



Electrocardiogram (ECG or EKG)

Implantable loop recorder

An implantable loop recorder is a type of heart-monitoring device that records your heart rhythm continuously for up to three years. It records the electrical signals of your heart and allows remote monitoring by way of a small device inserted just beneath the skin of the chest.

Why it's done

An implantable loop recorder can help answer questions about your heart that other heart-monitoring devices don't provide. It allows for long-term heart rhythm monitoring. It can capture information that a standard electrocardiogram (ECG or EKG) or Holter monitor misses because some heart rhythm abnormalities occur infrequently.

For example, if you have a standard ECG to help figure out why you're having fainting spells, it will only record any related heart rhythm abnormalities during the few minutes of the monitoring period — usually about five minutes. Because an implantable loop recorder monitors your heart signals for a much longer time, it's more likely to capture what your heart is doing during your next fainting spell. This information may help your doctor make a definite diagnosis and develop a treatment plan.

Implantable loop recorders are one of the newer heart-monitoring devices. Researchers have evaluated their safety and benefit over the last 10 years. A study of 579 people with fainting spells showed that implantable loop recorders had a higher rate of diagnosis of heart rhythm problems than did other monitoring devices.

Researchers also examined the value of implantable loop recorders in people who had a stroke. Long-term heart monitoring uncovered heart rhythm problems that caused the stroke better than 24-hour monitoring did. Doctors used these results to guide treatment with blood-thinning drugs (anti-coagulation therapy) to prevent another stroke.

What you can expect

You will need to undergo a minor surgical procedure to place the implantable loop recorder. Risks of the procedure include infection or a reaction to the device that causes redness at the incision site.

Before the procedure

You don't need to do anything special to prepare for this procedure.

During the procedure

The procedure to insert the heart monitor is usually done in a doctor's office, with a local anesthetic. Your doctor makes a tiny incision, inserts the device, which is smaller than a key or a thumb drive, and closes the incision. The device stays in place for up to three years.

After the procedure

The procedure to insert an implantable loop recorder has some risk because it involves minor surgery. Your care team will advise you to watch your incision for signs of infection and, perhaps, to limit activities until the wound heals.

The device records the electrical impulses of your heart and transmits them automatically to your doctor by way of the internet and wireless technology. All you need to do is keep the transmission monitor your doctor gives you beside your bed. Transmissions occur while you're asleep. You can also activate the data transmission process yourself. In addition, your doctor may ask you to keep a diary of your symptoms.

Your doctor will interpret the results of your test and call you if he or she has any concerns. You'll likely need to see your doctor once or twice a year for routine checkups while the device is in place.

An implantable loop recorder is invisible and doesn't interfere with your daily activities. It has no patches or wires, and you don't have to worry about getting the device wet while bathing or swimming. These devices are supposed to be safe for use during a medical imaging procedure called magnetic resonance imaging (MRI), but let your doctor know about your implant before you schedule such a test.

It's also possible an implantable loop recorder might set off metal detectors, for example, at an airport. Your doctor can provide you with a device identification card to carry with you for such situations.

By Mayo Clinic Staff

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