

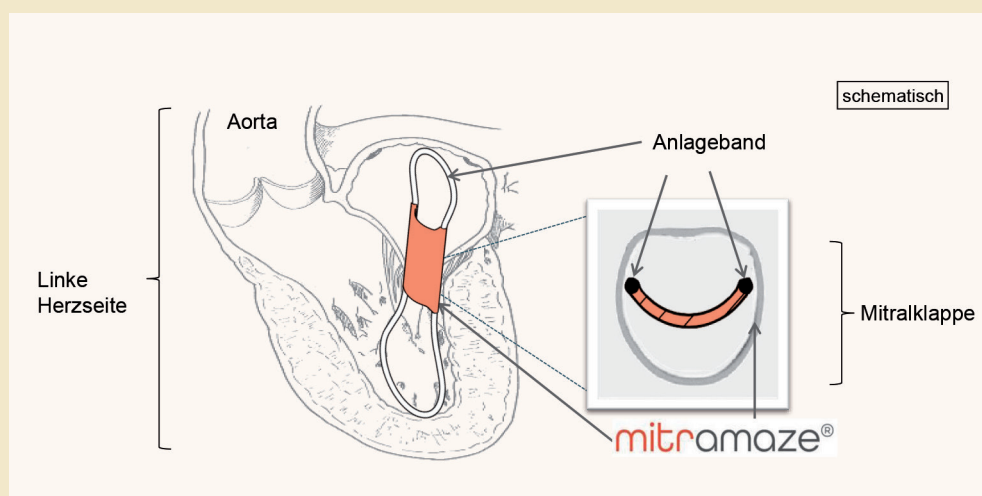
# How to mend a broken heart

## UDE cardiologists develop implantation technique to treat mitral regurgitation

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Prof. Dr. Till Neumann and his team at the UDE's Clinic for Cardiology at University Hospital Essen are developing an innovative technique for the treatment of mitral regurgitation. The project, out of which coramaze technologies GmbH originated as a spin-off at the beginning of 2014, is funded by the EXIST program of the German Federal Ministry for Economic Affairs and Energy.



At MEDICA 2014 the cardiologists from the University Hospital are presenting the prototype of an implant and a new technique for repairing leaking inlet valves in the heart. Mitral regurgitation affects several millions of people worldwide.

In the normal physiology, the mitral valve closes completely to prevent blood from the left ventricle flowing in the wrong direction into the left atrium. If the mitral valve fails to

close properly, a pathologic backflow occurs, which causes dyspnea, heart disease and increased mortality among patients. The problem arises when the cardiac muscle contracts and the inlet valves do not close properly, allowing blood to flow back into the atrium. Patients experience fatigue, difficulty breathing, pain and further damage to the organ. To date, open-heart surgery has been the only possible treatment - although 40 percent of patients are inoperable because their advanced age and comorbidities make the risks too high.

It is with such cases in mind that Prof. Neumann and his team have developed the „mitramaze valve repair system“. Their catheter-based technique involves implanting a 3 cm device to seal the gap in the mitral valve in a minimally invasive procedure. „This short intervention allows the natural valve to be preserved and reduces the complication rate,“ says Neumann. His invention has already received various distinctions.

*Prof. Neumann studied Medicine at the Universities of Marburg, Duisburg-Essen, Bern and Houston/USA. He also holds a degree in Business Administration from the UDE. In 2006 he became senior physician at the Clinic for Cardiology of University Hospital Essen, where he heads the cardiac insufficiency department. He is a member of numerous specialist professional associations, including the European Society of Cardiology and the German Cardiac Society. Since 2013 he has been assistant medical director at the Clinic for Cardiology of the University of Duisburg-Essen.*

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