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## Detecting Fainting: Insertable Loop Recorder

Fainting, also called syncope, can be caused by many different things. Specific causes for fainting are often hard to find. Fainting can happen when not enough oxygen flows through the blood and into the brain. The person will lose consciousness, or "pass out," for a very brief time (a few seconds or minutes). A sudden drop in blood pressure can cause fainting. Sometimes heart rates and blood vessels can't react fast enough when the body's need for oxygen changes. This is very common among older people. It can happen when:

- You stand up fast.
- You work or play hard, especially if it's very hot.
- You begin to breathe too fast (called hyperventilating).
- You get very upset. Being upset can affect the nerves that control your blood pressure.
- You're taking medicine for high blood pressure.

To help with often fainting episodes an insertable loop recorder (ILR) can help determine the cause of the occurrence. An ILR is a small device put inside the body to record heart rhythm during fainting or near-fainting episodes. It is activated by a hand-held device used during or after an event, to store the event into the ILR memory. The ILR is removed after one or more episodes have been stored into memory or after 14 months.



The device is smaller than a packet of chewing gum and is inserted just beneath the skin in the upper chest area. The insertion of the device is a simple outpatient procedure, which takes approximately 15-20 minutes.

### The Implant:

During the procedure the patient will be awake and experience very little discomfort. The patient will be given anesthesia injected through the chest area. The device will be slipped under the skin and the

edges of the wound will be stitched or glued together. The recovery immediately after surgery will take about an hour.

### How The Device Works:

The Insertable Loop Recorder continuously monitors the rate and rhythm of the heart. It works similarly to a black box in an airplane, whereby vital information is recorded during the actual fainting episode and can be played back later for detailed analysis. The recorder can continuously record the heart's rate and rhythm for up to 14 months.

To capture and store the electrocardiogram (ECG) as it occurred during the fainting episode, a patient places the hand-held, pager-sized Activator over the Loop Recorder after waking from an episode, and presses a button on the activator. A family member or friend also can be the one to place the Activator over the patient's device to save the information. It is important for the patient to keep the Activator handy at all times (clipped to the clothes or looped over a belt). Later, a Cardiologist analyses the stored information and determines whether the fainting episode was caused by an abnormal heart rhythm. Once the Cardiologist determines this, the device is removed and either treatment is begun or the patient is referred to other specialists.

This device, made of stainless steel, basically is an ECG recorder with electrodes on the surface, which record ECG. Because it can be worn continuously for up to 14 months, the likelihood of capturing heart rhythm information during an infrequent fainting episode is excellent. Diagnosing the cause of fainting with the Reveal Insertable Loop Recorder may also result in fewer physician and emergency room visits caused by fainting spells, and reduce the number of tests typically involved when trying to diagnose the cause of fainting. The device costs \$529 to around \$1,000.

### SOURCES:

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