



A Guide to Your Pacemaker

Please bring this book with you on the day of your procedure



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For a digital copy of this book, please visit go.osu.edu/pted4056.

Talk to your doctor or health care team if you have any questions about your care.

For more health information, go to wexnermedical.osu.edu/patiented or contact the Library for Health Information at 614-293-3707 or health-info@osu.edu.

Welcome

Electrophysiology (EP) focuses on the electrical system of the heart. Your EP healthcare team is dedicated to providing you with personalized care to treat your symptoms of slow heart rate.

We will help you and your loved ones determine if a pacemaker is your best treatment option. Symptoms of a slow heart rate include loss of consciousness, a slow heart rate while you exercise, or a heart that stops beating for several seconds. An electrical heart test, known as an electrophysiology (EP) study, may be done to help determine if you need a pacemaker.

A pacemaker, placed during surgery, is an electronic device used to prevent your heart rate from becoming too slow.

There are several types of pacemakers. All provide an electrical current that prevents your heart rate from going too slowly. The electrical current is delivered from the pacemaker through one or more electrical wires (leads) to your heart muscle. The best type of pacemaker for you will be determined by your doctor based on your health and medicines.



Electrophysiology (EP) operating room at Richard M. Ross Heart Hospital

Contact information

Ross Heart Hospital Cardiac Device Clinic

452 West 10th Avenue
Suite 1052

Operating Room Suite 1235
Columbus, OH 43210

Hours of operation:

Monday - Friday

8:00 am to 4:30 pm

Closed weekends and all
major holidays

Phone numbers:

Main: 614-293-8916

Toll-free: 1-877-478-2478

Fax: 614-366-1315

Patient and visitor guide

To prepare for your visit, please visit wexnermedical.osu.edu/patient-and-visitor-guide and learn about available resources, including:

- For Patients tab: Billing and Financial Assistance
- For Visitors tab: Locations and Parking (such as [driving directions](#) to Richard M. Ross Heart Hospital) and Visitor Policies (such as [Hotel Accommodations](#) information sheet).

Pacemakers

A pacemaker is a small device that's placed in the chest to help increase a slow heart rate. It uses electrical pulses to prompt the heart to beat at a normal rate. Pacemakers are used to treat patients with:

- Slow heart rates
- Arrhythmias (ah-RITH-me-ahs), also called irregular heartbeats. Patients with arrhythmias who take medicine to slow their slow heart rate may need a pacemaker if the medicine slows their heart rate too much.

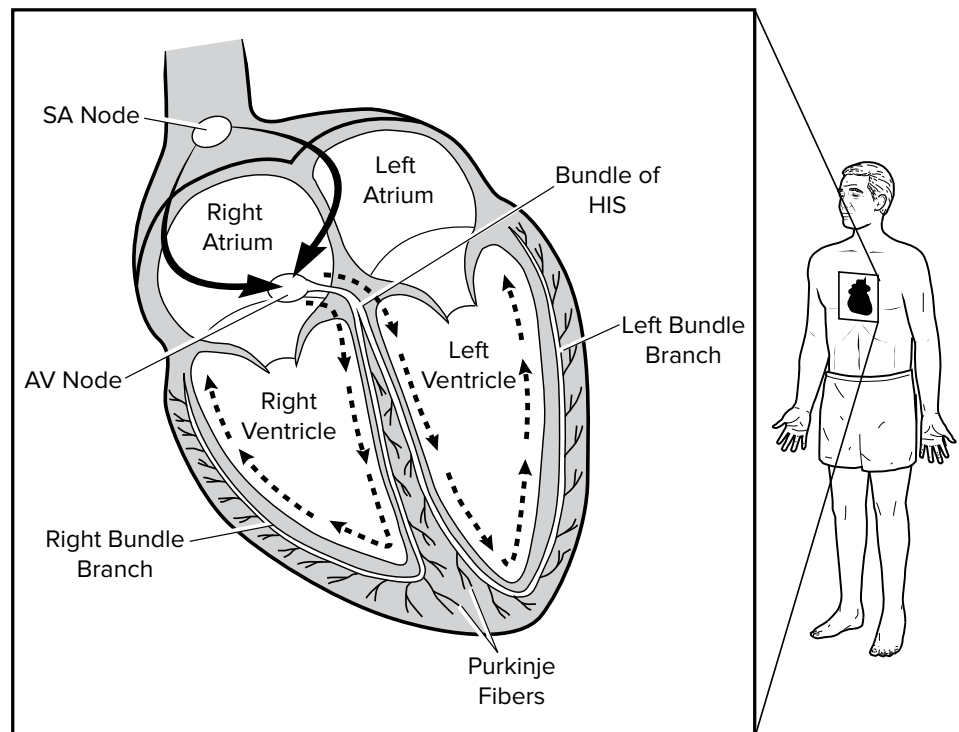
A slow heart rate may cause the heart to not pump enough blood to the body. This can cause symptoms, such as fatigue (tiredness), shortness of breath, dizziness, or fainting. A pacemaker can help prevent these symptoms and can help patients resume a more active lifestyle.

Electrical system of the heart

Your heart has an electrical system that causes the heart muscle to beat.

Electrical impulses travel from the upper chambers (atria) to the lower chambers (ventricles) of the healthy heart. This diagram shows how the impulse travels over the electrical system.

1. Normal heartbeats begin at the **SA node** that acts as the heart's "pacemaker." The SA node is also called the **sinus node**.
2. The electrical impulse spreads across the upper chambers -- the right and left atria.
3. The impulse travels through the **AV node** to the **Bundle of HIS**.
4. The Bundle of HIS divides into a **left and a right bundle branch**. The impulse spreads through these bundle branches into the **Purkinje (pūrkin'jē) fibers** in the ventricles or the lower chambers of the heart.



Pacemaker overview

Pacemakers can:

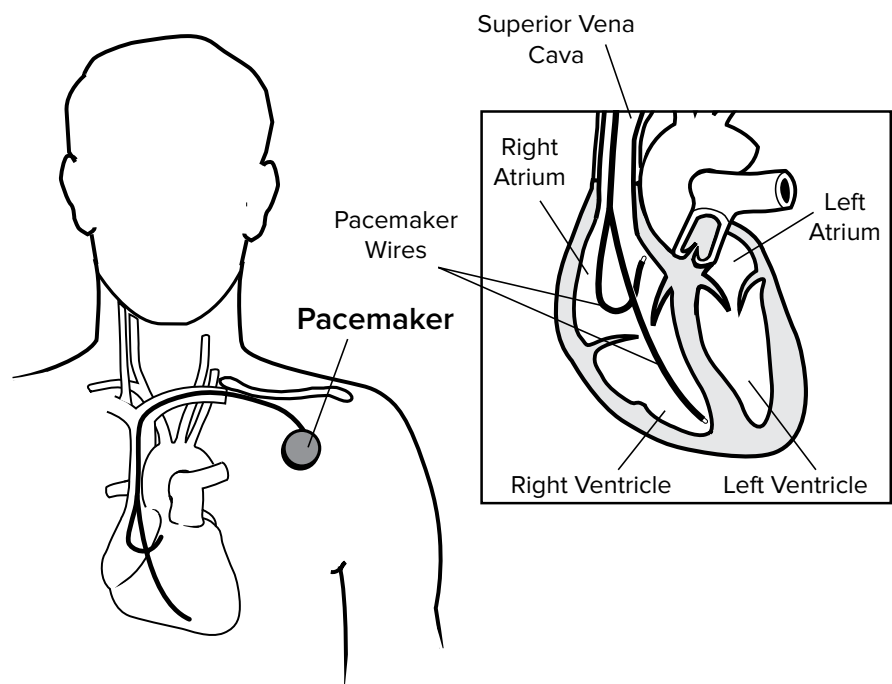
- Speed up a slow heart rhythm.
- Prevent your heart rate from going too slow.
- Coordinate electrical signaling between the upper and lower chambers of the heart.
- Coordinate electrical signaling between the ventricles. Pacemakers that do this are called biventricular pacemakers or cardiac resynchronization therapy (CRT) devices. These pacemakers are used to treat heart failure.
- Check arrhythmias.

Pacemakers can also check and record your heart's electrical activity and heart rhythm. Your healthcare provider will use these recordings to adjust your pacemaker, so it works better for you.

Your healthcare provider can program the pacemaker with an external device called a programmer.

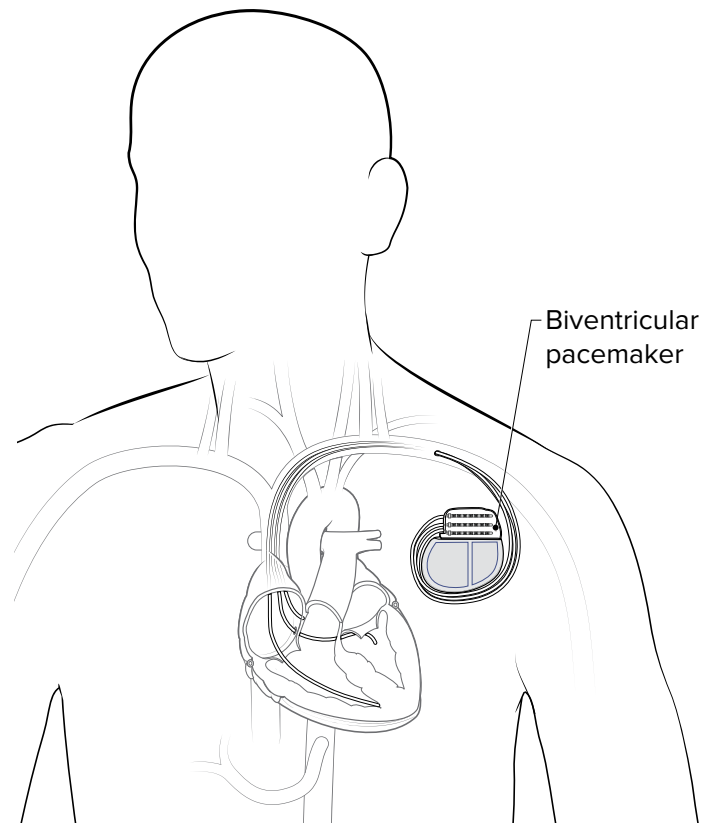
Types of pacemakers

- **Single chamber pacemaker** has one wire (lead) that is placed in the right atrium or right ventricle.
- **Dual chamber pacemaker** has two wires (leads). One is in the right atrium and one is in the right ventricle. Pulses from the leads coordinate the timing of the two chambers' contractions.



Dual Chamber Pacemaker

- **Biventricular pacemaker** has three wires (leads). One is in the right atrium, one is in the right ventricle, and a third is in the left ventricle. The pulses help coordinate electrical signaling between the two ventricles. This type of pacemaker is also called a cardiac resynchronization therapy (CRT) device and can be used to improve pumping in patients with heart failure.



When are pacemakers used?

Pacemakers can be used as a treatment for a number of conditions, including:

- **Bradycardia** (bray-de-KAR-de-ah) is a heartbeat that is slower than normal.
- **Atrial fibrillation (A fib)** is a too fast or irregular heartbeat. With A fib, the heart's two upper chambers, called the atria (AY-tree-uh), beat very fast and irregularly (fibrillate). This causes the blood to pool in the atria. The blood isn't pumped completely into the heart's two lower chambers, called the ventricles (VEN-trih-kuls). As a result, the heart's upper and lower chambers don't work together as they should. Medicines used to treat this condition can slow your heart rate too much, so a pacemaker may be needed.
- **Heart failure** is a condition in which the heart can't pump enough blood to meet the body's needs. To treat this problem, your doctor may implant a biventricular pacemaker, also called a cardiac resynchronization therapy (CRT) device. The device helps both sides of the heart contract at the same time to decrease heart failure symptoms.
- **Syncope** (SIN-ko-pea), also called fainting, is a condition where there is a temporary loss of consciousness. It often occurs when blood pressure drops suddenly from a slowed heart rate. This causes a decrease in blood flow to the brain, making you feel dizzy, light-headed, or nauseous. In some patients, a pacemaker can prevent a slow heart rate and stop syncope symptoms.

What to expect during surgery

- Placing a pacemaker requires surgery, which takes about 2 hours.
- Before surgery, an intravenous (IV) line will be placed into one of your veins. Medicine is given through the IV line to help you relax. The medicine also might make you sleepy.
- Your doctor will numb the area where he or she will put the pacemaker, so you don't feel any pain. Your doctor may also give you antibiotics to prevent infection.
- Your doctor inserts a needle into a large vein, usually near the shoulder opposite your dominant hand. The needle is used to thread the pacemaker wires into the vein to place them in your heart.
- X-rays show the wires as they pass through your vein and into your heart to help your doctor place them. When the wires are in place, your doctor will make a small incision into the skin of your chest.
- The pacemaker's small metal box is placed under your skin, and connected to the wires that lead to your heart. The box is also called a generator and contains a small computer and battery.
- When the pacemaker is in place, your doctor will test it to make sure it works well, and then sew up the incision.

What to expect after surgery

- Some patients are discharged home the day of their surgery, but please come prepared to spend at least one night in the hospital. If you are discharged home the day of surgery, you will need to have an adult take you home for your safety.
- For a few days to weeks after surgery, you may have pain, swelling, or tenderness in the area where your pacemaker was placed. The pain is most often mild. Acetaminophen (Tylenol) is the medicine recommended to control pain.
- You will need to avoid certain activities and heavy lifting for 1 to 4 weeks after pacemaker surgery. Most people return to their normal activities within a few days of having the surgery.
- Read "Care after Placement of Your Pacemaker" later in this book for more information on how to care for your pacemaker after surgery.

For more information about what to expect before and after pacemaker surgery, watch videos from the Device Clinic at go.osu.edu/deviceinfo.

Source: National Heart, Lung, and Blood Institute; National Institutes of Health; U.S. Department of Health and Human Services.

Preparing for Your Pacemaker

Surgery date: _____ Check in time: _____

On the day of your surgery, please:

- **Report to the Ross Heart Hospital**, located at 452 West 10th Avenue, Columbus, Ohio 43210
- **Arrive at your check-in time**, so we can prepare you for your surgery. This time is often 2 hours before the start of your surgery.
- **Register in the main lobby.**

Valet parking is available, or you may park in the SafeAuto Hospitals Garage, which is attached to the hospital. The garage's address is 1585 Westpark Street, Columbus, OH 43210.

How to take your medicines before your surgery

- If you take warfarin (Coumadin or Jantoven), _____
_____.
- If you take dabigatran (Pradaxa), apixaban (Eliquis) or rivaroxaban (Xarelto), _____
_____.
- **If you have been instructed to hold any of these medicines, please take one 325 mg aspirin each day you hold the medicine.**
- If you take clopidogrel (Plavix), ticagrelor (Brilinta) or prasugrel (Effient), _____
_____.
- If you take medicines for diabetes, please follow the instructions in this book for how to change your diabetes medicines.
- Take all of your other medicines with a small amount of water the morning of your surgery.
- Please bring all of your medicines in their bottles to the hospital with you.
- **If you are allergic to shellfish, iodine, or contrast dye, please tell your healthcare provider.** A prescription for 3 doses of **prednisone** can be sent to your pharmacy.
 - Take the first dose 13 hours before your surgery start time.
 - Take the second dose 7 hours before surgery start time.
 - Take your last dose 1 hour before your surgery start time.

Please also take 50 mg of **Benadryl** 1 hour before your surgery start time. You can buy Benadryl over the counter.

Bring your last dose of prednisone and your Benadryl dose with you to the hospital.

Getting your skin ready for surgery

- **For one week before your surgery, do not shave near the site where you will have your surgery.** Shaving with a razor can irritate your skin and make it easier to develop an infection. If needed, the hair on the site where you will have surgery will be trimmed with electric clippers before you go into the operating room.
- **You need to take two showers using a special soap called CHG (4% chlorhexidine gluconate).** It is sold in most pharmacies under the brand name of Hibiclens. Wash from your **neck to your waist** with this soap the night before your surgery and then again the morning of your surgery. Use 4 ounces (1/2 cup) of CHG soap each time you shower.

Follow these steps for using CHG soap:

1 Wash your hair as usual with your regular shampoo and then wash your body with regular soap. Rinse well.

2 Wet a clean washcloth. Turn off the shower.

3 Apply some CHG soap to the wet washcloth.

4 Use the washcloth to wash your whole body **from the neck down**. Keep adding more CHG and continue to wash for **5 minutes**.

5 Turn on the shower water and rinse your whole body well.

6 Pat yourself dry with a clean towel.

7 Put on clean clothes.

8 **Note:** On the **morning of surgery** when you finish showering, **do NOT** put on hair or skin care products, deodorant or make-up. **Do NOT** wear jewelry to the hospital or surgery center.

If you are not able to shower

If you do not have a shower or you are not able to get into a shower, do a sponge bath each time that you clean your body.

1. First, bathe with a clean washcloth, water, and regular soap. Rinse well with clean water.
2. Then, get another clean washcloth and wet it with clean water.
3. Apply some CHG soap to the wet washcloth.
4. Use the washcloth to wash from your neck to your waist. Keep adding more CHG and continue to wash for 5 minutes.
5. Rinse well with another clean washcloth and clean water.
6. Pat yourself dry with a clean towel.
7. Put on clean clothes.

Other instructions

- If you are pregnant, think you may be pregnant, or if you are breastfeeding, please tell your healthcare provider right away.
- Do not smoke or use tobacco products for 24 hours before your surgery.
- Do not eat or drink anything after midnight on the evening before your surgery. You may take your scheduled medicines with small sips of water the morning of your surgery.
- If you use a sleep apnea machine, please bring the device with you. It will likely be used during your surgery and during your stay in the hospital.
- Some patients are discharged home the day of their surgery, but please come prepared to spend at least one night in the hospital. If you are discharged home the day of surgery, you will need to have an adult take you home for your safety.

If you need to change your surgery date, please call Scheduling at 1-888-293-7677.
If you have any questions, please call the nurse at _____.

Type 1 Diabetes: Medicines before Tests or Surgery

If you are not sure how to adjust your diabetes medicines, talk to your doctor or nurse before your test or surgery date. Follow your doctor's directions if they are different than these guidelines.

Diabetes medicines may need to be stopped or changed before a test or surgery. This is important for your health. There is less of a chance for infection or other problems if your blood sugar is in the normal range before a test or surgery.

- **If you are on a clear liquid diet the day before your test or surgery,** call your doctor to check if you need to make other changes to your medicine dose.
- **Check your blood sugar the morning of your test or surgery.** If it is above 250 or less than 70, call your doctor for more instructions. High or low blood sugars may result in a delay or cancellation of your test or surgery that day.
- **Tell your nurse that you have diabetes** when you arrive at the test area or at pre-operative holding area.



Your insulin

These are general guidelines for how to take insulin before tests or surgery. Many patients with type 1 diabetes need a small reduction in basal insulin before tests or surgery. Check with your doctor to see how much insulin you need and if you need to follow different guidelines.

- If you take Humalog/Admelog (lispro), Novolog (aspart), Apidra (glulisine), Fiasp (aspart) or Regular insulin, do not take the dose the morning of your test or surgery.**
 - You can start your usual dose after your test or surgery when you are able to eat and drink.
 - Plan to check your blood sugar at least 4 times each day for the next 1 to 2 days after your test or surgery.
- If you take Levemir (detemir), Lantus (glargine), Basaglar (glargine), Tresiba (degludec), or Toujeo (glargine) insulin, reduce your dose either the evening before or the morning of your test or surgery to 80%.**

If you multiply your usual dose by 0.8, that gives you the reduced dose. For example, if your usual dose is 32 units, $32 \times 0.8 = 25.6$. Your reduced dose would be about 26 units. A reduced dose chart is on the next page for your reference.

- **If you are not sure, ask your doctor how much insulin you should take.** Take _____ units of _____ on the night before or the morning of your test or surgery.
- If you are able to eat and drink after your test or surgery, take your usual evening dose.
- Plan to check your blood sugar at least 4 times each day for 1 to 2 days after your test or surgery.

- ❑ **And your test or surgery is less than 3 hours**, you and your doctor may decide to keep the pump on.
 - Place the catheter in a location away from the area where the test or surgery will occur.
 - Consider using a temporary basal profile based on 0.8 of your usual basal. Reduce the basal rates down by multiplying the set basal rates by 0.8, starting with the 12:00 midnight basal rate through the test or surgery and recovery. **Discuss this with your doctor.**
 - Return to your usual basal rates after the test or surgery when you are able to eat and drink.
 - Plan to check your blood sugars more often for the next 1 to 2 days after your test or surgery.
- ❑ **And your test or surgery is longer than 3 hours or your doctor takes you off the insulin pump**, take _____ units of _____ on the morning of your test or surgery.

Type 2 Diabetes: Medicines before Tests or Surgery

If you are not sure how to adjust your diabetes medicines, talk to your doctor or nurse before your test or surgery date. Follow your doctor's directions if they are different than these guidelines.

Diabetes medicines may need to be stopped or changed before a test or surgery. This is important for your health. There is less of a chance for infection or other problems if your blood sugar is in the normal range before a test or surgery.

- **If you are on a clear liquid diet the day before your test or surgery,** call your doctor to check if you need to make other changes to your medicine dose.
- **Check your blood sugar the morning of your test or surgery.** If it is above 250 or less than 70, call your doctor for more instructions. High or low blood sugars may result in a delay or cancellation of your test or surgery that day.
- **Tell your nurse that you have diabetes** when you arrive at the test area or at pre-operative holding area.

Your oral diabetes medicines

These are general guidelines for how to take insulin before tests or surgery. Check with your doctor to see how much insulin you need and if you need to follow different guidelines.

- If you are having a test or surgery that includes IV contrast dye and you take Glucophage, also called metformin, or any other medicine that has metformin in it, such as Metaglip, Glucovance, Avandamet or ACTO plus Met:**
 - Do not take metformin the day of your test or surgery. You should take your last dose on _____(date).
 - Do not take this medicine for 2 days after your test or surgery. Restart this medicine on the third day after your test or surgery.
 - If you are not sure if you will have a test with IV contrast, call your doctor to find out.
- If you are having a same day test or surgery and you take other diabetes pills:**
 - Do not take your diabetes pills in the morning before your test or surgery.
 - If your test or surgery is done before noon and you are able to eat and drink, take your morning diabetes medicine after your test or surgery.
 - If your test or surgery is done after noon and you are able to eat and drink, take your diabetes medicine at the next scheduled time. You will skip your morning dose.
- Check your blood sugar at least 4 times each day for the next 1 to 2 days after your test or surgery.**



If you take insulin

- ❑ **If you take Humalog (lispro), Novolog (aspart), Apidra (glulisine), Fiasp (aspart) or Regular insulin:**
 - Do not take the dose the morning of your test or surgery.
 - You can start your usual dose after your test or surgery when you are able to eat and drink.
 - Plan to check your blood sugar at least 4 times each day for the next 1 to 2 days after your test or surgery.
- ❑ **If you take Levemir (detemir), Glargine or Lantus (glargine), Basaglar (glargine), Tresiba (degludec), or Toujeo (glargine) insulin:**
 - Cut your dose in half the evening before or the morning of your test or surgery. For example, if your usual dose is 32 units, $32/2 = 16$. Your reduced dose would be 16 units.
 - **If you are not sure, ask your doctor how much insulin you should take.** Take _____ units of _____ on the night before or the morning of your test or surgery.
 - If you are able to eat and drink after your test or surgery, take your usual evening dose.
 - Plan to check your blood sugars at least 4 times each day for 1 to 2 days after your test or surgery.
- ❑ **If you take NPH, 70/30, 75/25, or 50/50 insulin:**
 - Reduce your evening dose the day before your test or surgery to 50%. **If you are not sure, ask your doctor how much insulin you should take.**
 - Also, reduce your morning dose by $\frac{1}{2}$ or 50% of your usual dose the day of your test or surgery. For example, if your usual morning dose is 30 units, you would take only 15 units. Take _____ units of _____ the morning of your test or surgery.
 - If you are able to eat and drink after your test or surgery, resume your usual evening dose.
 - Plan to check your blood sugars at least 4 times each day for 1 to 2 days after your test or surgery.

Answers to Frequently Asked Questions

Q. How long will my pacemaker last?

A. Most pacemakers last 5 to 10 years. This varies based on how often the device “works” for you.

Q. Are there any household appliances that I should avoid?

A. There are no household appliances that will negatively impact your pacemaker.

Q. What tools and appliances should I avoid?

A. You may operate any normal appliance and most power tools. There are some tools that generate intense electrical fields, such as electric arc welders, automobile ignition systems, and some “spark motor” electric tools. These could cause your pacemaker to operate erratically or at an abnormal rate. We recommend that patients do not use arc welders. Caution should be used when using any high power electrical tools. If you are using electrical equipment and become light-headed or feel skipped or irregular heartbeats, turn off the equipment or walk away from it.

Q. What about medical procedures and tests?

A. Tell all of your doctors, dentists, and medical technicians that you have a pacemaker. Call the Device Clinic at 614-293-8916 or 877-478-2478 if you are scheduled for surgery. We may need to make special arrangements for you before and after surgery. Please call us as soon as your procedure is scheduled.

Call the Device Clinic if you are scheduled for an MRI to see if your pacemaker is MRI compatible. The MRI scan can damage or reset your pacemaker to a mode that is not safe if it is not MRI compatible.

Q. Can I continue to work at my job?

A. If your job does not involve exposure to intense magnetic, electrical, or radar fields, there is often no problem with going back to work. Talk to your doctor about your limitations based on your type of work and your heart problem.

Q. Can I go through metal detectors like at the airport or government buildings?

A. Most pacemakers will not cause any problems. If the alarm does go off, tell the security personnel that you have a pacemaker. They will perform a hand held scanner search. The security check should not interfere with the operation of your pacemaker. Keep your pacemaker ID card with you for situations like this.

Q. Can I continue to drive a car?

A. Most patients who are licensed and capable of operating a motor vehicle may continue to drive a car. There are some people who may be at higher risk and will be advised against driving. Remember, if you are told not to drive, the danger is not only to you, but to other drivers and pedestrians as well. Talk to your healthcare provider if you have concerns.

Q. What about sexual activity?

A. Your pacemaker will not be affected by, nor will it affect, sexual activity.

Q. Can I exercise and resume my regular activities?

A. After placement of your pacemaker, follow the restrictions listed in your post-op instructions. After that time, you should be able to exercise and return to your regular activities as long as you do not exceed your fitness level. Talk to your healthcare provider about specific activities.

Q. Will items containing magnets affect my pacemaker?

A. We recommend keeping items containing magnets at least 6 inches away from your pacemaker. This includes cell phones, MP3 players, magnetic therapy products, stereo speakers, and handheld massagers.

General tips:

- Do not put your cell phone or MP3 player in your shirt pocket.
- Do not use magnetic mattress pads and pillows.
- You may want to hold your cell phone up to the ear that is opposite the site where your pacemaker is placed.
- If you strap your MP3 player to your arm while listening to it, put it on the arm that's farther from your pacemaker.

Care after Placement of Your Pacemaker

Follow these and other instructions given to you by your healthcare team for your care at home after placement of your pacemaker.

Call the Device Clinic at 614-293-8916 or 877-478-2478 if you have questions about these instructions.

Your incision care

- The pacemaker may bulge slightly under the skin. This is normal and common right after surgery. This will lessen over the next few weeks.
- You may have bruising around the incision, especially if you take blood thinner medicines, called anticoagulants, such as aspirin or warfarin.
- Itching is a normal part of the healing process. Try not to rub or scratch the incision site.
- **Keep your incision clean and dry.**
- **Wash your hands well with warm water and soap for at least 15 seconds** before or after touching your dressing or incision.
- **Check your site each day and call the Device Clinic if you have:**
 - Increased drainage or bleeding at the site
 - An incision that opens
 - Redness, swelling, or warmth at the site
 - A pimple that develops at the incision
 - A thread (suture) along the incision
 - A fever greater than 101 degrees F or 38.3 degrees C
 - Swelling and color change to the skin of the arm or hand on the pacemaker side
 - Abdominal or chest wall thumping or “jumping”
- **For the first 48 hours after surgery:**
 - Leave the dressing on for 48 hours after surgery.
 - You may take a sponge bath. **Do not** shower or bathe until 5 days after your surgery.
 - Wash your hands with soap and water for 15 seconds if you need to touch the dressing.
- **Remove the outer dressing of tape and gauze after 48 hours, on _____.**
 - Wash your hands well before and after removing the dressing.
 - **Do not remove** the narrow pieces of tape, called steri-strips, that go across the incision. They support the outer layer of skin while it is healing.

- **After 5 days, on _____, you may shower or bathe.**
 - **Shower or take a bath, letting the water gently run over the incision. Do not** let the shower water directly hit the incision, and **do not** soak the incision under water in a bath.
 - **Do not** rub or scrub the incision site while the steri-strips are in place.
 - Gently pat the incision site dry with a clean towel. You do not need to put another dressing on the site.
 - Avoid soaking the incision site under water in a bath tub, hot tub, or swimming pool until the site is healed, often about 14 days after surgery.
- **Leave the steri-strips in place.** The steri-strips may start to loosen and come off on their own in 5 to 7 days.
- Wash your hands well with soap and water for 15 seconds and then **remove any steri-strips from the incision site that still remain:**
 - After 10 days, on _____.
 - After 14 days, if you take prednisone, steroids, or an immunosuppressant.

Activity restrictions for the next: 7 days 4 weeks

- **Do not** lift, push, or pull any objects heavier than 10 pounds. A gallon of milk weighs about 8 pounds.
- Use your arms, but **do not** raise the arm on your pacemaker side above shoulder level. You may raise your arms to wash or comb your hair, but avoid raising your elbow above your shoulder on your pacemaker side.
- No vigorous exercise, such as:

<ul style="list-style-type: none"> ▸ Contact sports ▸ Golf - you may practice your putt, but wait 6 weeks after surgery to do a full golf swing ▸ Lifting weights ▸ Mowing the lawn 	<ul style="list-style-type: none"> ▸ Running, jogging, or aerobics ▸ Shoveling or chopping wood ▸ Tennis ▸ Vacuuming ▸ Washing windows or walls
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Driving restrictions

- **Do not** drive for 48 hours after surgery.
- If fainting was a symptom that caused you to need a pacemaker, do not drive for one week after your pacemaker is placed. If you have questions about this restriction, please call your healthcare provider's office.

Restarting your medicines

- **If you take a daily aspirin**, restart it the day after surgery.
- **If you take Coumadin**, restart it the night of your surgery unless directed otherwise by your healthcare provider.
- **If you take Plavix**, restart it the day after surgery.
- **If you take Pradaxa, Xarelto, or Eliquis**, restart it in the evening the day after surgery.
- **If you take Pradaxa, Xarelto, or Eliquis and you had a lead removed during surgery**, restart your medicine 48 hours after surgery.
- **If you take other anticoagulants or medicines**, follow the instructions given to you for when to restart each medicine.

Pain relief

- Take acetaminophen (brand name Tylenol Regular or Extra Strength) to relieve tenderness at the incision site. Follow package instructions for dosage. You may have some discomfort for up to 6 months after surgery.
- **Do not** take ibuprofen (brand names Advil and Motrin) and naproxen (brand name Aleve) unless approved for use by your healthcare provider.

Call the Device Clinic if you have:

- Dizziness, light-headedness, or you pass out
- A very slow heartbeat - 40 beats per minute or slower
- Unusual shortness of breath
- Other signs that concern you

If you have any of these signs and need medical help right away, call 911.

If you are scheduled for surgery or to have an MRI scan, call the Device Clinic at 614-293-8916 or 877-478-2478

- We may need to make special arrangements for you before and after surgery. Please call us as soon as your procedure is scheduled.
- Please call the Device Clinic if you are scheduled for an MRI to see if your pacemaker is MRI compatible. The MRI scan can damage or reset your pacemaker to a mode that is not safe if the pacemaker is not MRI compatible.

Checking Your Pacemaker

After placement, your pacemaker will need to be checked to ensure it is working well. This pacemaker check is also known as device interrogation and can be done by in-office checks and by remote checks with home equipment.

First office visit

Your first office visit will be 6 to 8 weeks from your pacemaker implant date. Always bring a list of your medicines to your in-office pacemaker check. The Device Clinic nurse will use a special device, called a programmer, to check your pacemaker. It will check:

- The condition of the battery
- The wires (leads) in your heart
- Stored information about your heart rhythm

The nurse will also check to see if the pacemaker is programmed for your specific needs based on tests that will be done.

The information from your pacemaker is VERY important and MUST be checked at regular intervals. Every patient with a pacemaker needs this type of office visit. If your pacemaker is not checked, your pacemaker could be at risk for not working well for your needs.

The exam will take about 15 minutes.

Remote (at home) pacemaker checks

Your next pacemaker check will be done using the home equipment that is given to you at discharge or mailed to your home. Each manufacturer has special equipment. You will be shown how to use the equipment after your pacemaker is implanted. Most patients keep this equipment plugged in by their beds.

Remote checks are a convenient and safe way to check your pacemaker. It takes less than 5 minutes, and it is recommended for all patients. Remote checks improve survival rates. It reduces the number of in-office visits and allows for earlier detection of dangerous heart rhythms and other problems. It also reduces the number of emergency department or urgent care visits.

Remember that remote checks are **not a 24-hour emergency service**. If you have symptoms that you think are related to your pacemaker, please call the Device Clinic during business hours at 614-293-8916 or 877-478-2478. We will instruct you on whether to use home equipment or come in to the clinic for a check. Remote checks are **NOT a substitute for you going to your closest emergency department or calling 911 if you are not feeling well**.

Remote checks from your pacemaker are reviewed by registered nurses (RNs) from our Device Clinic, and then passed on to one of our electrophysiology (EP) doctors for review. Our staff will ONLY attempt to contact you if there are any questions or issues from your check. Due to our large volume of patients, we are not able to contact every patient with normal results. However, please contact our Device Clinic if you would like the results from a specific check reviewed over the phone with you.

Remote check guidelines

Your home equipment sends data from your pacemaker using a standard phone line or cellular connection to a secured server that is accessed only by our Device Clinic staff. All data will be reviewed by an RN and an electrophysiology (EP) provider.

Please read and follow these guidelines for using your home equipment.

Contact Information

It is your responsibility to make sure that we have your most current mailing address and phone numbers in order for us to be able to reach you to discuss the findings of your remote checks. Please contact us if you change home telephone carriers as this may impact your remote check abilities.

Scheduling Your Checks

Currently, you have four pacemaker checks per year with Ohio State. This means that three checks will be done from home and one check will be done in the office. This schedule may be adjusted based on your care needs.

All pacemaker checks will be prescheduled appointments. You will be contacted with a scheduled day or week for your remote checks and your office appointments by an automated phone reminder. You will be contacted with an appointment even if your pacemaker is automatically transmitted. You are responsible for either sending or being available for the remote check to gather data on that date. Failure to keep your remote check appointments will result in removal from the remote service, and you will be asked to have all of your pacemaker care done in the office.

Questions or problems with your remote check can be directed to the Device Clinic at 614-293-8916 or 1-877-478-2478, extension 4, Monday through Friday, 8:00 am to 4:30 pm. If we cannot resolve your issue, you will be asked to contact your pacemaker manufacturer for help.

REMINDER: Please don't do a remote check unless you are scheduled or have talked to the Device Clinic and have been instructed to send a remote check. Unauthorized transmissions may result in a delay of treatment or unviewed data.

Traveling

If you are going out of town, you can take your home equipment with you and send your pacemaker data at your scheduled time. You can use your equipment within the continental United States, Alaska, Hawaii, and other areas in the world, such as Canada, Mexico, and Europe.

Emergencies

Seek medical help right away or call 911 if you are not feeling well. If you are feeling symptoms that you think are related to your pacemaker, please call the Device Clinic during business hours, and we will instruct you on whether to do a remote check or come in to the clinic for a check.

Please be aware that we are not a 24-hour emergency service.

Clinical Review of Data

Your pacemaker data will be sent to a secure server where our clinic staff can view it using a password protected website on the Internet. The data will be reviewed promptly by an RN and an EP healthcare provider. Unscheduled checks will be reviewed within 7 to 10 days.

Insurance and Co-pays

The pacemaker data we review from your remote check is charged like an in-office appointment. Therefore, your insurance company will be billed for review of your data. You will be responsible for any amount not paid by your insurance provider. **If you have sent an unscheduled check, and your insurance carrier denies the claim, you will be responsible for the bill.**

Questions

If you have any questions about your home equipment, these guidelines, or heart health issues, please call the Device Clinic during business hours at 614-293-8916 or 1-877-478-2478. **We are not a 24-hour emergency service.**

Patient acknowledgement and agreement

I have read and I understand the remote check guidelines. I had an opportunity to ask questions about anything that I did not understand. Satisfactory answers were provided to my questions. I agree to follow the guidelines.

Print patient / legal representative name

Date

Patient / legal representative signature



THE OHIO STATE UNIVERSITY

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