

Transplant Update

A Report From Baylor Regional Transplant Institute Volume 1 • Number 4



Alcoholic Liver Disease

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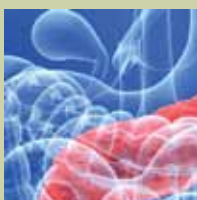
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Kidney Donation After Cardiac Death

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The inequity between the number of available organs and the number of patients waiting for an organ continues to grow. The need is great for all organs, but it is especially so for kidneys and livers.



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Alcoholic Liver Disease

Alcoholic liver disease is the second leading indication for liver transplantation in the United States. Approximately 20 percent of those with heavy alcohol consumption develop serious complications. Women and patients with coexisting liver disease, such as hepatitis C, who heavily consume alcohol are at increased risk of developing chronic liver disease.

Clinically, liver disease resulting from alcohol excess is similar to liver disease from other causes. Lab studies and a liver biopsy can strongly suggest alcohol as a cause of liver disease; however, an accurate account of alcohol use patterns is important in confirming the diagnosis.

“In the absence of an accurate alcohol history, non-alcoholic steatohepatitis, a condition associated with obesity and diabetes, can be very difficult to clinically distinguish from alcoholic liver disease,” says Jennifer T. Wells, MD, a hepatologist on the medical staff of Baylor University Medical Center at Dallas.

The priority in caring for patients with alcoholic liver disease is cessation of alcohol use. “Many patients who are able to maintain abstinence have significant improvement in their liver function and may even avoid the need for liver transplantation,” Dr. Wells says.

Treatment for chronic liver injury is directed at specific complications. A low-salt diet and diuretics can help with fluid balance and medications to rid the body of toxins can help with confusion. Upper endoscopy is periodically performed for diagnosis and prophylactic treatment of esophageal varices to prevent bleeding. Patients also undergo regular radiological evaluation to screen for hepatocellular carcinoma.

“Alcohol rehabilitation and participation in a relapse prevention program is strongly encouraged for all patients,” Dr. Wells says. “It is important to evaluate for and treat any undiagnosed mental illness such as depression or anxiety which often coexists in these patients. Alcohol dependency is a

chronic illness and, while liver transplantation corrects the damaged liver, it does not cure the dependency. Vigilance regarding alcohol abstinence by the patient, his or her support system and the entire treatment team must be ongoing.”

Patients with alcohol-related liver disease who meet the criteria for liver transplant have been shown to have excellent long-term post transplant survival equivalent to those transplanted for other causes of liver disease.

Quick Facts

- Over 25 years ago, Baylor pioneered the first liver transplant program in the Southwest.
- One of three programs in the nation to perform more than 3,100 liver transplants.*
- Baylor’s expertise in the areas of hepatitis B and C is internationally renowned.

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



Kidney Donation After Cardiac Death

The inequity between the number of available organs and the number of patients waiting for an organ continues to grow. The need is great for all organs, but it is especially so for kidneys and livers.

“The incidence of kidney failure in this country is growing due to a number of factors,” says Marlon Levy, MD, surgical director of transplantation on the medical staff of Baylor All Saints Medical Center at Fort Worth and Baylor University Medical Center at Dallas. “The population is aging, and more people are being diagnosed with diabetes. It’s clear that kidney transplants will be needed for years to come.”

In the organ bank community, there is a movement toward examining organ donation after cardiac death. Patients who have experienced a catastrophic brain injury or devastating neurologic injuries that do not progress to brain death don’t meet the usual criteria for donation after brain death.

According to Dr. Levy, the concept is to determine whether patients who will die in minutes to an hour after life support is withdrawn can be suitable organ donors, in particular for kidneys and occasionally, livers.

“Baylor Fort Worth has been pursuing these donors and has performed many transplants using these kidneys,” Dr. Levy says. “Both Baylor Fort Worth and Baylor Dallas campuses have used livers from donations made after cardiac death.”

Dr. Levy emphasizes that the organs procured after cardiac death undergo the same amount of testing to determine organ suitability and organ health as organs donated after brain death. In addition, the same family consent process is used.

“Advances in kidney pump technology are helping in this area,” he says. “Once procured, the kidney is placed on a pump, and data from the pump can tell us whether the kidney is healthy or not.”

Quick Facts

- With more than 2,500 kidney transplants performed, our kidney and kidney/pancreas program is one of the largest in Texas.*
- According to the United Network for Organ Sharing (UNOS), survival rates for Baylor kidney recipients exceed the national and state averages.

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



Auto-Transplants May Relieve Pancreatitis Pain

Patients who have long-term chronic pancreatitis experience severe pain. Nerve blocks and pain medication may provide some relief. But in the worst cases, patients often become debilitated and have difficulty working or functioning in daily life.

When a patient has run out of options, a complete pancreatectomy may be recommended. While the digestive enzymes the pancreas produces can be replaced orally, the procedure immediately makes someone a severely brittle diabetic.

Through the Pancreatic Islet Cell Processing Laboratory, a joint project of Baylor University Medical Center at Dallas, Baylor All Saints Medical Center at Fort Worth and Baylor Research Institute, a patient may receive an auto-transplant of his or her own islet cells. Baylor Dallas is the only institution in the Southwest that has a cellular laboratory approved by the FDA to produce islet cells for therapy.

After surgical removal, the pancreas is taken to the lab where the islet cells are extracted from the diseased organ. These cells are then re-infused into the patient's portal vein where they are taken up into the liver.

“By infusing the islet cells back into the patient, the risk of brittle diabetes is greatly reduced,” says Jane Dempster, RN, who coordinates care for liver and pancreas disease patients at Baylor. “The islet cell transplant greatly reduces the amount of insulin they may need to take and provides them with a better quality of life.

“In addition to relieving the patient's extreme pain, he or she doesn't have to take immunosuppressant medication because, in an auto-transplant, the body doesn't reject its own tissue,” she says.



Pancreas

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 graft survival rates at Baylor University Medical Center and Baylor All Saints Medical Center exceeded the national average for one year and three year survival.

Evolution of Immunosuppression in Allogeneic Islet Cell Transplant

Baylor offers islet cell transplants at Baylor University Medical Center at Dallas and Baylor All Saints Medical Center at Fort Worth. Baylor has the only islet cell transplant research program for diabetes in the Southwest.

This experimental protocol is aimed at Type 1 (juvenile) diabetes, specifically patients with long-term disease who have difficulty controlling their blood sugar, either manifested by hypoglycemic unawareness (no symptoms) or no hypoglycemia but high hemoglobin A1cs despite intensive medical therapy.

As the scientific team has increased its experience and knowledge over the last several years, they have discovered the immunosuppressive protocols used in islet cell transplant needed to be revised.

Changes include substituting other drugs for the immunosuppressant rapamycin, which was previously part of the cocktail. Changes also have been made in the levels of other immunosuppressants used.

“While rapamycin is an excellent immunosuppressant, there is suspicion that it slows cell growth by preventing islet cells from dividing or growing,” says Marlon Levy, MD, surgical director of transplantation on the medical staff of Baylor All Saints Medical Center at Fort Worth. “While effective short term, it may be harmful to the long-term success of the transplant.”

Another change to the immunosuppressive protocol has been to increase the level of immunosuppressants prescribed

in the first couple of weeks after an islet cell transplant.

“We’ve recognized that the immune system has a stronger rejection response than what we previously understood,” Dr. Levy said.

Increased measures to block inflammation in the liver at the time of islet infusion also are being taken. The goal is to allow the islet cells to anchor or stabilize in the liver with as little disruption as possible.

Quick Facts

- North Texas’ first islet cell transplant.
- Baylor’s islet cell laboratory, one of only a few in the country and the only one in the Southwest, processed cells for transplantation.



Islet

Biological Transplant May Improve Advanced Heart Disease

Each year, 500,000 new cases of heart failure are diagnosed in the United States. Yet only 3,000 of these patients receive a heart transplant.

Researchers on the medical staff of Baylor University Medical Center at Dallas are participating in an FDA-sponsored, multicenter trial that seeks to improve cardiac function in patients with severe congestive heart failure by injecting adult stem cells into the damaged heart tissue.

“Researchers are looking at whether the injection of autologous stem cells into the damaged area will allow the heart to generate new blood vessels or heart muscle tissue while avoiding the complications of rejection,” says Baron L. Hamman, MD, a physician on the medical staff at Baylor Dallas and principal investigator of the research study.

In the one-time procedure, the patient’s bone marrow is harvested, and then cultured in such a way to select the myocardial progenitor cells. Using a very small thoracotomy, the cells are reinjected directly into the myocardium in a proprietary method that was partially developed at Baylor Dallas.

“The research team expects to see the results of the procedure within six months,” Dr. Hamman says. “Some patients have shown some improvement. Researchers believe this may be a promising technique for helping patients with severe CHF, and they’re learning more as the study progresses.”

Patients who are eligible for the study are those with Class 3 or 4 heart failure and an ejection fraction of less than 30.

Quick Facts

- The VAD program at Baylor Dallas was the nation’s first to receive the Gold Seal of Approval from the Joint Commission.
- The Baylor/UTSW heart transplant program held the highest one year patient survival statistics in the state of Texas and exceeded the national average.



Lung Transplant Outcomes Exceed National Averages

Baylor University Medical Center at Dallas has built a comprehensive lung transplant program with outcomes that exceed the national average, according to the United Network for Organ Sharing.

From Jan. 1, 2006 through June 30, 2008, one-year survival for patients who underwent a lung transplant at Baylor Dallas was 88.73 percent, compared to 83.59 for the nation. In addition, Baylor Dallas' observed results were 7.88 percent better than the expected results.

"Over the last 10 years, we have refined the program, making changes in the selection process, protocols and monitoring processes that are reflected in the improved survival rates," says Kenneth Ausloos, MD, medical director of the heart and lung transplant program and a pulmonary disease specialist on the medical staff of Baylor Dallas.

"We are continuing to reevaluate protocols and how we do things to further improve survival rates above the national norms," he says. "At Baylor Dallas and nationally, we have discovered that patients who receive a double-lung transplant have better outcomes than patients who receive a single lung. As a consequence, not as many lung transplants are being performed, since previously one donor could serve two patients."

The primary indications for lung transplant are COPD/emphysema, pulmonary fibrosis, cystic fibrosis and pulmonary hypertension, as well as other lung diseases. Each disease process has well-defined criteria for listing a patient for transplant.

Evaluation includes lung function tests, oxygen requirements and overall functional ability. Patients are generally listed for transplant if the criteria predict a poor prognosis for long-term survival. The physiological age limit is approximately 65.



Quick Facts

- The Baylor Dallas lung transplant program has a one year lung graft survival and patient survival that exceeded the national average. In addition, the three year patient survival exceeded the national average.
- Dallas' first single and double lung transplant.

Lung

Baylor Regional Transplant Institute



The Baylor Regional 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 multi-specialty transplant centers in the country.

Liver

We have performed more than 3,000 liver transplants, one of the few transplant centers to reach this milestone.

Kidney and Pancreas

Our patient survival outcomes exceed the national average as reported by the United Network for Organ Sharing.

Small Bowel

This rare procedure may be a treatment for intestinal failure.

Heart and Lung

We have been providing new hope, restored health and freedom for patients with end-stage heart and lung disease.

Islet Cell

The first center in Texas to receive FDA permission to independently process pancreatic islet cells for transplantation.

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 Regional Transplant Institute representative will assist you.



**Baylor University Medical Center at Dallas
Baylor All Saints Medical Center at Fort Worth**



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