

Cardiovascular team carries out a new type of procedure on a heart valve

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Credit: USZ

A team led by Francesco Maisano, co-director of the University Heart Center at the University Hospital Zurich (UHZ) and professor for Heart Surgery at the University of Zurich, made up of heart surgeons and cardiologists used new catheter technology to repair a leaky tricuspid valve for the very first time.

Professor Francesco Maisano, MD, Director of the Department of Cardiac and Vascular Surgery at UHZ and full professor at the University of Zurich, was responsible for the first use of the Cardioband within Switzerland to repair a mitral valve. Now, along with his team, he has also succeeded in using it to repair a leaky tricuspid valve in a 75-year-old patient. The patient is in good health.

The Cardioband serves as an innovative and low-impact method of repairing leaky mitral valves in the left atrium of the heart. It offers a minimally invasive alternative to open heart surgery. Francesco Maisano played a key role in the development of the Cardioband, which enables the tightening of a leaky valve annulus. During the procedure, the band is placed around the valve opening (the annulus) with the help of a catheter, secured with small anchors and tightened using a wire until the valve closes fully again.

Minimally invasive procedure also suitable for patients thought to be inoperable

The tricuspid valve separates the right atrium of the heart from the right ventricle, preventing blood from flowing from the ventricle back into the atrium. Diseases of the tricuspid valve are much rarer than those of the mitral valve, its counterpart in the left half of the heart. A tricuspid insufficiency, where the valve fails to work properly, can lead to serious symptoms. The build-up of blood in the ventricle and the veins causes increased pressure on these organs. The result: water in the legs and abdomen, liver damage, and potential atrial fibrillation.

Until now, the only treatment option for a leaky tricuspid valve was open [heart surgery](#) using a heart-lung machine. Maisano explains the advantages of the new Cardioband method: "As tricuspid insufficiency often arises as a consequence of diseases of the [mitral valve](#), open heart procedures are a risky surgical intervention. The Cardioband is a minimally invasive therapy which does not require the use of a heart-lung machine, reducing the impact on the patient and lowering the risk. Now, even patients previously thought to be inoperable can be treated."

Provided by University of Zurich

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