Dear Colleagues,

We are pleased to provide you with this Annual Report of the Heart Transplant Program at Vanderbilt University Medical Center for calendar year 2009. Enclosed you will find our latest program volumes and outcomes. In 2009, we performed a total of 36 heart transplants comprised of 21 adult transplants and 15 pediatric transplants. Most importantly, as you can see from the enclosed data, transplant outcomes remain at or better than expected.

Highlights for 2009 include:

• Dr. Steve Joggerst joined Dr. Mohammad Nawar in providing heart failure/transplant services through the cardiac transplant fellowship position with emphasis on patient care and clinical research.

• Re-emergence of the mechanical support program for heart patients providing short-term, mid-term, and long-term mechanical heart support.

• Dr. Henry Ooi has reinvigorated and developed the advanced heart failure and transplant programs at the Veterans Administration Medical Center Nashville campus.

• Increased utilization of molecular genetic testing now includes Immuknow as well as AlloMap testing to provide personalized treatment options reducing invasive procedures.

• Recruitment of Daniel J. Lenihan, M.D., a specialist in heart failure/oncology from the University of Texas, MD Anderson Cancer Center. Dr. Lenihan will lead our cardiovascular heart failure/transplant research enterprise.

• Recruitment of Michelle Harris, NP to the pediatric cardiology/heart transplant team.

Thank you again for your continued support and many referrals to the Vanderbilt Heart Transplant Program. Our experienced team of physicians, surgeons, nurses, and administrative staff are dedicated to combining the latest medical and technical advances in transplantation with timely, compassionate, and personalized care. As always, we welcome any suggestions or comments you may have so that we may continue to provide the best possible service to you and your patients.

Sincerely,

Steven J. Hoff, MD
Surgical Director, Adult

Mark A. Wigger, MD
Medical Director, Adult

David P. Bichell, MD
Surgical Director, Pediatric

Debra A. Dodd, MD
Medical Director, Pediatric
Vanderbilt Adult Heart Transplantation

The criteria for the selection of potential heart transplantation candidates include the following:

- Objective evidence of advanced physical incapacitation due to documented, isolated heart or heart-lung disease
- Life expectancy estimated to be less than one year
- Unanimous agreement that previous medical therapy has been optimal and that no surgical procedure other than transplantation, offers realistic expectation of functional improvement and extension of life
- Strong family support to aid the patient emotionally (and physically, if necessary) during the period prior to and after surgery

The following factors exert an adverse influence on the outcome of heart transplantation and therefore may be CONTRAINdicATIONS to surgery:

- Chronic obstructive pulmonary disease
- Active systemic infection
- Recent or unresolved pulmonary infarction; radiologic evidence of infection or abnormalities of unclear etiology
- Severe systemic hypertension inadequately controlled with medicines
- Severe cachexia
- Active peptic ulcer disease with recent GI bleeding
- Other systemic disease likely to limit or preclude survival and rehabilitation after transplantation
- Severe obesity (BMI >35)
- A history of behavioral pattern or psychiatric illness considered likely to interfere significantly with compliance (including substance abuse)

Relative Contraindications include:

- Age of more than 65 years
- Severe, irreversible pulmonary hypertension (greater than 5 Wood units) for heart transplantation, in which case combined heart/lung transplantation or single lung transplantation may be considered (if age <50)
- Renal or hepatic dysfunction not explained by the underlying heart failure and deemed irreversible
- Symptomatic peripheral or cerebrovascular disease
- Insulin-dependent diabetes mellitus with evidence of significant target organ disease (retinopathy, nephropathy or neuropathy)
- Asymptomatic but severe peripheral or cerebrovascular disease
- Current or recent history of diverticulitis
- Moderate obesity (BMI >25 but <35)
Vanderbilt Pediatric Heart Transplantation

The criteria for the selection of potential pediatric heart transplantation candidates include the following:

- Objective evidence of advanced physical incapacitation due to documented, isolated heart disease.
- A limited life expectancy, estimated to be less than one year.
- Unanimous agreement that previous medical therapy has been optimal and that no other surgical procedure other than transplantation offers realistic expectation of functional improvement and extension of life.
- Birth weight greater than 1500 grams (adequate to give projected weight at transplant of greater than 2000 grams.)
- Stable metabolic and hemodynamic status.
- No active viral or fungal infection.
- Acceptable renal function.
- No significant neurologic impairment.
- Favorable psychosocial evaluation of patient and/or family.
- Strong family support to aid the patient emotionally during the period prior to and after surgery.

The following factors exert an adverse influence on the outcome of heart transplantation and therefore may be CONTRAINDICATIONS to surgery:

- Severe, irreversible pulmonary hypertension (greater than 5 Wood Units) for heart transplantation.
- Renal or hepatic dysfunction not explained by the underlying heart failure and deemed irreversible.
- Morbid obesity (BMI >35).
- Pulmonary vein stenosis.
- Active bacterial infection.
- Severe chronic lung disease/bronchopulmonary dysplasia.
- Severe systemic hypertension inadequately controlled with medicines.
- Active peptic ulcer disease with recent gastrointestinal bleeding.
- Other systemic disease likely to limit or preclude survival and rehabilitation after transplantation.
- A patient and/or family history of behavior pattern or psychiatric illness considered likely to interfere significantly with compliance.

Relative Contraindications include:

- Birth weight of less than 1500 grams.
- Insulin-dependent diabetes with evidence of significant target organ disease (retinopathy, nephropathy, neuropathy).

### Heart Transplants from January 1, 2006 to December 31, 2009

<table>
<thead>
<tr>
<th>Patient Survival Rate</th>
<th>Graft Survival Rate</th>
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<tbody>
<tr>
<td>1 Month</td>
<td>94.73%</td>
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<tr>
<td>1 Year</td>
<td>90.52%</td>
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<tr>
<td>Txps#</td>
<td>95</td>
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<tr>
<td>1 Month</td>
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<tr>
<td>1 Year</td>
<td>89.47%</td>
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<tr>
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### Pediatrics Transplants from January 1, 2006 to December 31, 2009

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<th>Graft Survival Rate</th>
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<tbody>
<tr>
<td>1 Month</td>
<td>95.00%</td>
</tr>
<tr>
<td>1 Year</td>
<td>85.00%</td>
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<tr>
<td>Txps#</td>
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<tr>
<td>1 Month</td>
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<tr>
<td>1 Year</td>
<td>82.50%</td>
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### Adult Transplants from January 1, 2006 to December 31, 2009

<table>
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<tr>
<th>Patient Survival Rate</th>
<th>Graft Survival Rate</th>
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</thead>
<tbody>
<tr>
<td>1 Month</td>
<td>94.54%</td>
</tr>
<tr>
<td>1 Year</td>
<td>90.54%</td>
</tr>
<tr>
<td>Txps#</td>
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</tr>
<tr>
<td>1 Month</td>
<td>94.54%</td>
</tr>
<tr>
<td>1 Year</td>
<td>90.54%</td>
</tr>
<tr>
<td>Txps#</td>
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</tr>
</tbody>
</table>
The Vanderbilt Heart Transplant Team

Referrals/Appointments: (615) 936-3500
Toll Free: (866) 748-1494

Heart Transplant Team Directors
Steven J. Hoff, MD
*Adult Surgical Director*
Mark A. Wigger, MD
*Adult Medical Director*
David P. Bichell, MD
*Pediatric Surgical Director*
Debra A. Dodd, MD
*Pediatric Medical Director*

Transplant Surgeons
Rashid M. Ahmad, MD
Jorge M. Balaguer, MD
David P. Bichell, MD
John G. Byrne, MD
Karla G. Christian, MD
James P. Greelish, MD
Steven J. Hoff, MD

Transplant Cardiologists
Thomas G. DiSalvo, MD
Debra A. Dodd, MD
Vernat Exil, MD
Henry L. Ooi, MD
Mark A. Wigger, MD

Transplant Infectious Disease
Stephen Dummer, MD
Geraldine Miller, MD
Lora Thomas, MD

Transplant Cardiology Fellow
Mohammad A. Nawar, MD
Steven S. Joggerest, MD

Transplant Coordinators
Sherrie Adams, RN, MSN
Judy Burger, RN, BSN (Pediatric)
Shawanda Clay, NP (VA)
Dawn Eck, ACNP-BC
Tricia Grannemann, RN, BSN
Michelle Harris, NP (Pediatric)
Wendy Knuckles, APRN-BC (VA)
Patti Logan, ACNP-BC
Caroline Mauldin, ACNP-BC

Organ Procurement Coordinators
Angela McWilliams
Shelley Scholl, RN

Transplant Social Workers
Patricia M. Coffey, LCSW (VA)
Carolyn Orr, MSSW (Pediatric)
Anne Schmitt, CMSW

Child Life Specialist
Cathleen Johnson, CCLS

Transplant Psychi atrists
Karen Starr, MSN, RN, PMHNP, BC

Transplant Return-To-Work
Joanne C. Ball, MST, CVE, ABVE

Transplant Outcomes Research & Quality of Life
Irene Feurer, PhD
Hua Ye

Transplant Financial Counselors
Lisa Conyer
Beth Goodrich
Linda Storey
Julie Whitacre

Transplant Data Manager
Andre Howard

Transplant Administrative Staff
Dottie Dockins
Steve Janson
Cindy Valentine

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