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Northwestern Medicine Cardiologists Are First in Midwest to Perform Minimally Invasive Tricuspid Valve Procedure

Part of a select national study investigating the repair of “leaky” tricuspid heart valves

CHICAGO – [Northwestern Medicine](#) interventional cardiologists at Northwestern Memorial Hospital are the first in the Midwest and second in the United States to repair a “leaky” tricuspid heart valve using the Trialign system, an investigational device that allows patients to forgo open heart surgery while still repairing the malfunctioning valve.

“A minimally invasive approach to repairing leaky tricuspid heart valves addresses a serious unmet need,” said [Stuart Rich, MD](#), director of the Pulmonary Vascular Disease Program at Northwestern Medicine’s nationally ranked [Bluhm Cardiovascular Institute](#) and the Principal Investigator of the SCOUT study testing the Trialign system. “We are part of an elite group participating in the world’s first study of this device.”

At Northwestern, the first successful procedure using the Trialign system was performed on Feb. 11, 2016 by Charles Davidson, MD, clinical chief of cardiology at Northwestern Memorial, and [Mark Ricciardi, MD](#), director of cardiac catheterization at Northwestern Memorial. [James Thomas, MD](#), director of Bluhm’s [Center for Heart Valve Disease](#), and [Jyothy Puthumana, MD](#), cardiologist, provided the critical imaging services for the procedure.

Functional tricuspid regurgitation occurs when the valve develops a leak from an enlargement in the right-sided heart chambers. With each heartbeat, the blood leaks backwards, causing shortness of breath, along with swelling in the legs or abdomen. The leak causes the heart to enlarge further, which then causes the leak to worsen. Untreated, moderate to severe TR has a poor prognosis.

Instead of opening the chest to repair the valve through open heart surgery, interventional cardiologists using the Trialign system place catheters through two small openings in a vein in the neck to deliver surgical sutures, or threads, on each side of the tricuspid valve. The sutures are then pulled together to make the tricuspid valve opening smaller and reduce the regurgitation. Finally, the sutures are locked in place with a small stainless steel lock. The procedure is similar to what a surgeon would do during heart surgery.

During the procedure, the physicians are guided by 3D imaging from two different cameras placed in and on the body.

Hospitalization and recovery time for those receiving the procedure is anticipated to be two days, significantly less than open heart surgery.

The Trialign system is an investigational device and is not approved by the U.S. Food and Drug Administration. As an investigational device, the Trialign system can be provided for treatment only through participation in the clinical research study. Northwestern Memorial is one of four sites in the United States, and the only one in the Midwest, investigating Mitralign's Percutaneous Tricuspid Valve Annuloplasty System (or "Trialign"). The system is an alternative to open heart surgery for those with functional tricuspid regurgitation.

The research study is looking to enroll up to 15 patients at the four sites around the country. For more information about the SCOUT study or other investigational studies at the Bluhm Cardiovascular Institute, visit www.feinberg.northwestern.edu/sites/bcvi-ctu.

Northwestern Medicine's Bluhm Cardiovascular Institute is one of the top 10 national programs for cardiology and heart surgery, according to U.S. News and World Report, and consistently ranked the top cardiovascular program in Chicago, Illinois and the surrounding states. For more information about Northwestern Medicine's top ranked cardiovascular care, go to heart.nm.org or call (312) NM-HEART.

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