

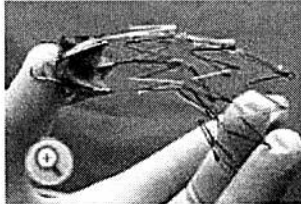
SPIEGEL ONLINE

03 March 2000, 17:07 hours

Cardiology

A Foldable, Artificial Heart Valve

Physicians at Jena University Clinic are proposing the prototype of heart valve with "umbrella technology", which could help to avoid conventional, multi-hour open-heart operations.



German Patent Office (DPA)
Prototype of the new heart valve

Jena. A valve mechanism makes it possible to introduce the implant in a few minutes with a catheter through the femoral artery as far as the heart. The prototype consists of a normal, pig-heart valve with a wire construction, which can be folded to a diameter of eight millimeters.

The object then opens up like an umbrella between the main chamber and the aorta, according to information from the researchers, and the heart valve is fastened with barbs to the vessel wall.

The device has functioned perfectly so far in laboratory experiments, based on information from Jena scientist Hans-Reiner Figulla. But it's going to take a few more years for the first person to receive the new type of heart valve.

The system has to be just a little smaller in the folded state and has to go through a few more tests.

URL:

<http://www.spiegel.de/wissenschaft/mensch/kardiologie-zusammenfaltbare-kuenstliche-herzklappe-a-67568.html>

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Medtronic, Inc., Medtronic Vascular,
Inc., & Medtronic Corevalve, LLC
v. Troy R. Norred, M.D.
Case No. IPR2014-00395



July 30, 2013

Certification

Park IP Translations

This is to certify that the attached translation is, to the best of my knowledge and belief, a true and accurate translation from German into English of the article from SPIEGEL ONLINE entitled: A Foldable, Artificial Heart Valve.

A handwritten signature in black ink, which appears to read 'Abraham I. Holczer', is written over a horizontal line.

Abraham I. Holczer

Project Manager

Park Case # 41622