Pediatric Heart Specialists Offer Advanced Options for Children & Adults

Leading-edge procedures being performed at the University of Chicago Children's Hospital present new alternatives for children with congenital heart malformations, arrhythmias or other heart disorders. Many of these techniques can now be performed for children of all ages, from infants through teens. Adults also may be referred for these procedures.

Most of these newer techniques present a favorable alternative to major open-heart surgery, with significantly reduced risks to the patient because they avoid the need for heart-lung bypass.

This newsletter provides insights into some of the innovative procedures available through referral to University of Chicago specialists in pediatric cardiology and pediatric cardiac surgery. Once the procedure is completed and the patient is stable, the patient returns to the home physician for follow-up care. To inquire about referring a patient, or for more information on any of these clinical advances, please call (773) 702-6172.

Ziyad M. Hijazi, MD, has treated more than 1,000 patients with Amplatzer occluder devices, helping secure FDA approval for the device for treatment of ASD and heading the VSD trial.
Trans-catheter Closure of Intra- and Extra-cardiac Defects

Using the latest tools, Ziyad M. Hijazi, MD, section chief of pediatric cardiology, offers a non-surgical approach to seal various forms of openings that may occur in the heart.

Dr. Hijazi is one of the most experienced physicians in the world in using a series of Amplatzer occluder devices to plug defects such as ventricular septal defect (VSD), atrial septal defect (ASD), patent foramen ovale (PFO) and patent ductus arteriosus (PDA). These devices may be used for infants, children and adults. In time, the patient’s tissue grows over the device and forms a permanent seal.

Using the occluder device in clinical trial, Dr. Hijazi and University of Chicago colleagues now perform trans-catheter closure for congenital muscular VSD and acquired post-infarct muscular VSD. Congenital perimembranous VSD closures will start in summer of 2003. For patients with congenital muscular VSD, the trans-catheter approach may present significantly lower morbidity and mortality risks, as compared with conventional surgical closure. With the trans-catheter approach, there is no need for a risky ventriculotomy. For patients with VSD following myocardial infarction, trans-catheter closure presents a viable intervention for this surgically unstable population.

To date, Dr. Hijazi has treated more than 700 patients with the original septal occluder device and nearly 300 patients with newer occluder devices designed for perimembranous VSD and other defects. He chaired the U.S. clinical trials, which led to FDA approval of the septal occluder in late 2001, and currently oversees the clinical trial for the newer membranous VSD device.

Dr. Hijazi and other University of Chicago heart specialists continue to explore the newest techniques for repairing heart defects in children and adults. Most recently, this has included use of stents to repair coarctation of the aorta and for repair of branch pulmonary artery stenosis.

Center Assists International Patients

The Center for International Patients at the University of Chicago Hospitals provides a centralized resource for patients coming to the Hospitals from outside the United States. Since its formation in April 2000, the Center has helped hundreds of international patients obtain medical care here, including U.S. citizens who live abroad. Nearly 20 percent of these patients sought specialty care in pediatric cardiology or cardiac surgery.

The Center for International Patients assists with many non-medical details for patients and their families. These include help with travel arrangements, air ambulance, discounted hotel accommodations or longer-term housing for family members, language interpreters, coordinating appointments for physicians and diagnostic procedures, and other details.

For more information on arranging an international transfer, please call toll-free 1 (877) 482-8318, visit www.uchospitals.edu, or e-mail us at internat@uchospitals.edu.
Combining Electrophysiology with Other Interventions

Patients with arrhythmias as well as congenital heart defects can now be diagnosed or treated via electrophysiological therapies in combination with hemodynamic interventions.

These techniques are being used with significant success in both children and adults at the University of Chicago Hospitals.

Pediatric electrophysiologist Frank Zimmerman, MD, has teamed up with pediatric cardiologist Ziyad M. Hijazi, MD, to treat children and young adults who have combined supraventricular tachycardia (SVT) and congenital heart lesions (holes). During a single episode of intervention, Dr. Zimmerman can position pacing leads or treat arrhythmias with catheter ablation, while Dr. Hijazi repairs any holes that may be present.

Traditionally, these procedures are performed on separate occasions and in different settings. When these interventions are combined into a single session, patients experience only one exposure to anesthesia and have a shorter recovery period.

Dr. Zimmerman’s team also has experience performing radiofrequency ablation for children with arrhythmias. Three-dimensional mapping systems enable the physician team to locate the source of abnormal heart impulses with greater precision than with traditional diagnostic tools. With the improved accuracy, fewer catheters are needed for ablation. For most children, radiofrequency ablation can be accomplished with just one or two catheter insertions. The procedure is done on an outpatient basis, although younger patients may be hospitalized overnight for monitoring.

The ablation technique can be performed on infants, if necessary. However, University of Chicago physicians prefer to wait until the child is at least 3-4 years old to limit the risks inherent in the placement of electrical impulses.

Advanced Surgeries Ease Recovery for Neonates & Older Patients

The University of Chicago Hospitals is among the first in the world to offer hybrid surgery for treatment of complex ventricular septal defect (VSD), atrial septal defect (ASD) and other challenging heart defects.

Led by Emile Bacha, MD, hybrid surgery combines techniques of catheterization and surgery, and provides an alternative to extensive open-heart surgery. Patients enjoy faster recovery with significantly reduced morbidity.

For the hybrid surgery, Dr. Bacha collaborates with Ziyad M. Hijazi, MD, who uses a catheter to position an Amplatzer device to occlude ventricular septal defects. Instead of a major incision, the procedure is done through small incisions and the use of specialized equipment. The team leads the catheter to the area of interest, and the device is placed to close the defect. This method allows for a minimally invasive approach, reducing the risk and recovery time for patients.

Emile Bacha, MD, performs open, minimally invasive and robotic surgery for children with congenital defects, often working together with Ziyad M. Hijazi, MD, on hybrid procedures.
Advanced Surgeries Ease Recovery (continued)

The team performs surgery for congenital defects on neonates, infants, children and young adults.

A physician makes a small incision in the chest to gain direct access to the heart. Using this approach of ventricular (percutaneously) intraoperative closure eliminates the need to stop the heart during surgery. This technique, used in clinical trials, has been performed on neonates and infants, including babies with multiple holes in the heart ("Swiss-cheese VSD"). Dr. Bacha also integrates robotic technology to reduce incision size and morbidity, and provides other advanced surgical interventions for neonates and small children with complex cardiac defects, and for adults as needed.

Additionally, the University of Chicago Children's Hospital has a growing program for pediatric heart transplantation. During 2002, Dr. Bacha’s team performed nine pediatric heart transplants on patients ranging from newborn to 17 years old, with excellent survival.

Fellowship & Clinical Programs Expand

The University of Chicago has expanded its clinical and research fellowship program for pediatric cardiology. The program is led by Ra’id Abdulla, MD.

In addition, the program for fetal cardiology has expanded under the leadership of Emilio Alboliras, MD, who recently joined the University of Chicago faculty.

Call the Section of Pediatric Cardiology at the University of Chicago Hospitals to speak with an attending physician 24 hours per day, seven days per week.

(773) 702-6172

Clinical Notes: from the Congenital Heart Center

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