

Who Might Benefit?

Patients with some heart conditions may have an electronic device surgically implanted inside their body to help manage their disorder. A pacemaker, which helps regulate the rhythm and the rate of the heart, is an example of such a device. Another example is an implantable cardioverter-defibrillator (ICD), which delivers shocks to the heart should it suddenly stop pumping blood. More than 200,000 people in Canada have a pacemaker or ICD. These devices are complex and need to be adjusted over time to ensure they work best for each person. They also record important information about the performance and condition of the heart, which can be used to better treat the people who have these devices.

> Current Practice

Patients with implanted heart devices are seen regularly, so that information can be retrieved from the device and health professionals can adjust the device to ensure it is working optimally. These visits happen at a medical facility, often a medical clinic specialized for people with heart-related implanted devices. During these visits, information from the implanted device is transferred to a computer that is in the same room with the patient. Adjustments to the device can be made by this computer, which transfers information to the device while the patient is present. Information collected by the device on the person's heart performance can be reviewed by a heart specialist during these visits. These regular visits may occur one to four times a year.

Remote monitoring of heart devices may lead to better health and fewer doctor's visits

> What's New?

It is now possible for information from a person's implanted heart device to be regularly transferred from their home to their health provider. A data transfer machine, similar to a computer modem, receives information from the heart device at the person's home. The data transfer machine sends information to a central computer database, which then sends the information to the person's health care provider. This process allows for remote monitoring of the heart device.



> Potential Advantages

With home monitoring, doctors can be alerted to serious problems with the heart device or the functioning of the heart soon after they occur. This means treatment for the person or changes to their device can be carried out sooner. Without remote monitoring, the doctor may not become aware of problems until a person's next scheduled clinic visit. Therefore, remote monitoring may lead to better health for people who have heart devices. A study found that people with an ICD monitored remotely were less likely to die and less likely to have worsening of their condition. Remote monitoring of heart devices may also lead to fewer visits to the doctor to check devices. Because information from a device is sent from home, there should be less need for regular clinic visits.