Top Ten Things To Know
Cardiac Catheterization in Pediatric Cardiac Disease

1. Cardiac catheterization has long served as the gold standard for the anatomical and physiologic assessment of patients with congenital heart disease.

2. As a result of advances in non-invasive imaging, diagnostic cardiac catheterization is no longer indicated in the routine preoperative evaluation of most congenital defects.

3. Because the availability of adequate noninvasive imaging is not uniform at all centers, where MRI and CT imaging for congenital diagnosis are not state-of-the-art and where echocardiography does not provide sufficient detail, diagnostic catheterization is indicated.

4. This paper provides an inventory of diagnostic catheterization and interventional treatment options and provides recommendations.

5. Cardiac catheterizations are not without risk to the patient.

6. Circumstances suggesting the need for diagnostic catheterization are addressed with accompanying recommendations.

7. Advances in non-invasive imaging have allowed cardiac catheterization to become increasingly a catheter-based therapeutic option rather than a diagnostic tool.

8. Therapeutic uses addressed, along with recommendations, include:
   - opening of atrial communications
   - transcatheter device closure of septal defects
   - transcatheter balloon dilation of cardiac valves
   - transcatheter balloon angioplasty and/or stent placement for obstructive lesions
   - transcatheter vascular occlusion
   - transcatheter pulmonary valve replacement

9. Additionally, the use of catheterization in hybrid procedures is addressed and includes:
   - hypoplastic left heart syndrome and complex single ventricle
   - perventricular device closure of muscular ventricular septal defects
   - stent implantation

10. Dialogue between the interventionalist, surgeon and managing cardiologist is paramount to quality care for the patient with congenital heart disease.

Feltes TF, et al behalf of the American Heart Association Congenital Cardiac Defects Committee of the Council on Cardiovascular Disease in the Young, Council on Clinical Cardiology, and Council on Cardiovascular Radiology and Intervention. Indications for cardiac catheterization and intervention in pediatric cardiac disease: a scientific statement from the American Heart Association. Circulation. 2011: published online before print May 2, 2011, 10.1161/CIR.0b013e31821b1f10 http://circ.ahajournals.org/cgi/reprint/CIR.0b013e31821b1f10

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