

A Guide to Your

□ Cardiac Resynchronization Therapy Pacemaker (CRT-P)

Cardiac Resynchronization Therapy Defibrillator (CRT-D)

Information for Patients and Families

☐ You are having your procedure at:

Royal Columbian Hospital 330 East Columbia Street New Westminster, B.C.

- Pay parking is available in parking lots off Allen Street and Keary Street. Note: Parking machines accept credit cards. Some accept debit cards and coins.
- Report to **Patient Registration** at your hospital 'Check-in Time' on the day of your procedure.
- Patient Registration is just off the main lobby (located in the **Health Care Centre** or **Green Zone**).

You are having your procedure at:

Jim Pattison Outpatient Care and Surgery Centre 9750 – 140 Street Surrey, B.C.

- Pay parking is available on site. Enter off Green Timbers Way or 140 Street. Note: Parking machines accept credit cards, debit cards, and cash.
- Come in through the Main Entrance or the underground parkade.
- Take the elevator to the 4th floor (Level 4) on the day of your procedure.
- Follow the signs to Surgical Day Care (open at 6:30 a.m.).

This booklet tells you about your heart device, as well as what to expect before, during, and after your hospital stay.

Your nurse can help you do the following:

- Understand the information.
- Learn about how to take care of yourself when having a heart device.

We are here to help you and your family. We suggest you do these 3 things:

- Take your time.
- Write down your questions.
- Talk to us about your concerns and ask questions.

So there are no delays on the day of your procedure, follow all the instructions in this booklet.

Cardiac Services Program

Table of Contents

Words to know0
Having a heart device1Why do I need a CRT device?1How does a heart device work?2How long can this heart device last?3
Preparing for a heart device
Weeks or days before your procedure
Inserting a heart device9Before your procedure9How the heart device is placed10Recovering in hospital11
Going home with a heart device13Caring for yourself13Caring for your wound17
Living with a heart device18Tell others you have a heart device18At home, work, and in the community19Going through security systems20
When to get help21
For more information23
Appointments after your procedure24

Words to know

- Antibiotics medicines used to treat or control infections caused by bacteria or other organisms
- **Cardiac Resynchronization Therapy (CRT)** a device used to trigger the heart's lower chambers (ventricles) to pump in a coordinated way (resynchronize) by sending tiny electrical impulses into the heart muscle
- Cardiologist (sounds like 'card-ee-all-oh-jist') a doctor who specializes in the study of the heart
- **Defibrillator** a device used to send electrical impulses or shocks to the heart to help control life-threatening abnormal heart rhythms (arrhythmias)
- Electrocardiogram (EKG or ECG) 'electro' means electrical activity, 'cardio' means heart, and 'gram' means a print out

An electrocardiogram is a test that checks the electrical activity of the heart. The heart's electrical activity is then printed out. The test can show problems with the heart's natural electrical system.

- Electrophysiologist a heart doctor who specializes in the study of the electrical activity of the heart
- **Healthcare provider** can include doctors, nurse practitioners, nurses, physiotherapists, dietitians, dentists, chiropractors, massage therapists, ambulance paramedics, and others who provide medical care
- **Heart monitor** a machine that records the electrical activity of the heart, known as the heart rhythm, some also record blood pressure and pressures within the heart The monitor has many alarms that sound an alert when the patient's numbers are outside the range set by the nurse. The heart monitor can be seen in 2 places: at the patient's bedside and at the main desk.

Incision - an opening or cut in your skin made to insert the heart device

- Intravenous line an intravenous is commonly called the IV ('intra' means into, and 'venous' means vein), used to give medicine and other fluids into the blood We insert a small flexible tube through the skin (the IV site) into a vein in the hand, arm, or foot.
- Pacemaker a medical device used to control or help a person's heart beat at a normal rate

Having a heart device

Having a heart device

Your heart doctor feels it would be best for your heart if you had a heart device. This booklet describes 2 types of heart devices:

- Cardiac Resynchronization Therapy Pacemaker (CRT-P)
- Cardiac Resynchronization Therapy Defibrillator (CRT-D)

Why do I need a CRT device?

Sometimes the heart can become damaged by aging or heart disease. This damage could result in a weaker heart muscle. When the heart muscle is weakened, less blood pumps with each heartbeat and the lower chambers of the heart (ventricles) do not pump at the same time. The CRT device can help your heart pump blood around your body.

How does a heart device work?

A CRT device has 2 settings.

1. When set as a CRT-P, it works as a pacemaker.

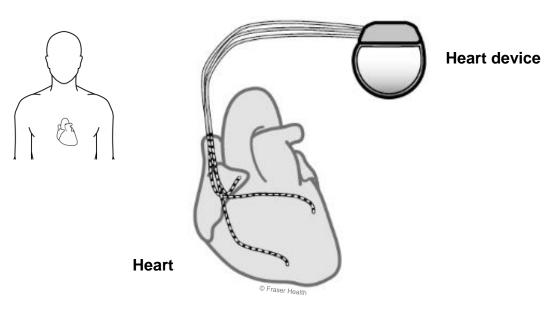
2. When set as a CRT-D, it works as a pacemaker and defibrillator.

Both settings can work as a pacemaker. The CRT-P and CRT-D can detect when the heart beats too slowly or when the lower chambers of the heart do not pump at the same time, as they should. To help, the device sends electrical impulses to the heart to cause the following:

- the heart to beat
- the lower chambers of the heart to pump at the same time, called resynchronization

A heart beating dangerously fast could stop (called cardiac arrest). A heart device set as a CRT-D can work as a defibrillator. This heart device can send an electrical shock to correct the dangerous heartbeat.

Usually, a CRT device is inserted into your upper chest, just below the skin near your collarbone.



Your heart device has 2 parts:

1. The **generator** is also called pacemaker or battery. It monitors your heartbeat. The generator is powered by a special battery.

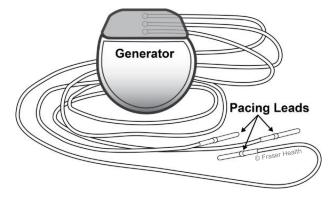
When needed, the generator sends electrical impulses to your heart at a rate fast enough to meet your body's needs. It sends impulses more slowly while you sleep and faster while you walk or exercise.

The generator of a CRT-D can also send an electrical shock.

2. The **pacing leads** (sounds like 'leeds') are insulated wires. One end of a lead attaches to the generator. The other end attaches to the inside of your heart.

A CRT device has 3 leads: 1 lead attaches to the upper chamber of the heart (atrium), and 1 attaches to each lower chamber (ventricle).

One of the CRT-D's leads has enough power to send an electrical shock to correct a dangerously fast heartbeat.



How long can this heart device last?

Leads can last many years and might never need replacing.

How long the **battery** lasts depends on the type of heart device. Usually, the battery lasts between 6 to 10 years.

Most people visit the Cardiac Clinic at the Royal Columbian Hospital to have their battery checked. This happens every 6 months to 12 months. Also, your electrophysiologist can arrange remote (wireless) monitoring of your device.

Preparing for a heart device

If you do not follow these instructions, your procedure could be cancelled and rescheduled for another date.

Weeks or days before your procedure

After you and your doctor decide a CRT device is right for you, we arrange for you to meet our electrophysiologist. Either you meet in their office or in the Cardiac Clinic.

Bring the following to your visit:

- □ BC Services Card or BC CareCard (your personal health number)
- Glasses and hearing aids, if needed
- □ A list of all the medicines you take
- Someone to be with you during the visit They can support you, take notes for you, and help you remember what was discussed.

Note: If you do not speak or understand English well enough to have medical conversations, ask us to arrange for a medical interpreter. (This service is free.) Ask us when we call to arrange for your visit.



Also, you can bring a family member or friend to interpret for you.

During your visit

When you meet with the electrophysiologist, we do all of the following:

- Arrange for blood tests, an electrocardiogram (ECG), and maybe a chest x-ray.
- Tell you where to go for these tests.
- Tell you about how the device is put in.

At the visit, you get special instructions about the following:

- How to prepare for the procedure, such as when to stop eating and drinking.
- How to clean your skin.
- Which medicines to take and not take on the day of your procedure.
 If you have diabetes or take 'blood thinners,' ask us if you need to change how you take your medicines.

This is a good time to ask your questions about the procedure.

What to plan before your procedure:

 \Box A ride to the hospital

☐ Someone to be with you in the hospital They can help you read, understand, and remember information.

A ride home after the device is put in
 You cannot drive after the device is put in.
 Ask your doctor when you can return to driving.

□ Someone to stay with you for 1 to 2 days when you return home

☐ A visit to a pharmacy near you to pick up a chlorhexidine gluconate product to clean your skin

If your pharmacy has chlorhexidine gluconate 4% only, tell us during your visit. We can tell you how to use it safely.

If you are already in a hospital and need a heart device

The doctors and nurses in that hospital do the following:

- Give you information and instructions about the procedure.
- Arrange for your blood work and other tests.
- Arrange for you to take an ambulance to a hospital where the device can be put in, if needed.

The night before your procedure

Eat a snack between dinner and midnight.

Remove all make-up, nail polish, and jewellery. Do this before cleaning your skin.

Take a shower or bath. Clean the skin on the front of your upper body to your waist, your neck, and both arm pits with a **chlorhexidine gluconate** product.

For chlorhexidine gluconate 2% pre-packaged wipe: Use the wipe to clean your skin as described above. Do not rinse your skin. Let the product dry on your skin.

For chlorhexidine gluconate 2% liquid, soap, or brush: Wash, rinse, and dry your skin.

For chlorhexidine gluconate 4% product: Follow the instructions you get during your visit. Remember to rinse off the product.

Do not shave any part of your upper body. We can remove hair if needed.

Do not put on any body products after cleaning your upper body and neck (such as perfume, lotion, deodorant, or powder).

Put on clean clothes after you wash.

Do not eat any food after midnight (12:00 a.m.).

If you wake up thirsty during the night, drink as much clear liquids as you like, such as water, apple juice, or clear tea without milk.

The morning of your procedure

If you do not follow these instructions, your procedure could be cancelled and rescheduled for another date.

Do not eat any food after midnight (12:00 a.m.).

At 5:00 a.m., drink 1 to 2 glasses (up to 500 ml) of water, apple juice, or cranberry juice.

Do not drink anything after 5:00 a.m.

Take all medicines you normally take in the morning with a small sip of water, unless your doctor told you something different.

If you have diabetes: Do not take your diabetic medicines, unless your doctor told you something different.

If you take 'blood thinners': Follow the instructions you get during your visit.

Clean the skin on the front of your upper body to your waist, your neck, and both arm pits again with a chlorhexidine gluconate product.

For chlorhexidine gluconate 2% pre-packaged wipe: Use the wipe to clean your skin as described above. Do not rinse your skin. Let the product dry on your skin.

For chlorhexidine gluconate 2% liquid, soap, or brush: Wash, rinse, and dry your skin.

For chlorhexidine gluconate 4% products: Follow the instructions you get during your visit. Remember to rinse it off.

Put on clean clothes after cleaning your skin.

Brush your teeth (or dentures), tongue, and the roof of your mouth.

If you smoke, try not to smoke at all today.

What to bring to hospital:

- □ BC Services Card or BC CareCard (your personal health number)
- □ Photo identification such as driver's license
- ☐ List of all the medicines you take (prescription medicines, medicines without prescription, vitamins, supplements, herbals, natural remedies, other drugs)
- ☐ All medicines in their original containers (prescription medicines and medicines without prescription)
- □ Dentures and case
- ☐ Hearing aid(s) with case and spare battery(s)
- □ Glasses and case
- U Walking aids (such as cane or walker) if needed
- □ Someone to drive you to the hospital, stay with you, and take you home

Leave valuables such as jewellery, money, and credit cards at home.

Inserting a heart device

Inserting a heart device

It takes 1 to 2 hours to put in the device. We use a special room that looks like an operating room.

Before your procedure

We ask you to change into a hospital gown. You can leave your socks and underpants on.

Remember not to

wear any jewellery.

During the procedure, you can wear:

- glasses
- hearing aid(s)

The surgeon explains the procedure to you. Ask all your questions. Then you are asked to sign a consent form agreeing to the procedure. You are also asked to agree to allow personal information related to your heart device to be kept outside Canada.

Expect us to do the following:

- Attach you to a heart monitor.
- Start an intravenous line.
- Give you an antibiotic medicine through your intravenous line to help prevent infection.
- Give you medicine to help you relax before the procedure. This medicine can make you feel drowsy.
- Ask you to take out your dentures just before the procedure starts.

How the heart device is placed

Usually, we place the heart device on the left side of the body.

Tell your doctor if you are left handed or have concerns about where the device is placed.

- 1. The doctor injects numbing medicine (freezing) into your skin to freeze the area where the device is being placed so you do not feel pain during the procedure. This freezing wears off in 4 to 5 hours.
- 2. A small cut or incision is made in your chest, just below your collarbone.
- 3. The pacing leads are guided through a large vein into your heart, using a special x-ray camera.
- 4. After a lead is attached to your heart, the other end of the lead is attached to the generator.
- 5. The generator is tested to make sure it works properly.
- 6. The generator is placed just under your skin.
- 7. The incision is closed with stitches that dissolve over time. Your stitches might have little white tapes called 'steri-strips' over top. They can help prevent scarring.

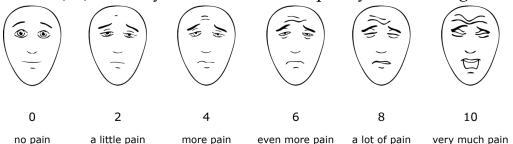
If your doctor closes your incision in a different way, you get instructions about how to care for the incision. Expect to get the instructions before you go home.

8. We cover the incision with a small bandage.

Recovering in hospital

While you recover in the hospital, expect to get acetaminophen (Tylenol) regularly. This helps prevent pain from becoming a problem.

To help us know how much pain you have, we use a pain scale like this one. The faces show how much something can hurt (not what your face looks like when in pain). From left to right, the faces show more and more pain. You can point to the face that shows how much you hurt. Or you can tell us how much you hurt using words or a number from 0 to 10. Zero (0) means you have no pain and ten (10) means you have the worst pain you can imagine. ¹



You wear a heart monitor for the first 2 hours after the procedure. We monitor your heartbeat to make sure the device is working properly.

You can eat and drink as you normally would.

You can get up to the toilet. Please ask for help the first time you get up.

Expect us to do the following:

- Check your heart rate and blood pressure often. They must be close to your normal heart rate and blood pressure before you can go home.
- Send you for a chest x-ray to check that the pacing leads are in the correct areas of your heart, if needed.

¹ Faces Pain Scale – Revised (FPS-R). www.liasp-pain.org/fpsr. Copyright © 2001, International Association for the Study of Pain®. Reproduced with permission.

Just before you leave

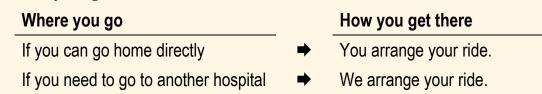
Expect us to do the following just before you leave the hospital:

- Remove your intravenous line.
- Give you special instructions about how to care for your incision.
- Give you information about follow-up appointments. To help remember your appointments, write them on the <u>back page</u> of this booklet.

You are ready to leave after all of the following:

- □ You ask all your questions and write down the answers.
- ☐ You have prescriptions for medicines if needed.
- You have information about appointments with the Cardiac Clinic at the Royal Columbian Hospital and your heart specialist.
- ☐ You know when to get help.
- ☐ You have your temporary heart device card. Expect your permanent card in the mail, in about 2 to 3 months.
- ☐ You have all your personal belongings.
- ☐ You have someone to take you home.*

*If you came from another hospital for your heart device, your health and how you recover after the procedure tell us where you go and how you get there.



Going home with a heart device

We expect you to recover quickly from the procedure.

Always have your heart device card with you. The card helps healthcare providers connect with the doctor who put in your heart device.



Caring for yourself

Managing pain

It is normal to have some pain at the area of the heart device for a few weeks after the procedure. Do these things to help you feel better soon:

- Control your pain by taking pain medicine regularly.
- Rest the arm on the side the device was placed.

In the first 48 hours after your procedure, manage your pain with regular strength acetaminophen (325 mg), such as Tylenol.

Swallow 1 to 2 pills at a time, depending on how much pain you have. You can take this medicine every 4 to 6 hours. Never take this medicine more than 6 times in 24 hours.

After the first 48 hours, continue to manage your pain with regular strength acetaminophen, but begin to take it less often.

For example, instead of taking acetaminophen 4 times in 24 hours, take it 3 times, then 2 times, then 1 time, then none.

If your pain does not get better with pain medicine, call your family doctor or speak with your pharmacist.

Taking your other medicines

Return to taking your medicines unless we give you new instructions.

If you were taking a blood thinner before the procedure <u>and</u> we said you can return to taking this medicine, start taking it again as directed. Always read the label and information from the pharmacist for how to take medicine safely.

Bathing

After 2 days, you can shower.

Check when you can remove your bandage. See 'Caring for Your Incision at Home':



Scan this QR code. Visit patienteduc.fraserhealth.ca. Search '422988.'



After 7 days, you can take baths if you wish.

In the first 6 weeks after the procedure or until the incision is healed:

- Do not let the shower spray directly on the incision area or bandage.
- **Do not** scrub your incision. See 'Caring for Your Incision at Home'.
- **Do not** soak the incision for a long time.

Doing any of these things can delay healing.

Dressing and clothing

When getting dressed, put the arm on the side with the heart device in the clothing first.

To protect your skin and keep your incision from getting irritated, wear loose-fitting clothing over your heart device area.

If you wear a bra, you can return to wearing it if it is comfortable. A pad under the shoulder strap can help make it more comfortable.

Sleeping

Sleep in any position that keeps the area around your heart device from hurting. Try not to sleep in a position that causes this area to hurt.

Managing moods and emotions

Some people have a low mood or changeable mood before, during, or after their heart device procedure. If your mood stays low or gets worse, contact your family doctor.

Being active

Activity and exercise give you more energy, help build and maintain muscle strength, and help you recover. Find a balance between rest and activity. Pace yourself for the first few weeks.

The first day you get home, rest.

The day after you get home, start these exercises and do them for the next 2 weeks.

- 1. To prevent becoming stiff and sore, do this exercise 3 times a day.
 - a. Gently roll your shoulders in forward circles 5 times.
 - b. Gently roll your shoulders in backward circles 5 times.

Do more circles each time, each day if you can.

- 2. To increase how much your shoulder can move, do this exercise 3 times a day.
 - a. Face the wall.
 - b. Place both hands on the wall.
 - c. 'Walk' your fingers slowly up the wall.Keep your fingers below the level of your shoulders.
 - d. 'Walk' your fingers slowly down the wall.



During the first 8 weeks:

- **Do not** do activities where you swing or raise your arm over and over again. They can cause the pacing leads to move out of place. Activities include throwing, vacuuming, chopping wood, or playing sports such as golf, tennis, or table tennis.
- **Do not** lift anything heavy. This means do not lift anything more than 5 kilograms or 10 pounds. Examples include a small suitcase, groceries, or a small child.
- **Do not** do contact sports. Taking part could damage your heart device.

Most people can return to sexual activity after getting a heart device. It is safe for your device. While your incision is healing, try not to support your weight with your arms during sexual activity.

Driving

Return to driving when your heart doctor or electrophysiologist says it is safe for you to drive.



When you can return to driving depends on the type of heart device you have and why you need the device.

The B.C. Motor Vehicle Act has strict rules about when people can return to driving after getting a CRT device.

Going home with a heart device

Caring for your wound

Your incision should not bleed very much. If you see any blood or other liquid coming through your bandage, contact your doctor.

You can have any of these types of bandages over the area of your heart device.

Type of bandage	When to remove
Large gauze pad	After 2 days
Band-Aid®-type	After 7 days
Small tapes over the incision	After 7 days Help make the tapes loose by getting the area wet in the shower. To remove, gently lift the tapes from each end and roll the ends toward the middle.

Watch for bruising.

Some bruising in the area is normal right after the procedure. Expect the bruising to go away over the next 6 weeks.

Contact your family doctor or electrophysiologist right away if you notice new bruises or any bruise that gets larger (like the size of an egg).

After your bandage is off, gently clean your incision with soap and water each day. Wash off all the soap. Pat the area dry.

Remember:

- **Do not** let the shower spray directly on the incision area or bandage.
- **Do not** scrub your incision.
- **Do not** soak the incision for a long time.

Doing any of these things can delay healing.

Living with a heart device

Your heart device needs to be checked regularly. Talk to your doctors about how often to see them.

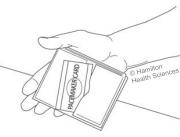
To help remember your first appointments after your procedure, write them on the <u>back page</u> of this booklet.

Tell others you have a heart device

Always carry your heart device card with you.²

If you have an accident, this card tells people you have a heart device.

If there is a problem with the heart device, the card helps the hospital connect with the doctor who put in your heart device.



You might be asked to show your heart device card when going through any security scanner.

Wear a medical alert bracelet or necklace.

In an emergency, healthcare providers can get your important medical information. To learn more about medical alert bracelets and necklaces, see page 23.



Tell your healthcare providers you have a heart device.

This tells them they need to take special precautions for certain types of medical procedures and therapies.

² Hamilton Health Sciences image used with permission

At home, work, and in the community

Using household items

It is usually safe to be around electronic household items or use them. Items that are safe for you include microwave ovens, television sets, CD players, and radios.

Electronic household item	How to stay safe
Cell phones	Keep at least 15 cm (6 inches) away from your heart device.
	Do not carry your cell phone in a pocket over your heart device.
Electric razors, hair dryers, or electric toothbrushes	Use with caution. Keep at least 15 cm (6 inches) away from your heart device.
Lawnmowers, weed eaters, electric drills, or saws	Use with caution.

Stay away from magnetic fields, high voltage, and radiation

They could cause your heart device to not work as it should.

Try to stay away from industrial areas with magnetic fields, high voltage, or radiation.

Try to stay away from welding equipment.

If you need radiation therapy, tell your cancer doctor you have a heart device. Certain steps might be needed.

Use caution in areas with a magnetic field, high voltage, or radiation. **Leave** if you feel light-headed, dizzy, or a change in your heartbeat.



-iving with a heart device

Going through security systems

It is safe to pass through airport security systems, border security systems, or any anti-theft devices in stores or banks.

It is best to move through quickly and not stay near a security device.

Before you walk through, we suggest you have your heart device card ready to show if needed.

Tell people who use detection wands you have a heart device. This tells them to try to keep the wand away from the area over your heart device.

When to get help

Call your family doctor right away if you notice any of the following:

- You have a fever over 38°C (101°F).
- Your incision is warm, red, swollen, tender, painful, or has blood or pus (yellow or green fluid) draining from it.
- Your bandage is wet with blood or other drainage.
- You feel unwell or think you have the flu. This could be a sign of infection in the blood. It must be treated right away.
- You have a new bruise over the area of the heart device. Some bruising in the area is normal right after the procedure and should go away over the next 6 weeks. A new bruise is **not normal**.
- You have swelling over the area of the heart device <u>and</u> the swelling is larger than an egg.
- You have pain that gets worse or does not improve with pain medicine.

Cannot contact the family doctor or electrophysiologist? Have any questions about your recovery?

• Contact **Fraser Health Virtual Care** to speak with a registered nurse 10:00 a.m. to 10:00 p.m., every day.

Phone:

1-800-314-0999



Chat live online: Scan this QR code, or Visit <u>fraserhealth.ca/virtualcare</u>

Contact <u>HealthLinkBC.ca</u> to speak to a registered nurse any time, day or night.

Phone:

8-1-1 604-215-8110 HealthLinkBC is available in 130 languages.

For an interpreter, say your language in English. Then wait until an interpreter comes on the phone.

Call 9-1-1 <u>or</u> go to the nearest Emergency Department if you notice any of the following:

9-1-1

trouble breathing or shortness of breath

- feeling more and more pain in your chest or shoulder
- sudden, severe pain
- racing heart (palpitations)
- feeling dizzy, light-headed, or faint
- feeling more and more weak or tired
- new bleeding through the bandage on your chest
- lots of hiccups or muscle twitching

Questions you might have:

Examples: 'When will I be able to return to my regular activities?' 'When can I return to work?'

For more information

To speak with the coordinator for implantable cardiac electrical devices: Phone: 1-855-529-7223 Monday to Friday, 8:00 a.m. to 3:00 p.m.

To learn more about cardiac resynchronization therapy:



E Scan this QR code. Visit patienteduc.fraserhealth.ca. Search 527334.

To learn more about MedicAlert:



Scan this QR code. Visit medicalert.ca. Phone:

1-800-668-1507

To learn more about heart devices from Medtronic Devices:

Phone: 1-888-660-4616 Monday to Friday, 9:00 a.m. to 8:00 p.m. Eastern Standard Time

To learn more about heart devices from Abbott:



Scan this QR code. Visit myhearthealth.com.

To learn more about how magnetic fields, high voltage, and radiation could affect your heart device:

Visit tinyurl.com/MedtronicEMCGuide.



Scan this OR code. Visit tinyurl.com/BostonScientificEMITable.

Appointments after your procedure

See your family doctor in the first week after going home. Call your family doctor's office to make an appointment. Tell them this is your first visit after getting a heart device.

My appointment is on: _____

See your heart doctor (cardiologist) about 6 weeks after your procedure.

Call your heart doctor's office to make an appointment. Tell them this is your first visit after getting a heart device.

My appointment is on: _____

Visit the Cardiac Clinic about 4 to 6 weeks after your procedure. Expect the Cardiac Clinic to call you about a date and time to visit.

My appointment is on: _____

www.fraserhealth.ca

This information does not replace the advice given to you by your healthcare provider.

Catalogue #267823 (December 2022) For more copies: patienteduc.fraserhealth.ca

