The Heart Hospital at Baptist.

2004 Cardiovascular Surgical Report
The Section of Thoracic and Cardiovascular Surgery at Baptist Medical Center Downtown (Baptist Downtown) is proud to present the first edition of The Cardiovascular Surgical Report, highlighting the department’s trends and outcomes. This report will chart the evolution of life-enhancing cardiothoracic and vascular surgical interventions.

Offered within these pages is statistical information on the increasing number of cardiovascular and thoracic procedures at Baptist Downtown (both in volume and diversity), as well as risk-adjusted survival and outcomes data for heart surgery patients. Updates concerning the latest innovations and developments at Baptist Downtown are also included.

Our commitment to the ongoing development of the cardiovascular and thoracic surgical program is clear. As the newest addition to Baptist Health, the Heart Hospital’s singular focus provides heart patients a comprehensive resource unmatched in the area.

On behalf of the entire team whose work is represented within The Cardiovascular Surgical Report, we thank you for your interest and look forward to continuing to serve both you and your patients.

Robert J. Still, MD, FACS
Chief, Cardiovascular and Thoracic Surgery
Baptist Medical Center Downtown
Overview

Baptist Medical Center Downtown (Baptist Downtown) performs more cardiac surgeries on residents of the Jacksonville metropolitan area than any other hospital in the region. The increase in the volume and variety of procedures at Baptist Downtown has transformed its cardiovascular and thoracic surgical program into a rapidly growing program in the region and has also attracted more complex cases. This programmatic growth is a direct reflection of the commitment of the physicians, clinical staff and all of those at Baptist Health to remain the region’s leader in cardiovascular and thoracic surgery so that we may better meet the health needs of our community.

It is widely accepted that higher surgical volumes are linked to improved clinical outcomes. Since 2000, the number of cardiovascular and thoracic surgical procedures performed at Baptist Downtown has increased 70.5 percent, rising from 791 in 2000 to 1,349 in 2004 (Exhibit 1).

Major procedural categories include cardiac surgery, vascular surgery and pulmonary procedures (Exhibit 2). The single largest program component is coronary artery bypass grafting (CABG) and valve procedures, representing 37 percent of all 2004 surgical procedures. With the addition of transmyocardial laser revascularization (TMR) and Maze, nearly half of all procedures are cardiac.
Coronary Artery Bypass Grafting

Coronary artery bypass grafting (CABG) is the most commonly performed heart procedure at Baptist Downtown, with 417 cases in 2004. Instances in which CABG is performed exclusive of other procedures are referred to as “isolated” and represent 75.5 percent of 2004 procedures. Remaining CABGs performed along with procedures such as TMR, Maze and valve repair are known as “dual cardiac.” In 2000, isolated procedures represented 92.8 percent of CABGs, indicating that the subsequent development of the heart surgery program has resulted in an increase in the number and proportion of more complex dual procedure cases.

Isolated CABG cases are subdivided into “primary,” representing a patient’s first bypass surgery, and “secondary,” or re-operation, denoting a previous CABG patient’s return years later for additional heart surgery. The five-year trend for isolated CABG, both primary and secondary (Exhibit 3), is diluted by the noteworthy increase in complex dual procedures (Exhibits 5 and 6).

Secondary cases are generally more complex, higher risk and represent 22.2 percent of isolated cases in 2004 (Exhibit 4).

The number of bypass surgeries performed with other cardiac procedures has increased significantly since 2000. In 2004, the number of CABG dual procedures, excluding valve surgeries, was 50; the rise in 2003 and 2004 is evident (Exhibit 5).

Valve Surgery

The total volume of 2004 valve surgeries consisting of isolated valve and combined valve/CABG is 118, or 76.1 percent higher than in 2000. The number of valve surgeries over the past two years is nearly double the average volume from 2000 to 2002 (Exhibit 6).
Surgical experience as evidenced by overall volume has been scientifically demonstrated to be an important factor in improving surgical outcomes. Heart surgery at Baptist Downtown has shown a steady growth in activity over the past five years. To demonstrate and ensure optimal outcomes, mortality and survival rates for heart surgery patients are carefully evaluated through the use of the Parsonnet score, a measure of expected surgical results developed by Victor Parsonnet.

The Parsonnet scoring system evaluates patients on multiple risk factors to create an additive score that assigns a risk-level to each in one of five categories ranging from “good” (0 – 4) to “extreme” (20+). While the Parsonnet research identifies and assigns a predicted mortality rate for each risk group, Baptist Downtown in turn evaluates risk factors of its heart surgery patients in the same categories, measuring its mortality rates against the Parsonnet predicted mortality.

Based on the 2004 utilization, Baptist Downtown’s experience of zero percent mortality within the “good” group was lower than the predicted one percent mortality, while 3.8 percent actual mortality in the “extreme” group notably outperformed the predicted rate of 30.0 percent. Overall, Baptist Downtown’s actual mortality rate was 4.0 percent, significantly better than the predicted 15.7 percent mortality rate, adjusted for case mix.
TMR and Maze

Surgeons at Baptist Downtown have augmented the types of procedures offered to benefit area patients. Two relatively new surgical interventions include transmyocardial laser revascularization (TMR), which treats heart disease patients who have persistent angina, and Maze, benefiting patients with the chaotic heartbeat of atrial fibrillation.

**TMR**

TMR increases blood flow to the heart through the use of a carbon dioxide laser that creates channels in the muscle of the left ventricle. The first TMR at Baptist Downtown was performed in 2001 and though utilization was limited in 2002, it has since increased (Exhibit 8). While TMR can be performed with CABG surgery, there was only one TMR/CABG performed in 2004.

**Maze**

The Maze surgical procedure disrupts the heart's abnormal electrical signals by creating a pattern of small incisions on the inside of the upper chambers or atria. These incisions produce scar tissue non-conducive to electrical activity, allowing for a more regular heartbeat. Though utilization of Maze was initially limited, the number of those procedures continues to increase significantly. The 105 procedures in 2004 involved ten Maze/CABG (Exhibit 9).
Vascular Surgery

In addition to heart surgery, cardiovascular and thoracic surgeons also operate on blood vessels. The single most common in this category is endarterectomy, a surgical procedure that removes plaque from narrowed arteries, most commonly the carotid in the neck to prevent stroke. Endarterectomy, along with abdominal and thoracic aneurysm (A/T) repairs, is specifically highlighted in Exhibit 10. Overall, vascular procedures have increased 114.5 percent since 2000.

Other Cardiovascular Procedures

Cardiovascular procedures not yet addressed have increased by 128.8 percent since 2000 (Exhibit 11).

Pulmonary Surgery

Pulmonary surgery includes endoscopic lung biopsy, lobectomy of lung and other lung procedures. Pulmonary procedures are characterized as either “isolated” or “lead” for patients who also have cardiovascular procedures. The volume of pulmonary surgical procedures in 2004 is double that of those of 2000 (Exhibit 12).
Innovations and Clinical Effectiveness

A History of Cardiovascular Quality

Cardiac catheterization was first performed at Baptist Medical Center Downtown in 1968 and since that time, Baptist Health has continued to distinguish itself with leading-edge treatment options and outstanding clinical patient outcomes through evidence-based medicine.

A singular commitment to excellence is evident in performance improvement (PI) efforts to decrease complications and improve outcomes. An example is the comparison of Baptist Downtown’s cardiovascular surgical protocols with national best practices and subsequent redevelopment of those protocols to address a post-surgical wound infection rate that was above the national average. Since the implementation of the new protocols in 2002, the hospital’s infection rate has been below the national average (Exhibit 13). The program’s quality improvement efforts for CABG surgical wound infection were honored with the prestigious 2003 Ernest A. Codman Award from the Joint Commission on Accreditation of Healthcare Organizations.

The use of outcomes measurement to achieve progress in outcomes and safety for heart surgery patients continues.

Exhibit 13. CABG Surgical Wound Infection Rates

The Codman Award showcases our innovative use of performance measurement in heart bypass surgery.
The Heart Hospital at Baptist Medical Center Downtown

The Heart Hospital, at Baptist Medical Center Downtown, confirms the promise to continue delivering this level of excellence in cardiovascular care.

Its integrated delivery system works for the benefit of the community with high-quality, patient-centered and cost-effective cardiac and vascular services. This state-of-the-art facility provides comprehensive cardiovascular care that includes surgery, preventive care, fitness, and outreach and education for people of all ages, newborns to seniors.

The Heart Hospital boasts:

- 88 private patient rooms with daybeds
- three fully equipped operating rooms
- three cardiac catheterization laboratories
- two electrophysiology laboratories
- two Intensive care units (48 beds)
- a Congestive Heart Failure clinic that enables patients to manage the disease without being hospitalized
- a state-of-the-art fitness center that includes the cardiac rehabilitation program

Patient-Centered Attention

The goal of bettering the health and quality of lives of patients by improving their cardiovascular wellness is apparent in all aspects. Every facet of patient comfort, safety and privacy is carefully considered in the centralized, high-tech design.

Located on the St. Johns River, the Heart Hospital capitalizes on the location by providing expansive windows and a large terrace overlooking the north-flowing river.

Nursing stations centrally located to patient suites augment the consistent loop of communication between doctor, staff, patient and family. Beautiful river views; sleeping rooms for families of critical patients and private patient rooms with day beds; data ports for Internet access; bedside controls for blinds, lights, TV, Internet and nurse call; and GetWell Network all speak to an environment conducive to comfort and healing.
Biographies

Trained at some of the leading teaching and research institutions in the country, cardiac surgeons at the Heart Hospital are skilled in treatment modalities for blocked arteries, heart arrhythmias and the management of heart failure, as well as in researching the next generation of heart treatments.

Robert J. Still, MD, FACS, graduated Summa Cum Laude from the University of Virginia and from the Johns Hopkins School of Medicine with Alpha Omega Alpha (Honor Medical Society) honors. He served his general surgery residency at Massachusetts General Hospital, Boston, completing his thoracic and vascular surgical residency at the Texas Heart Institute working with Denton Cooley, MD.

Still is board-certified by the American Board of Surgery and the American Board of Thoracic Surgery, holding a Certificate of Special Training in vascular surgery. He maintains membership in the Society of Thoracic Surgery, Massachusetts General Hospital Surgical Alumni Society and the Denton A. Cooley, MD Society. Still serves as chief of Cardiovascular and Thoracic Surgery at Baptist Downtown.

Charles Donaldson Cousar, MD, FACS, a native of Jacksonville, is a second-generation thoracic surgeon. After graduating from Princeton University, he attended the Johns Hopkins University School of Medicine, Baltimore. His residencies in both general and cardiothoracic surgery were served at Johns Hopkins Hospital.

Board-certified by the American Board of Surgery and the American Board of Thoracic Surgery, Cousar is also a member of the American College of Surgeons and the Society of Thoracic Surgeons.

Richard Clarke Agnew, MD, FACS, received his medical degree from Vanderbilt University Medical School and continued residencies in general surgery and thoracic surgery at Vanderbilt University Hospital.

Michael K. Bluett, MD, FACS, a graduate from the University of Florida College of Medicine, performed his residency in general surgery at Vanderbilt University, becoming chief resident there. He also served a residency in thoracic surgery at the University of Michigan.

Raymond Lee, MD, FACS, graduated with Magna Cum Laude honors from Harvard Medical School. He served his general surgery internship and residency at Massachusetts General Hospital, Boston, where he completed cardiovascular and thoracic surgery training.

John P. Pirris, MD, received his medical degree from the University of Pittsburgh and completed his residency at the University of Florida. Pirris concluded his fellowship in cardiovascular and thoracic surgery at the Texas Heart Institute.

Mark Alexander Mostovych, MD, FACS, graduated from the University of Louisville School of Medicine with Alpha Omega Alpha honors. He performed general and cardiothoracic surgical chief residencies at Harvard’s Massachusetts General Hospital.

Derek David Muehrcke, MD, FACS, received his undergraduate and medical doctor degrees in a combined seven-year program at Grinnell College, Iowa, and Rush Medical College, Chicago, earning Alpha Omega Alpha honors. His general and adult cardiothoracic surgical training was received at Harvard Medical School, Massachusetts General Hospital.

Theodore Wingard, MD, FACS, graduated from the Medical University of South Carolina. He completed his surgical internship and surgical residency at Johns Hopkins Hospital, Baltimore, during which time he was a visiting surgical resident at the Reza Pahlavia Hospital in Tehran, Iran.
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