

CardioMEMS™ Implant for Heart Failure Monitoring



The CardioMEMS™ HF System is the first and only FDA-approved heart failure monitoring device proven to significantly reduce hospital admissions and improve quality of life in class III heart failure patients that have been hospitalized in the previous 12 months.

How does it work?



The CardioMEMS™ uses a small, wireless monitoring sensor implanted in the pulmonary artery to directly measure the arterial pressure. The system allows patients to transmit this data from their homes to their health care providers allowing for personalized and proactive heart failure management.

The implantable sensor is a completely sealed capsule that uses microelectromechanical systems (MEMS) technology. All of the sensor components are made of materials that have been chosen for their durability, robustness, bio-compatibility, and insensitivity to changes in body chemistry or biology. The sensor is powered by radio frequency energy. It is implanted into the pulmonary artery using minimally invasive techniques via a catheter and is designed to last the life of the patient.

The sensor does not have a battery or leads and is very small. Once implanted, the sensor wirelessly sends pressure readings to the external patient electronic system. There is no pain or sensation for the patient during the readings. The electronics transmit the readings to a secure website where it can be seen by your Deborah® specialist and their team.

The external measurement system wirelessly tracks frequency and uses it to determine the pressure in the pulmonary artery.



At home, heart failure patients use a portable electronic unit and a special pillow containing an antenna to take daily sensor readings. This is a simple process that takes only a few minutes. The patient's electronic unit is turned on and the patient lies on the pillow. The electronic unit uses audible signals telling the patient to press the button to initiate a reading. The pressure readings are then wirelessly transmitted to a secure website.

Am I a good candidate for treatment?

This system is designed for class III heart failure patients who have been hospitalized in the previous 12 months.

What can I expect after treatment?

After implantation, clinicians access patients' pressure readings and trending data transmissions using the patient management website, providing valuable clinical insight for making treatment decisions.