Unexplained Seizures and Fainting: Exploring Answers with Your Doctor

What does a miracle look like?

Robert Brooks
Helped by Medtronic Reveal® Plus

Where Can I Get More Information?

For more information or stories on seizure-like episodes or fainting, visit www.fainting.com. If you have questions about your episodes, talk with your doctor.

For more about Medtronic, visit: www.medtronic.com.

Call the toll-free Medtronic patient information phone line: 1-800-551-5544.

Brief Statement

9526 Reveal® Plus Insertable Loop Recorder

The Reveal Plus ILR is an implantable patient- and automatically activated monitoring system that records subcutaneous ECG and is indicated for:

– patients who experience transient symptoms that may suggest a cardiac arrhythmia.
– patients with clinical syndromes or situations that put them at increased risk of cardiac arrhythmias.

Possible risks associated with the implant of a Reveal Plus Insertable Loop Recorder include, but are not limited to, infection at the surgical site, device migration, erosion of the device through the skin and/or sensitivity to the device material.

Treatment with a Reveal Plus Insertable Loop Recorder is prescribed by your physician. Please talk to your doctor to see if it is right for you. Although many patients benefit from the use of these products, results may vary. Not everyone responds to the treatment in the same way.

1  http://www.epilepsyfoundation.org/epilepsyusa/divide.cfm

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What does a Miracle Look Like?

Jusk ask Robert Brooks and his granddaughter.

As Robert walked into his local grocery store, he remembers seeing dark spots. It was Robert’s first fainting spell and he didn’t think much about it. He simply had a neighbor follow him home to be on the safe side.

Three months later, Robert was sitting at work at his desk when he began to feel like he was going to pass out again – just like before. This time Robert went to his primary care doctor and then on to a neurologist. The neurologist, a doctor who specializes in brain disorders, thought Robert was having seizures and gave him some special epilepsy medication to potentially help the spells.

With his new medication Robert felt cured – until he had another “seizure-like” episode one year later.

His doctor then sent him to a heart clinic where he went through a series of tests and short-term heart monitoring. Unfortunately, the tests didn’t help Robert’s doctor find a reason why he was having spells.

Robert continued with his normal routine. Another six months went by and Robert had a fourth episode. Robert was at choir practice and had three quick spells. His new doctors decided to give him a Medtronic Reveal® Plus insertable loop recorder. This heart monitor would continuously record Robert’s heart rhythm for over a year and give Robert’s doctors a way to link his heart’s activity to his spells.

With the heart monitor in place, Robert’s doctors learned that Robert’s heart would pause for several seconds long enough to cause his spells. Robert was given a pacemaker to control his heart rhythm and his episodes stopped. Robert felt better with answers and a new pacemaker.

After Robert received a pacemaker his . . .
granddaughter thought he looked better, “Papa, you look different, you’ve got color in your face,” she told him.
Unexplained Spells May Be Heart-Related

Because your unexplained seizures may occur "out of the blue," finding the cause may take time and include visits to different types of doctors.

According to The Epilepsy Foundation, almost half (44 percent) of people diagnosed with epilepsy continue to have spells even with treatment. One recent study showed that in certain cases, seizure-like episodes could be heart-related. In this study, a team of heart doctors (cardiologists) and brain specialists (neurologists) teamed together and found some "seizure" patients actually had episodes of cardiac/heart-related syncope (sing‘koʊ peɪ), commonly known as fainting.

Fainting Can Look Like a Seizure

Epileptic seizures are caused by abnormal electrical activity in the brain. Fainting can sometimes be caused by an irregular heart rhythm. In this case, irregular beats may lead to dizziness and collapse when blood pressure drops and not enough oxygen reaches the brain. Sometimes there are even seizure-like movements or twitching.

Knowing if your spells are epileptic seizures or fainting is only possible with a careful review. If your spells remain unexplained, or if you continue to have spells even with epilepsy drugs, an in-depth look by a doctor specializing in heart conditions may be the right next step. To find out whether your spells may be caused by a heart-rhythm problem, it is important to discuss your options with your doctor.

Of course, continue your medications unless your doctor tells you differently.

Talk to Your Doctor

These three questions may help you and your doctor know if you are a candidate for further testing:

1. Have you had unexplained, repeated seizure-like episodes over time?
2. Are you getting treatment for your seizures, but it isn’t helping?
3. Could there be other causes to your episodes?

If you answered “Yes” to all three questions, think about asking your doctor for a referral to a specialist.

Another tool to help you and your doctor understand your condition is the health history form at the back of this booklet. Fill out the form and share it with your doctor.

Cardiologists and neurologists can both be involved in determining the cause and treatment of repeated, unexplained seizure-like episodes. There are also sub-specialty doctors you may see:

<table>
<thead>
<tr>
<th>General Specialist</th>
<th>Specific Specialist</th>
</tr>
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<tbody>
<tr>
<td>Neurology (brain)</td>
<td>Neurologist – specializes in disorders of the brain and nervous system</td>
</tr>
<tr>
<td></td>
<td>Epileptologist – specializes in epilepsy</td>
</tr>
<tr>
<td>Cardiology (heart)</td>
<td>Cardiologist – specializes in diseases of the heart and blood vessels</td>
</tr>
<tr>
<td></td>
<td>Electrophysiologist – specializes in abnormal heart rhythms</td>
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Testing for a Heart-Related Cause

If your doctor suspects a heart condition is causing your seizure-like episode, one or all of these tests may be used. Information from these tests can help your doctor rule in and rule out specific heart problems.

• **Echocardiogram** — A device is placed on the chest and sound waves are bounced off the heart. This provides a moving picture of the heart and the heart valves as well as information about how the heart is pumping.

• **Electrocardiogram (ECG)** — This test records the electrical activity of the heart using electrode patches placed on a person's chest, arms, and legs. The electrode patches are connected to a monitor, which captures the ECG. The test takes a few minutes.

• **Electroencephalogram (EEG)** — This test records brain wave activity to help determine if and/or where seizures may occur.

• **Electrophysiology (EP) study** — This procedure reproduces irregular heart rhythms and extra heartbeats to help interpret the heart's electrical impulses and responses to the heartbeats. To get a reading, catheters are threaded into the heart. The procedure lasts about two hours.

• **External loop recorder** — This test uses a recorder to read the heart's electrical activity after an episode. After the event occurs, the person presses a button on the recorder to store the heart's activity. The recorder is continuously worn on the wrist or around the waist from several days up to one month.

• **Holter monitor** — This test measures and records the heart's electrical activity using electrode patches placed on a person's chest. To capture the heart's activity, the patches are attached by wire to a portable monitor about the size of a small tape recorder. The device is worn continuously for one to two days.

• **Medtronic Reveal Plus insertable loop recorder** — This implantable device continuously monitors heart rhythms automatically or by using a patient activator. The small device is implanted in a very simple outpatient procedure, and can remain inserted just beneath the skin in the upper chest area for up to 14 months.

• **Physical exam and medical history** — A medical professional completes a thorough physical examination and asks detailed questions about an individual's symptoms and condition.

• **Stress test** — This test is taken while a person exercises to measure how the heart functions when there is an increase in the body's demand for oxygen.

• **Tilt table** — This procedure re-creates the conditions that may cause fainting. An individual lies on a table that tilts by varying angles. While on the table the person is connected to a machine which allows the doctor to measure how blood pressure, heart rate, and heart rhythm respond to changes in body position. The procedure takes about two hours.
Successful Treatments for Heart-Related Events

If tests confirm your repeated spells are caused by heart-related events, a number of proven treatment options are available. In some cases, heart medication will take care of the problem. In others, pacemaker or defibrillator therapy offers the solution, depending on whether your heart is beating too slow or too fast. And in some cases where irregular heart rhythms are found, a "cardiac ablation" procedure may remove the cause of the syncope. Often, these treatments can reduce or even end the episodes.
Be Prepared for Your Next Doctor Visit

If your doctor refers you to a cardiologist or neurologist, make sure your medical records are sent before your appointment. To make the most of your visit, be prepared with several pieces of information:

✓ Your history of seizure-like episodes (fill out the form on the next page)

✓ A description of your seizures by anyone who has witnessed them

✓ A list of doctors you have seen for your seizures

✓ Ask if your seizures could be heart-related or if you need an evaluation for cardiac syncope

✓ Ask what tests are going to be performed and for what purpose

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1. Have you had an unexplained spell?
   - Yes ______  No ______

2. When did your spell(s) begin?
   - ______

3. How many spells occurred over the last two years?
   - ______

4. What is the estimated amount of time between spells?
   - ______

5. What were you doing before you had a spell?
   - ______

6. Did you suffer any injuries from your spells?
   - Yes ______  No ______

7. Do you drive?
   - Yes ______  No ______

8. Does your job put you at risk for spells?
   - Yes ______  No ______

9. Have you been monitored or tested to find the cause of your seizure-like episodes or fainting?
   - Yes ______  No ______

10. List tests: ______

11. Are you receiving treatment for seizure-like episodes or fainting spells (medications, lifestyle modifications, etc.) but the treatment is not helping?
   - Yes ______  No ______

12. List treatment: ______

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My Medical History

(Fill out and bring to your doctor visit.)