Caution: Federal Law (USA) restricts this device to sale by or on the order of a physician.
We are there when you need us.

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How to contact Medtronic

Contact us by phone
Our experienced Patient Services staff is available to answer any questions or concerns you may have about your heart monitor. To speak directly with a Patient Services Specialist, call 1-800-551-5544. Our staff is available Monday through Friday from 7:00 AM to 6:00 PM (Central Time).

Contact us online
Medtronic is dedicated to providing you with the most up-to-date information available about your Medtronic heart monitor. Website information is available 24 hours a day.

- Medtronic website: www.medtronic.com
- Patient Services website: www.medtronic.com/rhythms
Contact us by mail or fax

Medtronic, Inc.
Patient Services Department, MVS14
8200 Coral Sea Street
Mounds View, MN 55112

Fax: 1-763-367-5809
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Why read this manual?

Your doctor should be your first source of information regarding your health.

This manual addresses many of the questions you or your family may have about your heart monitor.

For your convenience, words that appear in **bold** are defined in the glossary at the end of this manual.

If you have questions that are not covered in this manual or you want more in-depth information about your heart monitor, contact Medtronic Patient Services at 1-800-551-5544.
Overview of the Medtronic Reveal XT system

Your doctor has recommended a Medtronic Reveal XT Insertable Cardiac Monitor (ICM) system. The Reveal XT system allows your heart’s electrical activity to be continuously monitored while you are away from your hospital or clinic. The Reveal XT system consists of your inserted heart monitor (cardiac monitor) and the Patient Assistant, a handheld activator that you carry with you to easily record information about any heart-related events you may experience. This chapter provides additional details about the components of the Reveal XT system.
Inserted heart monitor

The Reveal XT heart monitor is only about 2.4 in. (6.2 cm) long and is inserted under your skin. While you go about your daily activities, the heart monitor continuously observes your heart’s electrical activity and records heart data based on settings programmed by your doctor. Your doctor can use the recording to help monitor, diagnose, and manage any heart rhythm disturbances (called arrhythmia) and their relationship to possible symptoms. Your symptoms may include syncope (fainting), light-headedness, dizziness, and palpitations. Disturbances in your heart’s rhythm or some other health issue may be causing your symptoms.

Without a Reveal XT heart monitor, monitoring and diagnosing your symptoms may be difficult because symptoms often occur while you go about your daily life rather than while you are visiting your doctor or undergoing special tests.

With a Reveal XT heart monitor (simply called “heart monitor” throughout this manual), it often is easier for your doctor to help
manage your symptoms or condition. The data stored in the heart monitor helps your doctor do the following:

- Determine whether your symptoms are related to your heart’s rhythm or something else
- Monitor any heart rhythm disturbances

The heart monitor records an **electrocardiogram (ECG)**, which is a pattern of your heart’s electrical activity. Your doctor can review the stored ECG, which helps to show if your heart’s rhythm is too slow, too fast, irregular, or normal.

There are two ways the heart monitor stores this ECG information for your doctor to review later: patient-activated ECG recordings and automatic ECG recordings. The Patient Assistant (handheld activator, described in Chapter 5 on page 39) allows you or a caregiver to tell the heart monitor when to store an ECG. This should be done while you are experiencing or just after you experience symptoms, as instructed by your doctor. In addition, your heart monitor can store ECGs automatically, based on how your doctor has programmed the heart
monitor. Automatic storage is useful when a rhythm disturbance is present that may not be causing symptoms.

Your doctor can program your heart monitor to allow you to record up to three ECGs using your Patient Assistant. The heart monitor will then overwrite the oldest ECG the next time you use your Patient Assistant so that only the newest ECGs are stored. This gives your doctor the option to see one 15-minute, two 10-minute, or three 7.5-minute patient-activated recordings. Your doctor can tell you if your monitor is programmed to store one, two, or three recordings.

The heart monitor also stores the automatic ECGs based on how your doctor programs it. The heart monitor will again begin overwriting the older ECGs once this portion of the memory is full. Talk with your heart doctor about when you should have your heart monitor information read so you do not lose information the doctor may want to view. If you have questions, contact your doctor.

Based on the ECGs and other diagnostic information stored in your heart monitor, your doctor may determine the most effective treatment for you. For general information on how the heart functions
and types of heart rhythm disturbances, see “How a heart pumps blood throughout your body” on page 29.

The heart monitor is inserted (implanted) under the skin through a small incision. Your doctor may choose to implant the monitor under the skin in your upper chest area or elsewhere. For more information, see “Your implant procedure and recovery” on page 33.

**Patient Assistant**

The Reveal XT Patient Assistant Model 9539 is a small, handheld device about the size of a pager, as shown in Figure 1 on page 13.
Figure 1: Patient Assistant

You should carry the Patient Assistant with you at all times so that you have it whenever you experience symptoms. You use it to record (mark) heart rhythm information in your heart monitor while, or immediately after, having symptoms. Your doctor may also instruct
you to use the Patient Assistant to check (query) your inserted heart monitor for recorded heart rhythm events.

The process of using a Reveal XT system to help monitor and diagnose your symptoms is shown in Figure 2 on page 15.

For detailed instructions on using the Patient Assistant, see “Using your Patient Assistant” on page 39.
Figure 2: Overview of how the Reveal XT system is used to monitor and diagnose symptoms
Frequently asked questions

Here are some answers to questions that new patients frequently ask. Contact your doctor if you have additional medical questions, or contact Medtronic Patient Services if you have additional questions about your heart monitor or Patient Assistant.

How long will I have my heart monitor inserted?
Your doctor will determine how long you need the heart monitor inserted. To monitor any heart rhythm disturbances, your monitor may be inserted in your body for up to 3 years, if necessary.

What happens when I press a button on the Patient Assistant?
You won’t feel anything as a result of pressing a button. Data is stored in the inserted heart monitor. No data is stored in the Patient Assistant (your handheld activator).

What should I do if I lose or damage my Patient Assistant?
Contact your doctor for a replacement.
What if my symptoms are not related to my heart rhythm?

Then your doctor looks for other causes. For example, syncope (commonly called fainting) is sometimes hard to diagnose because fainting may be related to fatigue, stress, hormonal imbalance, neurological abnormalities, or other causes. If you do not have heart rhythm problems, your doctor can focus on other potential causes or refer you to another doctor.

Why do I need a device identification card?

Your Medtronic device identification (ID) card provides information about you, your doctor, and your heart monitor in case you are involved in a medical emergency, have a medical question, or need to pass through a metal detector (see also “EMC and security systems” on page 24). The ID card is included with your Patient Assistant Quick Reference Card. Please carry it with you at all times.
Are there things my family and friends should know?
They should learn how to use the Patient Assistant (see “Using your Patient Assistant” on page 39) so that they can assist you, if needed.

What if I am scheduled for a medical procedure?
Before any medical procedure, always show medical personnel your Medtronic device ID card so they are aware that you have an implanted medical device. For information about medical procedures that require precautions, such as Magnetic Resonance Imaging (MRI) scans, see “Medical procedures that require some precautions” on page 26.

Are there things in everyday life that can interfere with my heart monitor?
Some things like electrical items and wireless communications equipment can affect your heart monitor data. For an overview and instructions regarding items that may temporarily interfere with the data collection abilities of your heart monitor, see “Living life with your heart monitor” on page 19.
Most people resume their normal daily activities after having a heart monitor inserted. However, there may be certain situations that your doctor will ask you to avoid.

In this chapter, you will find the following important information.

- An overview and instructions regarding items that may temporarily interfere with the data collection abilities of your heart monitor. See “What you need to know about electromagnetic compatibility (EMC)” on page 20.

- Precautions regarding certain types of medical procedures. See “Medical procedures that require some precautions” on page 26.

Your doctor will provide you with guidance specific to your particular condition and situation.
What you need to know about electromagnetic compatibility (EMC)

Everything that uses electricity produces an electromagnetic energy field. This energy field surrounds the electrical item while it is connected to a source of electricity (even a battery source). The energy field is strongest near the item and weakens with distance from the item.

The relationship between these energy fields and your heart monitor is called electromagnetic compatibility (EMC). Strong electromagnetic energy fields may temporarily affect data collection and reduce the amount of data available to your doctor.

The design of your heart monitor helps ensure that data collection in the heart monitor is shielded from strong electromagnetic energy fields. Any effects of electromagnetic energy fields on your heart monitor data are temporary and stop when you move away from the source of the electromagnetic energy field.
What household electrical items can temporarily interfere with data collection?

Your heart monitor is not affected by most household electrical items, including electrical kitchen items, microwave ovens, powered items used for cleaning and personal care, hobby items, power tools, and home electronics. However, using certain electrical items may temporarily affect your heart monitor’s ability to collect information about your heart. By following simple guidelines included in this chapter, you may avoid data collection problems related to electrical interference.

If you have questions on using electrical items and their possible effects on your heart monitor, contact Medtronic Patient Services.

Wireless communication devices

Your heart monitor has been tested with many types of wireless communication technologies to ensure that it will operate correctly. To avoid affecting heart monitor data, follow these guidelines when using wireless communication equipment, such as cordless or mobile
telephones, pagers, personal digital assistants (PDAs) or other handheld computers, Wi-Fi enabled laptop computers, and Bluetooth devices:

• Keep the equipment at least 6 in. (15 cm) away from your heart monitor. This is easily done, for example, by holding a mobile telephone to the ear farthest away from your heart monitor.

• Don’t carry a telephone or other transmitting device in a pocket in front of your heart monitor or in a shoulder bag near your heart monitor.

Induction cooktop

A kitchen appliance that could possibly affect your heart monitor data is an induction cooktop. An induction cooktop uses an alternating magnetic field to generate heat. You should keep your heart monitor at least 24 in. (60 cm) away from the heating zone when the induction cooktop is turned on.

Most glass- or ceramic-topped ranges use conventional heating elements beneath their flat cooking surfaces. If you can use aluminum
or glass cookware on your range and the cooking area stays hot after the burner has been turned off, your stove has conventional heating elements. Conventional heating elements do not affect your heart monitor data.

**EMC with industrial equipment**

After having an implant procedure, most heart monitor patients who work or go to school can return to their normal routines. However, working with or near certain industrial equipment could interfere with normal data collection by the heart monitor. Describe your working environment to your doctor so that he or she can provide advice to minimize any interference with data collection.

For example, if you use or work near electrical arc welding equipment, broadcasting antennas, power plants, transmission lines, high-voltage equipment, or sources of high electrical current, your doctor may instruct you to reduce the amount of time you are exposed to this equipment.
EMC and radio transmitters

For items that transmit through an antenna, Medtronic recommends that you keep at least a minimum distance between the antenna and your heart monitor. Types of radio transmitters that may affect heart monitor data collection include two-way radio transmitters (keep at least 6 in./15 cm away), portable transmitters (keep at least 12 in./30 cm away), and HAM transmitters (keep at least 9 ft./2.75 m away).

EMC and security systems

Most people with heart monitors can travel without taking special precautions. However, when you pass through metal detectors, such as in an airport, courthouse, or school, you should take the following precautions to avoid affecting heart monitor data collection:

- **Medtronic device identification (ID) card.** Carry your Medtronic device ID card with you at all times. Your doctor or clinic can help you fill out this card. This ID card, included with your Reveal Patient Assistant Quick Reference Card, contains information about your
heart monitor and your doctor’s contact information. The card is especially helpful if your heart monitor sets off a metal detector or security system.

- **Electronic antitheft systems** (such as in a store or library). Electronic antitheft systems should not affect heart monitor data collection. Do not linger near or lean against antitheft systems such as those found in retail stores and libraries. Simply walk through these systems at a normal pace.

- **Home security systems.** It is unlikely that home security systems will interfere with heart monitor data collection.

- **Security systems such as those found in airports, courthouses, and schools.** It is unlikely that a walk-through security system will interfere with heart monitor data collection; however, the metal case of your heart monitor could set off a metal detector.
  Before entering the metal detector archway, do the following:
  1. Identify yourself as having an implanted heart monitor.
  2. Show your Medtronic device ID card to the security operator.
3. Do not linger near or lean against metal detector archways. Simply walk through these archways at a normal pace.

4. If the security operator uses a handheld screening wand, ask the operator not to pass it in front of your heart monitor more than once every 30 seconds and not to wave the wand back and forth in front of your heart monitor.

Medical procedures that require some precautions

Caution: Before undergoing any medical procedure, tell the doctor or technician that you have an implanted heart monitor.

- Some medical procedures may require precautionary measures to prevent or minimize data interference.
- Some medical procedures may reduce the accuracy and completeness of heart monitor data, which your doctor uses to monitor and diagnose your condition.

Having a heart monitor does not prevent you from undergoing medical and dental procedures. Most medical and dental procedures do not affect your heart monitor in any way. However, some medical
procedures may temporarily affect the ability of your heart monitor to collect data.

Medical procedures that may require your doctor to take some precautions include, but are not limited to, the following:

- Radiation therapy
- Electrocautery
- TENS (Transcutaneous Electrical Nerve Stimulation)
- MRI (Magnetic Resonance Imaging) scans

This is the MR Conditional symbol, which means your implanted heart monitor has been shown to pose no known hazards in a specified MR environment with specified conditions of use. Your heart doctor will have information about the environment and conditions.

**Regarding MRI scans:**

**Note:** If your heart doctor decides you can have an MRI scan, you may feel your heart monitor being pulled as a result of the magnetic field...
when moving in and out of the magnetic resonance (MR) scanner. You will not notice this while you are in the MR scanner.

**Caution**: Do not take the Patient Assistant (handheld activator) into the MRI controlled room (magnet room). Doing so can damage the Patient Assistant or the MR scanner.

If you will be having a medical procedure, your heart doctor may retrieve collected data before the medical procedure and clear any recorded data after the medical procedure.

Your doctor or technician may need to speak with your heart doctor before performing the procedure. Your doctor may decide to contact Medtronic technical services for more information.

After completing the procedure, your doctor will make sure that your heart monitor is operating correctly.
A healthy heart’s rhythm

How a heart pumps blood throughout your body

Your heart is about the size of your clenched fist, which is small for the amount of work it does. This special muscle pumps about 5 quarts (4.7 liters) of blood throughout your body each minute, which amounts to 75 gallons (284 liters) every hour.

The heart has four chambers. The two upper chambers are the atria, and the two lower chambers are the ventricles. The right atrium receives blood from the body and pumps it into the right ventricle. The right ventricle pumps blood to the lungs where it receives oxygen. The oxygen-rich blood is returned to the left atrium and then is pumped into the left ventricle. The left ventricle pumps the oxygen-rich blood throughout the body to nourish it.

Figure 3 on page 30 identifies the four chambers and two valves within the heart.
Figure 3: Four chambers of the heart

Electrical signals within your heart

As illustrated in Figure 4 on page 31, the healthy heart’s pumping is controlled by steady electrical signals produced by the sinoatrial (SA) node, the heart’s natural pacemaker. The signals from the SA node spread through conduction pathways across the atria to a junction near the middle of the heart, the atrioventricular (AV) node, and then
continue throughout the ventricles. The signals cause your heart to contract, pushing blood through the arteries to the entire body. The heart rests and then repeats its cycle in response to the next wave of electrical signals from the SA node.

Figure 4: Electrical signals within the heart
These electrical signals keep the heart beating steadily and rhythmically at about 60 to 80 beats per minute while you are at rest and faster as activity increases. Emotions, medications, hormones, and other activities can also cause the heart to beat faster or slower. A healthy heart beats more than 100,000 times each day.

Sometimes the heart beats in an abnormal rhythm called an arrhythmia. When electrical signals reach the pumping chambers irregularly or too slowly, the arrhythmia is called bradycardia. With bradycardia, the heart pumps too slowly to meet the body’s needs, causing symptoms including dizziness, shortness of breath, fatigue, and possibly fainting.

When the heart’s electrical signals are generated erratically or too quickly, the arrhythmia is called tachycardia. With tachycardia, the symptoms also include dizziness, shortness of breath, fatigue, and possibly fainting.
The implant procedure

The implant procedure for your heart monitor does not require major surgery. This simple outpatient procedure usually lasts 15 to 20 minutes. Here are the general steps of an implant procedure:

1. **The incision is made.** Local anesthesia is used to numb the incision site. You can compare it to the numbing of your gums in your dentist’s office. Your doctor makes a small incision in the skin at a location that is suitable for your situation.

2. **The heart monitor is inserted.** The heart monitor is inserted under the skin. Your doctor tests the heart monitor to confirm that it is operating correctly.

3. **The incision is closed.** Your doctor closes the incision and explains how to care for your incision area.
Potential risks after the implant procedure

Caution: Contact your doctor or nurse if you notice any swelling, warmth, or drainage around your incision or if you develop a fever while your incision is healing.

- Your doctor and Medtronic have attempted to minimize the risks associated with inserting this heart monitor. As with any surgery, there is the potential risk of infection.
- Tell your primary care doctor and your other medical care specialists that you have a heart monitor. They may choose to prescribe antibiotics for you to take before and after any surgery to prevent infection.

Recovering after your implant procedure

As you recover, follow your doctor’s suggestions about resuming normal activities. It is normal to see a slight bulge under your skin where the heart monitor is located.
When you are driving or riding in a vehicle, the seat belt strap that fits over your shoulder may feel uncomfortable. You can place a soft towel between the shoulder seat belt strap and your implant site to cushion the area during the first few weeks after the implant procedure. In any case, seat belt laws should be followed accordingly.

**Follow-up appointments**

Before you leave the hospital, your doctor will tell you when you need to schedule your first follow-up appointment. The follow-up appointment usually takes the same amount of time as a regular doctor’s appointment.

Your doctor or nurse will use the **Medtronic CareLink Programmer** during every follow-up appointment to make sure that your heart monitor is operating correctly and to analyze any recorded heart rhythm data. Based on this information and a review of any medications you are taking, your doctor may adjust the settings of your heart monitor.
In summary, a follow-up appointment serves the following purposes:

- To assess your general medical condition
- To check the operation of your heart monitor
- To review the information saved by your heart monitor
- To adjust your heart monitor settings, if necessary
- To review instructions on using the Patient Assistant (see “Using your Patient Assistant” on page 39)

Remote monitoring with the Medtronic CareLink Service

Your clinic may offer the Medtronic CareLink Service for your heart monitor. The Medtronic CareLink Service allows you to send your heart monitor information over a standard telephone line to your clinic at a time set up by your doctor, instead of visiting in person. The information you send is available for your doctor’s review within minutes. If the heart monitor information that is sent to your doctor
indicates that you should be seen in person, your doctor or clinic will contact you to set up an appointment.

The Medtronic CareLink Service is convenient and provides peace of mind. Another advantage of using the service is that you do not have to leave your home for most follow-up appointments. If your doctor prescribes this service, Medtronic will send a Medtronic CareLink Monitor to you at your home address. The monitor includes complete instructions and is simple for you, your family, or your care provider to use. The monitor is easy to take with you if you plan to travel. It weighs about 1 pound (0.5 kilograms) and fits inside a suitcase or carry-on baggage. For more information about the Medtronic CareLink Service and Medtronic CareLink Monitor, talk with your doctor. You can also find information on www.medtronic.com.
What is the Patient Assistant?

The Patient Assistant is a handheld, battery-operated device that you carry with you at all times. As directed by your doctor, you use it during or after having a symptom. By pressing a button on the Patient Assistant and holding it in front of your implanted heart monitor, you can record information about your heart rhythm into the memory of the heart monitor. At follow-up visits, your doctor uses your implanted heart monitor recording to check your heart rhythm and to help determine if your symptoms are heart related.

Your doctor will provide you with instructions regarding when to do the following:

• Record heart rhythm information while you are experiencing or soon after you experience symptoms (sometimes called “events”) such as fainting, palpitations, seizures, or similar episodes.
• Check your heart monitor to find out if any abnormal heart-related events, such as a slow, fast, or irregular heart rate (arrhythmia), have been recorded, and to check for heart monitor-related events such as low battery or full memory.

Your doctor will explain how you should use your Patient Assistant. “Instructions from your doctor” on page 44 provides a place to record such instructions. The remainder of this chapter provides general instructions on handling, using, and maintaining the Patient Assistant, as well as precautions.

Warnings and precautions

Warning: Seek medical attention immediately if you are feeling ill and think you might need to go to the hospital. If there is an emergency, call your local emergency number.

Caution: Use the Patient Assistant only as directed by your doctor. Do not “play” with your Patient Assistant because doing so can cause previously recorded data to be lost.
Patient Assistant buttons and indicators

The Patient Assistant has two buttons and several indicators. The indicators appear (illuminate) only after pressing a button. Table 1 describes the buttons.

Table 1: Patient Assistant buttons and descriptions

<table>
<thead>
<tr>
<th>Button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="record-symptoms.png" alt="Record Symptoms button" /></td>
<td><strong>Record Symptoms button.</strong> Press this button while you are having a symptom or as soon as possible afterward, as directed by your doctor. Pressing this button stores heart rhythm information for your doctor’s analysis.</td>
</tr>
<tr>
<td><img src="query-button.png" alt="Query button" /></td>
<td><strong>Query button.</strong> Press this button to check for events recorded in your heart monitor, as directed by your doctor. This button may or may not be used based on how your heart monitor is programmed. Recorded events are monitor related (implanted monitor battery is low or its memory is full) or heart related (such as an abnormal heart rhythm).</td>
</tr>
</tbody>
</table>
Figure 5 shows the buttons, indicators, and other parts of the Patient Assistant. The indicators that apply to each button are described in Table 2 on page 48 and in Table 3 on page 50.

**Figure 5: Patient Assistant**
Handling your Patient Assistant

The Patient Assistant is designed for daily use, and care should be taken to avoid damaging it.

- Do not immerse the Patient Assistant in liquid or spill fluid on it.
- Do not drop the Patient Assistant or mishandle it in a way that might cause physical damage.
- Do not open the Patient Assistant, except to install the batteries.
- Do not carry the Patient Assistant in a pocket located directly in front of your heart monitor. Use the provided carrying case if you carry your Patient Assistant in your pocket or handbag.
- Keep the Patient Assistant at room temperature. The Patient Assistant may not operate at full strength outside the range of 9 °C (49 °F) to 43 °C (110 °F).

For information about cleaning your Patient Assistant, see “Maintenance and Replacement” on page 58.
Instructions from your doctor

The following blank spaces are provided for your doctor to write instructions about when you should use the Patient Assistant.

Press the Record Symptoms button [ ☺ ] to record heart rhythm information in the following situations:

____________________________________________________________________________________________________

____________________________________________________________________________________________________

____________________________________________________________________________________________________

Press the Query button [❓] to check for events recorded in your heart monitor in the following situations: (Note: Whether this button is enabled depends on your heart monitor’s programmed settings.)

____________________________________________________________________________________________________

____________________________________________________________________________________________________

Contact your doctor or clinic in the following situations:

____________________________________________________________________________________________________
Using your Patient Assistant

Your doctor will tell you when to use the following procedures to record your heart rhythm information and to check (query) your heart monitor for recorded heart rhythm events. Make sure to contact your doctor or clinic about any heart rhythm events as instructed.

Recording your heart rhythm

You or a helper should follow this procedure while you are having symptoms or as soon as possible afterward, as directed by your doctor.

Follow these steps to record heart rhythm information:

1. Press the Record Symptoms button [ 🌐 ]. You should hear a short beep and see a flashing green light, which mean the Patient Assistant is ready to record heart rhythm information in your heart monitor.

   **Note:** If the Patient Assistant does not respond within 15 seconds of pressing the button, see “Troubleshooting” on page 51.
2. While the Telemetry Status light is flashing, hold the Patient Assistant against your skin or your clothing, directly in front of your heart monitor. The side with the buttons can be held facing you or away from you. For example, see Figure 6. (Your monitor may be implanted in a different location than shown here.)

Figure 6: Hold the Patient Assistant in front of your heart monitor

3. When the Telemetry Status light on the top of the Patient Assistant changes from a flashing light to a solid light and you hear a long
beep, you can stop holding the Patient Assistant in front of your heart monitor. A solid status light and long beep mean your heart monitor successfully responded.

**Note:** If the Patient Assistant does not respond within 15 seconds, see “Troubleshooting” on page 51.

4. Look at the Patient Assistant response indicator display area to see which indicator is lit. See Table 2 on page 48 for descriptions of the indicators and what action to take, if any.
Checking for recorded heart rhythm events

As directed by your doctor, follow these steps to check for heart rhythm events that have been recorded in your heart monitor:

1. Press the Query button [ 🎈 ]. You should hear a short beep and see a flashing green light, which mean the Patient Assistant is ready to query your heart monitor.

   **Note:** If the Patient Assistant does not respond within 15 seconds of pressing the button, see “Troubleshooting” on page 51.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Description/Action to take (if any)</th>
</tr>
</thead>
<tbody>
<tr>
<td>✔️</td>
<td><strong>Successful Recording indicator.</strong> This indicator means you have successfully recorded heart rhythm data in your heart monitor memory.</td>
</tr>
<tr>
<td>🚭</td>
<td><strong>Low Batteries indicator.</strong> This indicator means you must replace the batteries in the Patient Assistant. See page 53 for instructions.</td>
</tr>
</tbody>
</table>

Table 2: Record Symptoms button [ 🎈 ] indicators and descriptions
2. While the Telemetry Status light is flashing, hold the Patient Assistant against your skin or clothing, directly in front of your heart monitor. The side with the buttons can be held facing you or away from you. For example, see Figure 7. (Your monitor may be implanted in a different location than shown here.)

![Figure 7: Hold the Patient Assistant in front of your heart monitor](image)

3. When the Telemetry Status light on the top of the Patient Assistant changes from a flashing light to a solid light and you hear a long
beep, you can stop holding the Patient Assistant in front of your heart monitor. A solid status light and long beep mean you successfully queried your heart monitor.

**Note:** If the Patient Assistant does not respond within 15 seconds, see “Troubleshooting” on page 51.

4. Look at the Patient Assistant response indicator display area to see which indicator is lit. See Table 3 for descriptions of the indicators and what action to take, if any.

**Table 3: Query button [❓] indicators and descriptions**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Description/Action to take (if any)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OK</td>
<td><strong>OK indicator.</strong> This indicator means your heart monitor has no events recorded that require a follow-up appointment; however, if you feel ill, you may want to seek medical attention.</td>
</tr>
</tbody>
</table>
Table 3: Query button [ 📞 ] indicators and descriptions (continued)

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Description/Action to take (if any)</th>
</tr>
</thead>
<tbody>
<tr>
<td>📞</td>
<td><strong>Event indicator.</strong> This indicator means your heart monitor has recorded events that your doctor should know about. <strong>Contact your doctor or clinic to determine if you need to schedule a follow-up appointment.</strong></td>
</tr>
<tr>
<td>📦</td>
<td><strong>Low Batteries indicator.</strong> This indicator means you must replace the batteries in the Patient Assistant. See page 53 for instructions.</td>
</tr>
</tbody>
</table>

**Troubleshooting**

If you have difficulty using your Patient Assistant, see Table 4 on page 52 to determine if one of the described problems occurred and follow the corrective action provided. If you still have trouble, contact your doctor or Medtronic Patient Services for assistance.
<table>
<thead>
<tr>
<th>Problem</th>
<th>Corrective action</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Telemetry Status light stops flashing without an indicator being lit in the Patient Assistant response indicator display area (see Figure 5 on page 42).</td>
<td>Hold the Patient Assistant directly in front of where your heart monitor is implanted, press the button again, and wait for a response.</td>
</tr>
<tr>
<td>The Patient Assistant continues to fail to communicate or respond.</td>
<td>Check for the Low Batteries indicator (see Table 2 on page 48). If this indicator light is on, replace the batteries in your Patient Assistant and repeat the procedure. See “Battery replacement and disposal” on page 53.</td>
</tr>
<tr>
<td>The Patient Assistant does not respond with any lights after either the Query or Record Symptoms button is pressed.</td>
<td>Replace the batteries in the Patient Assistant. See “Battery replacement and disposal” on page 53.</td>
</tr>
</tbody>
</table>
Battery replacement and disposal

When the Low Batteries indicator light is on (see Table 2 on page 48), replace the batteries in your Patient Assistant as soon as possible (see page 54). The Patient Assistant uses two N-size 1.5 V batteries. The recommended battery type is alkaline manganese dioxide, type ANSI/NEDA 910A and IEC LR1, which can be purchased at retail and camera stores and from online merchants.

Follow local regulations for proper disposal of used batteries.
Replacing the batteries

Follow these steps to replace the batteries in your Patient Assistant:

1. Slide the battery cover tab toward the center of the Patient Assistant and push upward to open the battery compartment (see Figure 8).

![Figure 8: Opening the battery compartment](image)

2. Remove the old batteries.

3. Insert two new batteries according to the polarity diagram shown in the battery compartment (see Figure 9). See page 53 for required battery size and type.

**Figure 9:** Insert new batteries
4. Snap the battery cover closed (see Figure 10).

![Battery Cover Close](image_url)

**Figure 10: Close the battery cover**

5. To check if the batteries were installed correctly, hold the Patient Assistant away from your heart monitor (to avoid recording any data) and press a button. The Patient Assistant should beep and the Telemetry Status light should flash green, confirming correct battery installation. If you press a button and the Telemetry Status light does not flash green, make sure you installed the new batteries correctly. For further assistance, contact your doctor or Medtronic Patient Services.
Attaching the optional wrist strap

You can attach the provided wrist strap to your Patient Assistant and hang the strap around your wrist to ensure the Patient Assistant is always accessible and not dropped. Either attach the wrist strap as shown in Figure 11 or attach the strap to the loop on the provided carrying case. See also “Handling your Patient Assistant” on page 43.

**Figure 11:** Attaching the optional wrist strap
Maintenance and Replacement

Regularly inspect the Patient Assistant for damage or defects. If it is damaged or if you cannot troubleshoot a problem, call your doctor or Medtronic Patient Services for assistance.

The Patient Assistant does not require periodic safety tests.

If you lose or damage your Patient Assistant, contact your doctor for a replacement.

Cleaning your Patient Assistant

Be careful to prevent moisture from entering the Patient Assistant. The Patient Assistant is moisture resistant, but not waterproof. Clean the outside of the Patient Assistant with a soft, slightly damp cloth. Do not clean the Patient Assistant with solvents (for example, nail polish remover) or chlorine-based cleansers (for example, bleach).
Disposal

This product is an electronic device and may require special disposal outside of your municipal waste. Follow your local regulations regarding disposal and recycling of electronic products (electronic waste). If instructed to do so, bring your Patient Assistant to your doctor or clinic. For more details regarding proper disposal, you may find it helpful to visit http://recycling.medtronic.com.
Glossary of terms

The terms that appear in **bold** in this manual are defined here for your convenience.

**arrhythmia** – An irregular heart rate or any variation from the normal rhythm of the heartbeat.

**bradycardia** – An abnormally slow heart rhythm, typically lower than 60 beats per minute.

**diagnose** – Determine the cause of specific symptoms.

**electrocardiogram (ECG)** – A test that measures the electrical activity of a person’s heart.
electromagnetic compatibility (EMC) – Fields of energy around certain types of equipment that use electricity and magnets that may interfere with the normal operation of other electronic devices, such as implanted heart devices. These energy fields created around electrical items can be strong or weak. The closer to the item you are, the stronger the energy field.

electromagnetic energy field – A force that certain types of equipment that use electricity and magnets exert on objects in their vicinity.

EMC – See electromagnetic compatibility.

heart monitor – A term used with the Reveal system to refer to the medical device that is inserted into your body to record heart rhythm information for your doctor’s analysis.

ICM – See Insertable Cardiac Monitor.
**Insertable Cardiac Monitor (ICM)** – A heart monitor that is inserted under the skin to provide a recording of your heart’s activity, which is used to help monitor, diagnose, and manage any heart rhythm disturbances.

**Magnetic Resonance Imaging (MRI)** – A type of medical imaging that uses magnetic fields to create an internal view of the body. A test within an MRI scan that is used to examine organs and soft tissues is called a Magnetic Resonance Angiography (MRA).

**Medtronic CareLink Programmer** – A specialized computer used by your doctor, nurse, or trained technician to check your heart monitor settings, retrieve information stored by your heart monitor, and adjust your settings.

**MR Conditional** – The MR Conditional symbol means your implanted heart monitor has been shown to pose no known hazards in a specified MR environment with specified conditions of use. Your heart doctor will have information about the environment and conditions.
MRI – See Magnetic Resonance Imaging.

palpitation – A sensation of an unduly rapid or irregular heartbeat.

symptom – Something that indicates the presence of a bodily disorder.

syncope – Sudden loss of consciousness (commonly called “fainting”).

tachycardia – An abnormally fast heart rhythm, typically between 100 to 250 beats per minutes.
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Our mission is to help improve your life.

At Medtronic, we’re proud of our reputation as the worldwide leader in medical technology.

In fact, we’ve been collaborating with physicians around the world to develop devices to treat heart disease for over 50 years.

We never stop working on ways to help our patients lead fuller, longer, healthier lives.

Hopefully we can help improve yours.