

2011 AHA Scientific Statement: Diagnostic Pediatric Cardiac Catheterization Not Routinely Indicated

Novel AHA recommendations on cardiac catheterization and intervention in pediatric cardiac disease discourage from diagnostic catheterization.

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May 2, 2011 – A new Scientific Statement of the American Heart Association (AHA) recommends cardiac catheterization as interventional treatment for pediatric patients with congenital heart disease (CHD) but discourages from its diagnostic use.

Timothy F. Feltes, MD, FAHA, Chair of the writing group, and colleagues, which included representatives of the AHA, and endorsements from the Society for Cardiovascular Angiography and Interventions and the American Academy of Pediatrics, published their recommendations in *Circulation* online today.

“As a result of advances in noninvasive imaging (...), diagnostic catheterization is no longer indicated in the routine preoperative evaluation of most congenital defects, such as ventricular septal defects (VSDs), atrial septal defects (ASDs), atrioventricular canal, tetralogy of Fallot, double-outlet right ventricle (RV), coarctation of the aorta, hypoplastic left heart syndrome (HLHS), and other complex CHD” the authors state.

The new Scientific Statement on diagnostic catheterization and interventional treatment options in CHD reflects the development of methods and devices since the previous statement’s release in 1998. The writing group based the designation of the 10 new key recommendations and associated indications into classes I-III per the American College of Cardiology/AHA system on the respective level of evidence available, which included limited scientific data and consensus expert opinion.

The authors balance their class I, level A, recommendation of performing pre-operative diagnostics such as echocardiographic imaging, magnetical resonance imaging or computerized axial tomography (CAT) scan before invasive cardiac catheterization with several indications for which lower level evidence supports diagnostic catheterization. Class I exceptions include unavailability of adequate non-invasive imaging options, inability to appropriately define the anatomy using non-invasive methods, patients with primary pulmonary hypertension or pulmonary atresia, patients considered for cardiac transplantation, and patients requiring surveillance of grafts after transplantation.

Other new recommendations include transcatheter secundum atrial septum defect (ASD) closure for patients with hemodynamically significant ASD with suitable anatomic features, and transcatheter patent ductus arteriosus (PDA) occlusion for the treatment of a moderate-sized or large PDA in certain patients.

As the availability of diagnostic tools differs between centers, the authors emphasize that their recommendations reflect indications that need to be adapted to the respective center’s capabilities. “A device use may have a Class I indication but not necessarily be preferred at an individual center. Cardiac lesions, for instance, do not always exist in isolation, and patients with solitary or multiple lesions may be deemed better served by surgery. Cardiologists and surgeons must work together to formulate an interventional approach to patients based on individuality of the program.”

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