Catheterization recommended for treating pediatric heart conditions

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Doctors should consider using catheterization as a treatment tool in addition to its established role in diagnosing children with heart defects, according to a new American Heart Association scientific statement.

A catheter is a thin flexible tube inserted into a blood vessel and used in procedures such as angiography, in which physicians use the catheter to inject dye into the arteries near the heart to illuminate the vessels via X-ray technology. It can also open a valve, enlarge a narrow blood vessel, close a hole in the heart or close off a blood vessel.

The statement, published in *Circulation: Journal of the American Heart Association*, is a major overhaul of the association's last statement released in 1998.

"What we can offer patients now, versus just 10 or 15 years ago, is remarkably different," said Timothy F. Feltes, M.D., lead author of the statement and chief of pediatric cardiology and professor of pediatrics at The Ohio State University. "There have been tremendous advances in the procedures, devices, experience and the expertise of the physicians who perform the procedures. As physicians caring for patients with congenital heart disease, we have to look at heart catheterizations a little differently than we have in the past."

The statement provides an extensive inventory of diagnostic and interventional techniques that are now considered as options for pediatric patients, noting that catherization procedures carry a degree of

risk for patients.

Some of the 22 new therapeutic options for congenital heart disease include catheter-based techniques to: improve blood flow through the heart; repair inborn heart defects such as holes in the heart, repair or replace faulty valves; remove arterial blockages and many other conditions, such as malformed heart chambers.

In addition, the statement covers several hybrid procedures that use traditional surgical techniques in combination with catherization for treating conditions such as hypoplastic left heart syndrome (severe under development of the left side of the heart), stent implantation (to widen arteries and keep them open) and others.

The take-home message of this statement, Feltes said, is that "there are numerous conditions that are best served by interventional catheterization procedures."

The statement is key to cardiologists who treat pediatric defects, because there are few other sources of such information. "By virtue of the relatively small number of children and adolescents with congenital heart disease, it is difficult to design clinical trials. Ideally, you need thousands of patients to compare one treatment versus another. Only one child in 100 is born with heart disease, so it is very unlikely that one center will have more than one patient to do a side-by-side comparison," Feltes said.

Provided by American Heart Association