

Children's

MEDICAL CURRENTS



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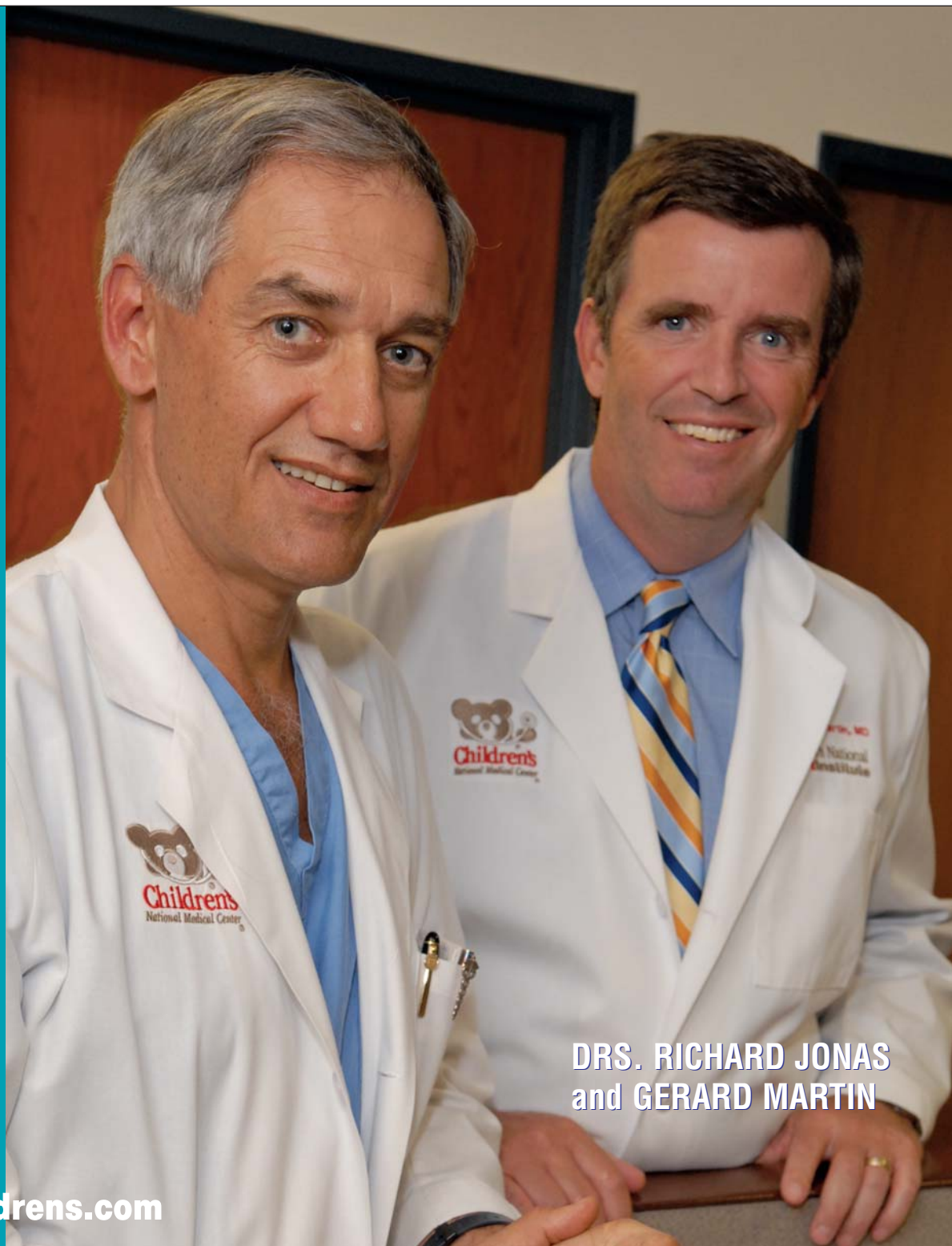
A Children's National Medical Center Quarterly Publication for Physicians

Summer 2007

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Children's phone and fax numbers have changed to accommodate our new East Inpatient Tower opening in mid-November. All 202-**884**-XXXX numbers are now 202-**476**-XXXX. Please make note of this change on all of your Children's materials.



**DRS. RICHARD JONAS
and GERARD MARTIN**



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Last year, Children's team operated on more infants, children and adults with congenital heart disease than ever in the history of Children's National Medical Center.

Children's National Heart Institute: Growing Volumes and Improving Outcomes

By Gerard R. Martin, MD, and Richard A. Jonas, MD
Co-Directors of Children's National Heart Institute (CNHI)

As Children's National Heart Institute (CNHI) celebrates its second year, many exciting changes have been made to the program, allowing Children's to make a difference in the lives of patients locally, nationally and internationally. Last year, Children's team operated on more infants, children and adults with congenital heart disease than ever in the history of Children's National Medical Center. And because of advances in non-invasive diagnosis, cardiac intensive care, interventional cardiac catheterization, and cardiac surgery, we are able to have impressive survival statistics for our patients.

Increases in Patient Volume

CNHI performs more than 14,000 outpatient visits each year, an increase of 11 percent over previous years. With continued expansion of services in Children's Regional Outpatient Centers, more than 60 percent of these outpatient visits take place in the community close to the families' homes. The greatest increase in outpatient referrals is for fetal cardiology—during the past year Children's performed more than 1,000 fetal echocardiograms, an increase of 12 percent.

The increase in patient volumes has been most impressive in the areas of interventional cardiac catheterization and cardiac surgery. Since the arrival of Michael C. Slack, MD, in 2001 and the building of a dedicated catheterization suite in 2003, there has been an 100 percent increase in procedures, with 76 percent being therapeutic procedures (Figure 1). In 2006, Children's performed more than 500 catheterization procedures. Children's Joshua Kanter, MD, is a second

interventional cardiologist and Jonathan Kaltman, MD, is a second electrophysiologist (joining Jeffrey Moak, MD), allowing us to grow this program further.

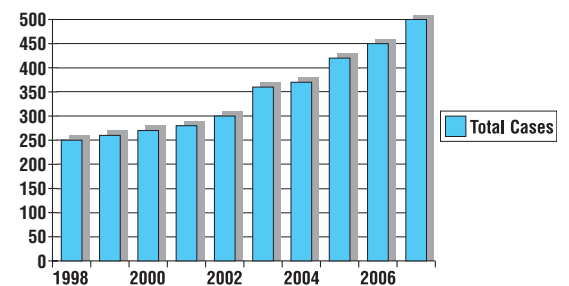


Figure 1. Interventional cardiac catheterization procedures

Cardiac surgery has seen similar growth since the arrival of Richard A. Jonas, MD, in 2005 (Figure 2). Not only have the number of cases increased by more than 100 percent, the complexity of cases has increased significantly. Compared to previous years where the mix of closed cases to open cases was equal, now more than 60 percent of Children's operative procedures involve cardio-pulmonary bypass (open). Additionally, nearly 15 percent of patients are from sites outside our region, traveling to Washington from across America or from around the world.

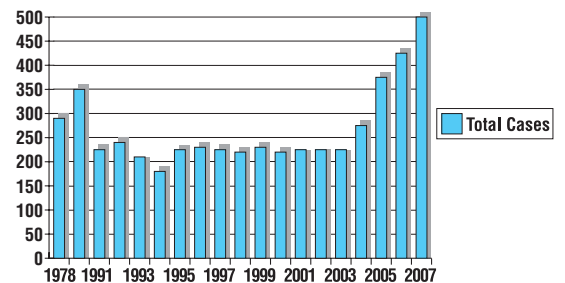


Figure 2. Cardiac surgery cases

Cardiac Intensive Care Unit (CICU)

Children's has the only pediatric-focused CICU in the region and it is directed by John Berger, MD, who is board certified in both pediatric cardiology and critical care medicine. The CICU provides highly focused subspecialty care for a distinct population of patients recovering from heart surgery and critical cardiac disease. The unit currently has eight beds, but when Children's new East Inpatient Tower opens in November, the CICU will move to a state-of-the-art, 13-bed unit designed to provide optimal family-centered care and staffed by nurses, doctors, nutritionists, pharmacists, respiratory therapists, social workers, and child life specialists specially trained for the care of congenital heart disease.

Cardiac Outcomes

The cardiac surgery program contributes to the Society of Thoracic Surgery Database and compares Children's risk adjusted results with centers from around the country. Risk adjustment is done by the Risk-Adjustment-in-Congenital-Heart-Surgery-1 method (RACHS-1), which assigns a prediction of survival based upon the disease and procedure to be performed. Overall survival for cardiac surgery procedures performed at Children's has increased to 98 percent with open survival of 96.8 percent and closed survival of 98.5 percent. The results (based upon individual lesions with n of at least 10) are shown in **Figure 3**.

Partnerships with other divisions in the hospital also improve patient outcomes. Collaborations between critical care and cardiology enabled the development of a CAT Team (Clinical Assessment Triage Team), which resulted in a 76 percent reduction in code blue on the cardiology unit. The team achieved a "180 days since last code" performance record last year.

The Future of CNHI

CNHI has accomplished much during the past two years, but more is expected in the upcoming year. Under the direction of anesthesiologist Richard Kaplan, MD, cardiac anesthesia is expanding and providing superb care to patients requiring cardiac surgery, cardiac catheterization and non-cardiac procedures.

David Wessel, MD, joined Children's in July as executive director of the Center for Hospital-Based Specialties.

Surgery	Number of Cases (2006)	Survival
Cardiopulmonary bypass cases	311	96.8%
Non-cardiopulmonary bypass cases	205	98.5%
Aortic coarctation repair	17	100%
Arterial switch procedure	14	100%
Atrial septal defect repair (includes primum ASD and sinus venosus ASD)	25	100%
Complete atrioventricular canal repair	12	100%
Epicardial pacemaker implantation	14	100%
Fontan procedure	21	100%
Glenn procedure (excludes Kawashima procedure)	27	100%
Norwood procedure	20	85%
Patent ductus arteriosus ligation	43	***
Right ventricular outflow tract reconstruction	17	100%
Tetralogy of Fallot repair	40	100%
Vascular ring repair	12	100%
Ventricular septal defect repair	49	100%

Figure 3. Results are not risk-adjusted and include low-birth-weight infants weighing less than 2 kg. Procedures with ten or more cases performed are included. The data are submitted annually to the Society of Thoracic Surgeons' Congenital Heart Surgery National Database.

*** There were 5 mortalities among the 43 cases of patent ductus arteriosus ligation, all due to complications of prematurity not related to the surgical procedure. These have been excluded from mortality statistics in accordance with the guidelines of the Society of Thoracic Surgeons.

Dr. Wessel is the world's foremost expert in cardiac intensive care and is expected to further develop Dr. Berger's team, as well as increase the number of clinical trials offered at Children's.

CNHI would like to invite local physicians to celebrate Children's East Inpatient Tower opening. An open house will be held on November 10, 2007. For more information, e-mail event@cnmc.org.

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PEOPLE IN THE NEWS

Children's Hires New Executive Director to Lead Center for Hospital-Based Specialties



David Wessel, MD, is the new executive director of the Center for Hospital-Based Specialties and division chief of Critical Care Medicine. Formerly Professor of Pediatrics at Harvard Medical School, Dr. Wessel is board certified in four specialties: pediatrics, anesthesiology, pediatric critical care, and pediatric cardiology. He joins Children's from his long-standing career at Children's Hospital Boston.

"Dr. Wessel is a pioneer in pediatric cardiology and critical care medicine and his expertise will be a true asset to Children's," said Peter Holbrook, MD, chief medical officer at Children's National Medical Center. "His knowledge, particularly in critical care medicine, will complement our skilled team of surgeons, physicians and nurses."

Dr. Wessel's experience will also benefit Children's National Heart Institute, which is evolving into one of the nation's premiere pediatric cardiology programs. He will oversee emergency medicine, critical care (pediatric, neonatal and cardiac intensive care units), general inpatient care, diagnostic imaging and radiology, emergency transport, and respiratory therapy.

Dr. Wessel has published more than 120 manuscripts and sits on numerous national and international committees. His research interests include the critical care of children with cardiac disease and new treatment methods for pulmonary hypertension patients. He also has led the design and execution of multi-national randomized trials in children.



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