Implantable Artificial Heart Devices

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- Artificial hearts have been around since the 1960s, with the first successful implant being in 1969
- The first artificial heart recipient stayed alive for about 60 hours
- There are two types of artificial implantable heart- one designed to serve as a temporary replacement while a donor heart is being looked for, and one such as the abiocor, designed to be a permanent replacement
- An example of the first type is the Jarvik-7
- About the size of a pack of cigarettes, it has two pumps designed to simulate the left and right ventricles
- With this system, an external power system energizes and regulates the pump through a system of compressed air hoses that enter the heart through the chest
- This is obviously prone to infection, and one of the main reasons the Jarvik-7 is a temporary solution
- The first use of the Jarvik-7 was in 1982, the patient was kept alive for 112 days

- The Abiocor implantable replacement heart is the next generation in heart implants.
- Roughly the size of an actual heart, the abiocor's only external attachment is its batteries.
- The unit can function on its own for about half an hour, allowing the patient to shower as normal
- The AbioCor consists of an internal thoracic unit, an internal rechargeable battery, an internal miniaturized electronics package and an external battery pack.
- Power is supplied from the external batteries via a TET (transcutaneous energy transmission) system, this supplies power from an external coil to an internal one through the skin without actually puncturing it.
- The Abiocor has the potential to benefit 100,000 people per year.

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