Emory Transplant Center

Making a Difference in the Lives of Our Patients and Our Community

Report from the Director
**Mission Statement**

The Emory Transplant Center is committed to providing and improving access to quality clinical care and support services for patients with organ failure, and to developing new transplant therapies to prevent or delay organ failure through basic, translational, and clinical research.

**Vision Statement**

The Emory Transplant Center will be the leader in the field of transplantation in the United States as defined by clinical volume, transplant outcomes, and research endeavors.
The year 2004 marked the 50th anniversary of the world’s first successful kidney transplant. Performed in Boston, it marked the birth of the field of clinical transplantation. In the more than 50 years since this landmark event, Emory has achieved a remarkable number of transplant “firsts” of our own – including Georgia’s first kidney transplant (1966), heart transplant (1985), liver transplant (1987), kidney-pancreas transplant (1989), and lung transplant (1993). Most recently, Emory performed the first islet transplant in Georgia (2003). Emory has the only lung, liver and islet transplant programs in the state, and our Clinical Islet Lab is one of only a handful of such centers in the world. Emory’s outcomes consistently meet or exceed predicted levels and this clinical strength beautifully complements the excellence of our research programs. Our continuous stream of remarkable research accomplishments has been made possible by the extensive research funding garnered by our investigators for bench science, clinical trials, and social and public health studies. In any given year, we have more than 50 active grants to support our transplant research efforts. More than 25 faculty members, including basic scientists and clinical researchers across departments ranging from surgery to pediatrics, represent the truly interdisciplinary nature of the Center. The unique strengths of the Emory Transplant Center include: the translation of quality scientific research to patient care; interactive internal and external collaborations; and faculty and staff recruitment, retention and development. Together we are building the foundations of an ever-increasing level of success.

Christian P. Larsen, MD, D Phil
The breadth and scope of the work of the Emory Transplant Center spans basic science, immunology research, and clinical practice. The defining characteristic of the Center is its interdisciplinary structure. We focus on creating an environment that promotes natural synergies and a multi-disciplinary approach to transplantation.

The Center is a leader in fostering inter-departmental grants from both federal sources (like the National Institutes of Health, or NIH) and private foundations. In FY2004 alone, more than 50 active research awards from federal sources and industry-sponsored clinical trials totaled more than $8 million in support. In addition, Center physicians have received awards from professional associations to support their work, including funding from the American Society of Transplantation, the American Society of Transplant Surgeons, and the International Society for Heart and Lung Transplantation. Moreover, since its inception, the Center has received significant grants from foundations and other private entities of more than $27 million.

Spanning our research program, investigators are working in murine and non-human primate models as well as in human clinical trials. Active work includes transplant tolerance, co-stimulation blockade, allograft rejection, islet replacement, immune responses in AIDS and anthrax immunization, electrophysiology and heart failure, and organ donation in the African American community, among other areas. A range of projects are aimed at determining the most efficacious and safe medication strategies in transplantation.

We strive for ever-increasing levels of success through the cross-fertilization of ideas and work afforded by the Center. We look for opportunities for natural synergies that create the most vigorous research and clinical program possible.

RESEARCH HIGHLIGHT

IMMUNE TOLERANCE AND COSTIMULATION BLOCKADE

The Center has a strong track record in both scientific research and clinical practice – and in their connection. Emory is at the forefront of transplant immunology research, investigating innovative strategies to stop rejection of transplanted organs. With the aid of significant grant funding, researchers Drs. Larsen, Pearson and Newell are working to establish true immune tolerance among transplant recipients. This research strives to free patients from the toxic side effects of daily immunosuppressant medicines and achieve permanent, long-term acceptance of organs.
In addition to groundbreaking research, the Emory Transplant Center is active in full-service patient care and support services. The Center is one of the most advanced and comprehensive transplant centers in the Southeast, bringing together Emory University’s transplantation programs in heart, lung, liver, kidney, pancreas and islet. Despite the severity and scope of the conditions that we treat, our patient and graft survival are consistently above the national average.

**EMORY FIRSTS IN TRANSPLANTATION**

<table>
<thead>
<tr>
<th>EMORY “FIRST”</th>
<th>WHEN</th>
<th>CONTINUING SUCCESSES</th>
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<tbody>
<tr>
<td>First islet transplant in Georgia</td>
<td>2003</td>
<td>Only Clinical Islet Lab in the state - one of only five designated Juvenile Diabetes Research Foundation Centers for Islet Transplantation in the United States</td>
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<tr>
<td>First Georgia lung transplant</td>
<td>1993</td>
<td>Only lung transplant program in the state – its annual average of 10 transplants nearly tripled in 2004</td>
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<tr>
<td>First Georgia kidney-pancreas transplant</td>
<td>1989</td>
<td>Program now includes simultaneous kidney/pancreas transplants, pancreas-after-kidney, and islet transplantation</td>
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<tr>
<td>First liver transplant in Georgia</td>
<td>1987</td>
<td>Only liver transplant program in the state – on pace to be the sixth largest program in the United States</td>
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<tr>
<td>First heart transplant in Georgia</td>
<td>1985</td>
<td>Only heart transplant program in the state that utilizes mechanical v a devices as bridge support to cardiac transplantation</td>
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<tr>
<td>First Georgia kidney transplant</td>
<td>1966</td>
<td>Over 2000 adult and pediatric transplants to date</td>
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**TOTAL NUMBER OF TRANSPLANTS PERFORMED PER PROGRAM**

<table>
<thead>
<tr>
<th>PROGRAM</th>
<th>TOTAL NUMBER OF TRANSPLANTS PERFORMED*</th>
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</thead>
<tbody>
<tr>
<td>Heart</td>
<td>606</td>
</tr>
<tr>
<td>Heart-Lung</td>
<td>5</td>
</tr>
<tr>
<td>Islet</td>
<td>13</td>
</tr>
<tr>
<td>Kidney</td>
<td>2406</td>
</tr>
<tr>
<td>Liver</td>
<td>1192</td>
</tr>
<tr>
<td>Lung</td>
<td>134</td>
</tr>
<tr>
<td>Pancreas or Kidney-Pancreas</td>
<td>263</td>
</tr>
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*Note: January, 1988 – October, 2004 (Adult and Pediatric).
See up to date information at www.optn.org.
KIDNEY AND KIDNEY/PANCREAS TRANSPLANT PROGRAM

Emory’s Kidney and Kidney/Pancreas Transplant Program ranks as one of the most prestigious solid organ transplant programs in the southeast and in the country. In 1966, Emory performed Georgia’s first kidney transplant. The program continues to expand, with approximately 150 deceased and living donor transplants each year.

The program provides state-of-the-art evaluation, medical and surgical treatment, and follow-up care for patients approaching or in end-stage renal disease (ESRD). Although not considered a cure for patients with ESRD, kidney transplantation offers a preferable option to dialysis for many patients.

A major research trial is the ITN/NIH Registry of Tolerant Kidney Transplant Recipients led by Dr. Newell. The purpose of this study is to provide insights into the mechanism(s) responsible for the development and maintenance of tolerance. This work may be useful in guiding decision making in studies aiming to withdraw immunosuppressive drugs.

Since 1989, combined kidney-pancreas transplants have been performed at Emory. This treatment provides many Type 1 diabetics who have renal disease with a life-improving option to daily insulin injections and dialysis therapy.

LIVER TRANSPLANT PROGRAM

Emory University Hospital has a long and honored tradition of treating patients with end-stage liver disease and portal hypertension. More than two decades ago, Emory University Hospital’s then Chief of Surgery, Dr. W. Dean Warren, pioneered several major surgical techniques which are still being used in medical centers today. Emory performed its first liver transplant in 1987 and today performs over 65 adult liver transplants each year.

Dr. Heffron leads the liver program and has performed more than 800 liver transplants in his career, including more than 110 living donor liver transplants since 1989.

Emory’s liver transplant program is able to provide patients with end-stage liver disease the best care, treatment, and follow-up available. The program also is active in clinical trials studying different immunosuppressant regimens.

ONE OF FIVE ISLET TRANSPLANT CENTERS IN THE UNITED STATES

The Emory Center for Islet Transplantation opened in 2002 thanks to a generous grant from the Juvenile Diabetes Research Foundation, becoming one of only a few of such Centers in the world and the only one in Georgia. Islet transplantation in the United States is still being researched, and at Emory University the human clinical trials and other projects that contribute to advances in the field are part of that research. Drs. Weber, Larsen, Pearson and Chaikof are exploring ways to reduce the requirements for immunosuppressive drugs in an effort to make islet transplantation successful as a viable cure for people with Type 1 Diabetes.

The Emory Transplant Center is positioned to be a world leader in the search for a cure for Type 1 Diabetes. The primary strategy is to build upon the clinical islet cell transplant program. The long-term success of the Center’s work, which includes the goal of eliminating insulin therapy for Type 1 Diabetes, would revolutionize the face of diabetes treatment.

PROGRAM INFORMATION
THE CENTER FOR HEART FAILURE THERAPY

In 2004, Dr. Smith was named the Andrew L. Smith Chair in Heart Failure Therapy. Under his directorship, Emory has a robust heart failure program with busy offices at Emory and Crawford Long Hospitals. Six active cardiologists (Drs. Smith, Book, Hott, Lutz, Sorescu, and Laskar) provide state-of-the-art evaluation and therapy for adult patients in various stages of heart failure. Over 600 heart transplants have been performed by our renowned cardiothoracic surgeons with outstanding patient and graft survival results. The Center’s comprehensive evaluation and treatment includes options such as medical therapy, FDA-regulated investigational drugs and devices, cardiac catheterization, cardiac surgery, and in select patients, heart transplantation. Through our coordination and integration of research, education, and patient care, Emory’s Heart Transplant program is a premier program ranking among the top in the nation in patient survival.

ANDREW J. MCKELVEY LUNG TRANSPLANTATION CENTER

In 2001, Dr. Lawrence was appointed as the Augustus J. McKelvey Professor of Lung Transplantation Medicine, and as Director of the newly established Andrew J. McKelvey Lung Transplantation Center at Emory University School of Medicine. The mission of the McKelvey Center is to improve patient outcomes following lung transplantation and to promote the development of novel medical therapies for various lung diseases. This has been accomplished by the recruitment of both laboratory investigators and clinicians as members of the Center.

The McKelvey Center specializes in the treatment of complex lung disorders, especially pulmonary vascular and interstitial lung diseases, as well as advanced care for patients with pulmonary hypertension. It is the only lung transplant program in the state of Georgia and receives referrals from many states in the Southeast region.

Research ranges from basic studies into the mechanisms of obliterative bronchiolitis following lung transplantation to multi-center clinical trials of new immunosuppressant medications for lung transplantation and new drugs for the treatment of pulmonary hypertension. Emory’s lung transplantation center is a leader in clinical trial enrollment.

Our Center is exceptionally experienced in the ability to support patients on artificial heart pumps, known as ventricular assist devices. Emory currently has the only heart transplant program in the state that utilizes mechanical ventricular assist devices as bridge support to cardiac transplantation.

The cardiac resynchronization program at Emory for congestive heart failure is arguably the premier program in the world in implementing new device therapies for the treatment of heart failure. Emory electrophysiologists, through the MIRACLE trial, were pivotal in the early investigation of resynchronization – and work leading to its FDA approval. Emory has trained over 600 other electrophysiologists in this technique either on campus or through live satellite-broadcast demonstrations.