



Why so few are treated with artificial hearts – expert explains

As early as the 1970s, artificial heart implants were performed in patients with life-threatening heart failure. Despite this, only about 2,000 people have been treated to date. At the same time, heart failure is increasing and today 64 million are affected worldwide. What is the reason why so few patients are treated with artificial hearts? Realheart's CEO Ina Laura Perkins asked Professor Robert D Dowling, also a member of the company's scientific advisory board.

“I am often asked this and, ironically, the fact that so few implants with artificial hearts are performed is also part of the answer why. It is a complicated operation that requires a great expertise and surgeons who are given little opportunity to learn the technology may refrain from choosing this treatment. My hope is that the new generation of artificial hearts that are now being developed will change that by eliminating some of the problems with existing technology” said Robert D Dowling.

He is Professor of surgery and Director of Cardiac Surgery research at Penn State Milton S. Hershey Medical Center in the United States – one of the largest TAH centers in the world with extensive experience in end-stage heart failure surgical options – and an established name among surgeons who work with total artificial hearts.

There are currently 64 million people with heart failure in the world and each year over 100,000 people need a heart in the United States and Europe. At the same time, there is a great shortage of organs for transplantation, and far from everyone who has the disease qualifies for the transplant waiting list. For example, you need to be otherwise healthy and relatively young, and heart failure is a disease that increases with age. In Sweden, only about 60 transplants take place per year. At the same time, 3,500 die of heart failure.

For many of these patients, an artificial heart would be an option, but the currently available total artificial heart, which has now been around for over 40 years, comes with several disadvantages and is therefore rarely used. It costs around SEK 1 million, the operation is complicated and blood-related side effects often occur which means that the patient will need continued care. The patient's comfort and freedom of movement is also limited due to loud noise, heavy accessories, and short battery life.

All of these aspects are considered by Realheart, developing the world's first artificial four-chamber heart. Many surgeons are involved, both in the daily business, the board of Directors and the scientific advisory team to optimize the surgical procedure. The product is silent, has a high battery capacity and mimics the structure and function of the human heart to minimize side effects.

“If you can simplify the operations and eliminate the risk of side effects, a lot has been gained. Then demand will increase. In this way, we can save many more lives with a greater quality of life for patients and reduced costs for healthcare” said Professor Dowling.

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Scandinavian Real Heart AB develops a total artificial heart (TAH) for implantation in patients with life-threatening heart failure. Realheart TAH has a unique, patented design that resembles that of the natural human heart. The artificial heart consists of a four-chamber system (two atria and two chambers) which provides the opportunity to generate a physiologically adapted blood flow that mimics the body's natural circulation. A unique concept in the medical technology world.