

THE ARTIFICIAL HEART

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The artificial heart was first approved by the FDA on October 15th, 2004. It is a mechanical device that is used to replace the old and nonfunctioning previously used heart and implement a new way to help the heart function again. The artificial heart is sometimes called a Ventricular Assistance Device but this is a false accusation because VAD's are pumps that help assist the heart and not replace it. There are two types of artificial hearts out there right now. One is the CardioWest Temporary total artificial heart and the other is Abiocr replacement heart.

The first approved was the CardioWest heart in 2004 and Abiocr heart was in 2006. The Abiocr is considered better because no wires or tubes pinch the skin meaning less risk for infection. The CardioWest artificial heart though has a 79% success rate and has contributed to adding more than 170 years of life to all patients and there has been more than 800 transplants. Early signs of artificial hearts began in 1949 when two students from the Yale University School of Medicine used an erector toy set and other parts to create an artificial pump and successfully bypassed the heart of a dog for over an hour.

Other early signs began in 1981. The FDA approved the Jarvik 7, which is the work of Robert Jarvik, a graduate student. Dr. William DeVries got approval first to place the Jarvik 7 into a human being. It was first performed in December of 1982 and was successful. The patient, Dr. Barney Clark lived for an extra 112 days with it. In 2011 there will be an artificial heart ready for clinical trial that can be fully implanted into the body and by 2013 an alternative transplant will be available. It will be

manufactured and developed by the biomedical firm Carmat and venture Capital firm Truffle. Its prototype uses electric sensors and is made from chemically made animal tissues, or "pseudo-skin."

The most fascinating development was in August 2006. An artificial heart was temporarily placed in a fifteen years old girl from Edmonton, Alberta until a donor heart was available. After 146 days of having the Berlin heart in her it was removed and her heart actually healed on it own and she was able to have a normal functioning heart again. Hopefully by 2013 the artificial heart will be able to fully help a human add many years to a persons life and the total artificial heart will start to be more commonly used in hospitals and medical clinics. Thanks to many biomedical engineers and prosthetic engineering along with years of research, we are able to see drastic changes in this field within the past 10 years.



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