylor Dallas and Baylor All Saints Medical Center at Fort Worth presented 10 abstracts at the International Pancreas and Islet Transplant Association (IPITA) meeting, held in September in Monterey, Calif. The team consisted of Marlon Levy, MD, FACS, medical director, Islet Cell Transplant Program, Baylor Health Care System, and surgical director of transplantation at Baylor All Saints Medical Center at Fort Worth; Bashoo Naziruddin, PhD, director of the Islet Cell Laboratory at Baylor Dallas; Morihito Takita, MD, PhD, Michael

Lawrence, PhD, Faisal Kunnathodi, PhD, Rauf Shahbazov, MD, PhD, and Mazhar Kanak.

In an auto islet cell transplant following total pancreatectomy, the pancreas is surgically removed and taken to the lab, where the patient's own islet cells are extracted. These cells are then infused into the patient's liver through the portal vein, where they take hold and ideally begin to produce insulin again on their own.

The Baylor team has discovered that when islet cells are infused into a patient, an inflammatory reaction occurs within the first three hours, which can potentially damage the islets. To address this issue, 12 patients undergoing TP-AIT were injected with two strong anti-inflammatory drugs, etanercept and anakinra.

"We analyzed a panel of cytokines during this period and found that pro-inflammatory cytokines are well controlled through the use

### Quick Facts

- North Texas' first islet cell transplant.
- Baylor's islet cell laboratory is one of only a few in the country to process cells for transplantation.
- Baylor achieves 100 islet cell isolations.

of these drugs," Dr. Naziruddin said. "We strongly believe the use of these drugs has improved the engraftment of the islets in the liver. We also think the long-term function of the islet cells will be better."

This discovery, which is unique to Baylor, was among the 10 abstracts presented at the IPITA meeting. Because it takes one year to get a clear indication of how the transplanted islet cells are functioning, long-term studies on patient outcomes are ongoing. ■



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## Heart Transplant Program Ranks Among Top 5 in Nation

In 2013, the heart transplant program at Baylor University Medical Center at Dallas —currently the number-one program in Texas in terms of volume—ranked among the top five largest heart transplant programs in the nation. The cardiac surgical transplant team performed 68 heart transplants and implanted 40 left ventricular assist devices (LVADs).

A key component of the program’s growth is the expansion of the team under the direction of Gonzo Gonzalez-Stawinski, MD, chief of heart transplantation and mechanical circulatory support, and Shelley Hall, MD, medical director of cardiac transplant, mechanical circulatory support and congestive heart failure programs. Under the direction of these key physician leaders, the heart transplantation program has catapulted Baylor Dallas onto the national and international level. The Center for Advanced Heart and Lung Disease also opened recently in a larger space on the second floor of the Sammons

building to provide comprehensive treatment for patients with end-stage heart failure.

At Baylor Dallas, the median time on the waiting list for patients with status 1A is 14 days. Status 1A patients are often in the hospital with mechanical support and multiple intravenous medications.

Baylor’s combination of post-operative follow-up care, surgical expertise and medical management before and after transplant results in survival statistics that exceed the national average. After one year, patients are referred back to their primary care physician for primary care, but unlike other transplant programs, Baylor provides transplant care

throughout the patient’s lifetime. A transplant coordinator assigned to each patient serves as the primary contact for any issues or concerns both before and after transplant. The transplant coordinator follows the patient’s lab values, and monitors prescriptions and drug levels.

“We’re committed to the lifelong care of our patients,” Dr. Gonzalez said. “Once we perform a transplant, it is our duty and responsibility to keep our patients healthy throughout their lifetime.” ■

### Quick Facts

- Currently, the median wait time as status 1A for a heart transplant at Baylor Dallas is 14 days.
- The LVAD program at Baylor Dallas was the nation’s first to receive the Gold Seal of Approval from the Joint Commission.
- The Baylor heart transplant program ranks above the national average for one-year and three-year patient survival statistics.
- In 2013, Baylor Dallas performed 68 heart transplants.

### Heart Failure Outreach Clinics





## Considering Adult Lungs for Pediatric Transplant Patients

Lung transplantation changed significantly in 2005 with the institution of the lung allocation score (LAS). The LAS was created in an attempt to ensure that the patients who were in the most need could receive lungs. Prior to the LAS, the only determinant was how long they had been waiting.

The LAS is a calculation that utilizes a patient's forced vital capacity, oxygen requirements, CO<sub>2</sub> level, exercise capacity, and most importantly, the type of disease, which correlates with a lower score.

While on the waiting list, patients with chronic obstructive pulmonary disease usually have a much better survival rate than patients with interstitial lung disease. The LAS provides an estimate of the likelihood of a patient living one year with a transplant versus the likelihood of living one year without a transplant.

"The LAS does not factor in quality of life, only survival," said Randall L. Rosenblatt, MD, MACP, FACC, medical director of lung transplantation and chief of pulmonary

and critical care at Baylor Dallas. "The LAS policy has increased lung transplantation rates and has significantly reduced mortality on the waiting list among older patients."

LAS scores were only assigned to patients age 12 and older because there were insufficient data on survival and benefit in this younger population. As a result, in 2005 patients younger than 12 were excluded from consideration to receive lungs from adolescent and adult donors and were limited to donors of pediatric age. Additionally, part of the criteria for matching a lung transplant is size. Many patients with pediatric lung disease are small in stature and, consequently, require small donors, which usually are pediatric patients.

This summer, a young patient with cystic fibrosis was deteriorating while on the pediatric waiting list. Her parents sued because they felt she was being discriminated against because of her age. Consequently, the lung transplant community was forced to re-evaluate the LAS. In the meantime, an appeal process has been put in place that allows a transplant center to assign a pediatric

patient an LAS to be eligible to receive lungs from adult donors.

"Currently, there is no doubt that the mortality rate of pediatric patients on the waiting list is higher than in adults," Dr. Rosenblatt said. "However, to put this in perspective, the number of pediatric patients on the waiting list is only about 30. Putting those patients on the waiting list using their LAS score will not have a major impact on the distribution of organs. The major focus of the lung transplant community and media needs to be on increasing the number of organ donors, rather than solely focusing on the age of the patient receiving a lung from a donor." ■

### Quick Facts

- In June 2013, Baylor Dallas formed a new lung transplant surgical team.
- Baylor Dallas performed 29 lung transplants in 2013, compared with 16 lung transplants in 2012.
- Dedicated nurses are on call 24/7 for the management of advanced lung disease patients.

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Randall L. Rosenblatt, MD, MACP, FACC



## 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 All Saints Medical Center at Fort Worth. Together, Baylor Dallas and Baylor 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.



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