Living with Your LVAD (Left Ventricular Assist Device)

HeartWare LVAS

Contents

Emergency contacts......................... 1

Care at home.................................. 2
  Daily care.................................... 2
  Maintaining your equipment ............. 2
  Pain control ................................ 2
  Activities ................................... 3
  Diet .......................................... 3
  Alcohol and tobacco....................... 3
  Rehabilitation (rehab) .................... 3
  Changing your bandage ............... 4

Your equipment............................. 6
  Changing your power source .......... 6
  Checking your electrical outlets .... 6

What to do in an emergency ........... 8
  What is an emergency? ................. 8
  What should I do in an emergency? ... 8
  What will happen after I call 911? .... 8

Emergency Contacts

Keep this list of contacts with you at all times. You may wish to post several copies of this list around your home.

If your pump is not working as it should, call your LVAD team or another emergency contact right away.

LVAD team: 612-273-3000
  Ask to page LVAD pager number 0700. Stay on the phone until you speak to a coordinator.

Emergency services: 911
  Be sure that 911 works in your area.

Ambulance company:
  Name: ____________________________
  Phone number: _____________________
Care at home

Daily care

Do the following once a day:

- Change your bandage and check your exit site.
- Weigh yourself in the morning.
- Check your blood pressure.
- Take your temperature (under the tongue).
- Write your weight, blood pressure and temperature on your LVAD flow sheet. Also record your LVAD’s flow, power and speed.

Call your care team if:

- You gain more than 3 pounds in one day or more than 5 pounds in one week.
- You notice any swelling in your ankles or around your waist.
- Your systolic blood pressure (the top number) is over 120.
- You notice big changes in how your LVAD works or feels.
- Your pain increases.
- You have any signs of infection. (See page 4.)

Maintaining your equipment

Remember these basic tips:

- Do not kink or bend your driveline.
- Always have spare batteries and a back-up controller nearby.
- You will need to test your home’s electrical outlets (see pages 6–7). You may choose to hire an electrician to do this for you.
- Use only the HeartWare supplies that we give you.
- Avoid equipment that creates a strong magnetic force. This includes security machines in airports and anti-theft devices in the doorways of department stores.
- Know what to do in an emergency. (See back of booklet.)

Read your handbook for details about your LVAD. If you have any questions, call your care team.

Pain control

You may have mild or medium pain after you leave the hospital. Take your pain medicine as directed. If your pain changes or increases, be sure to call your care team.
Activities

While you have your LVAD:

- **Do not** bathe or go swimming. Ask your doctor when it’s safe to shower. You must use your shower kit to protect your pump.

- Keep your controller and batteries away from water. This includes wet surfaces and shower spray. If they get wet, the pump may stop, or you could get a severe electrical shock.

- Do not drive or work heavy equipment unless your doctor says it’s okay.

- Do not play contact sports. Avoid jumping up and down.

- Avoid activity in very hot or very cold temperatures.

- If you go outside in very hot or humid weather, be sure to drink plenty of water.

- When putting on heavy clothes, coats or jackets, be careful not to kink or bend your driveline.

- Keep cordless phones at least 10 inches from your controller.

- You may not have an MRI (magnetic resonance imaging) scan at the hospital.

Diet

Follow the heart-healthy diet you discussed with your dietitian.

If you have diabetes, ask to meet with a diabetes educator. You will need to discuss nutrition, meal planning, carbohydrate counting and other steps to manage your diabetes.

Alcohol and tobacco

Before you drink alcohol, ask your care team how it might affect you and your medicine. It may cause some medicines to stop working right.

If you decide to drink alcohol:

- You should drink plenty of water along with it. Alcohol is a diuretic. This means it causes your body to lose fluids. You must have a certain amount of fluid in your body for your LVAD to work well.

- Don’t drink too much. Alcohol may affect how well you react to the alarms on your system.

If you smoke, you need to **stop**. You should also avoid second-hand smoke. Smoke causes your blood vessels to constrict (tighten). This makes it harder for your pump to work. Tobacco also limits how well your body can fight infections.

Rehabilitation (rehab)

You will start cardiac rehab one to three weeks after coming home from the hospital.

At your first visit, please give your therapist the sheet called “Guidelines and Precautions for Outpatient Cardiac Rehab.” You will find this in your packet.

For each visit, please:

- Wear your driveline belt.

- Bring your travel bag. Your bag should include spare batteries and a back-up controller.

Your therapist will give you safe exercises to do. If you have any questions about your rehab, speak to your therapist or call your LVAD team.
Changing your bandage

Change your bandage at least once a day. If you have drainage (fluid leaking around your tube site), you will need to change it more often. Call your LVAD team if you have any new drainage.

Remember:

- When changing the bandage, you will need to lie in bed.
- Try not to move your driveline. This will prevent drainage from the exit site.

The LVAD team will order your first set of supplies from Midwest Medical Equipment. You should order new supplies every month. If you are running low on any of these items, please call Midwest Medical Equipment at 763-780-0100.

Your supplies include:

- 1 mask for each person in the room
- 1 bottle of rubbing alcohol
- 4 packages of gauze pads (4 x 4 inches)
- 1 package of split gauze (4 x 4 inches)
- 1 bottle of Hibiclens
- 1 bottle of Clinical Care spray
- 2-inch Medipore tape
- 1 pair clean gloves
- 1 pair sterile gloves

First step: Prepare your work area.

1. Wash your hands for 30 seconds. Use antibacterial soap.
2. Ask each person in the room to put on a mask. (The patient may put on his or her mask in step 5 below.)
3. Clean your work surface with rubbing alcohol.
4. Place these supplies on your clean work surface:
   - All gauze packages. Open them by pulling off one side of each package. Do not touch the gauze.
   - Hibiclens bottle. Open the cap.
   - Clinical Care spray bottle. Remove the plastic cap.
   - Three 6-inch pieces of tape
   - Three 4-inch pieces of tape.
5. Put on clean gloves. The patient should now put on his or her mask.
6. If you have a belt to hold your driveline: Unclasp the belt. Hold the driveline steady as you remove the strap. Remove the two Velcro tabs that secure the driveline.
7. Carefully remove the old bandage.
   Check for signs of infection, which include:
   - Redness, swelling or warmth.
   - Fluid draining from the site.
   - A bad odor.
   - A fever over 100°F (38.3°C) under the tongue.
8. Remove your clean gloves. Wash your hands.
Second step: Clean the exit site around your driveline.

1. Put on one sterile glove. (If you are right-handed, put it on your right hand. If you are left-handed, put it on your left hand.)

2. There are two gauze pads in each package. Use your gloved hand to separate the gauze pads. Keep them on their sterile packages.

3. Use your gloved hand to pick up one piece of gauze. Gather up the four corners or fold the gauze to ¼ its size.

4. Pick up the Hibiclens bottle with your other hand. Soak the center of the gauze with Hibiclens.

5. After you put down the bottle, use the same hand to hold the driveline steady. Hold it about 6 inches from the exit site.

6. With your gloved hand, use the gauze to clean the exit site. You will need to do this twice, using a new piece of gauze each time.
   - Start at the exit site and move outward. Move clockwise in a circular motion.
   - Slide the gauze under the driveline as you clean. Do not lift the driveline any more than needed. If you lift it too high, it can cause problems.
   - Repeat with a second piece of gauze. Be sure to soak it with Hibiclens, as in step 4 above.

7. Repeat this process with Clinical Care spray. Gather together or fold another piece of gauze with your gloved hand. Use your other hand to pick up the spray bottle.
   - Hold the bottle a few inches away from the gauze.
   - Spray the gauze until it’s soaked. You’ll need 10 to 12 squirts if you’re using a small bottle. You’ll need 5 to 6 squirts if you’re using a large bottle.

8. Dry the skin around your exit site.
   - Using your gloved hand, place a folded piece of gauze under the driveline. “Floss” back and forth under the driveline a few times. Then, remove the gauze.
   - Using your gloved hand, pick up another piece of gauze. Use this to dry the skin above your driveline.
   - Call your LVAD team if you see any bleeding or oozing around the exit site.

Third step: Place a new bandage over the exit site.

1. Using your gloved hand, pick up two pieces of split gauze. Place each piece around the driveline, overlapping the gauze to cover the skin. The split should not be in the same direction as the driveline.

2. With your gloved hand, place two gauze pads over the split gauze, covering the exit site.

3. You may now remove your gloves if you wish.

4. Tape the gauze to your skin. Do not put any tape over the driveline.
   - Place a 6-inch piece of tape across the top gauze pad, half on skin and half on gauze.
   - Place a 4-inch piece of tape across the bottom gauze pad, under the driveline.
   - Place a 6-inch piece of tape along both the left and right gauze pads.
   - Place two 4-inch pieces of tape in a V shape. Start at the bottom corners of the gauze. The tape should cross under the driveline.

5. If you have a belt to hold your driveline: Secure it in the first Velcro tab, then loop and secure it in the second Velcro tab.

You may throw used gloves, gauze and tape in the trash.
Your equipment

Changing your power source

For your safety, the controller must have two power sources: two batteries, or one battery and an adapter.

At least one power source must be connected to the controller at all times. Never disconnect power from both cables at the same time. If you do, your pump will stop.

To prepare for the change, see your LVAD handbook.

Connecting to AC or DC power:

1. Plug in either the AC or DC adapter.
   - You may plug the AC adapter into an electric outlet.
   - You may plug the DC adapter into your car’s cigarette lighter or power port.

2. Disconnect the battery that has the lowest charge.

3. Connect the adapter to the controller. The AC/DC light will turn green. This tells you that AC or DC power is now your main power source.

Connecting a battery:

1. Check the charge on the battery that’s connected to the controller. If the charge is below 50 percent, replace the battery with a new one (fully charged).

2. Disconnect the AC or DC adapter.

3. Connect a second fully charged battery to the controller. You will see a green light on the battery that is supplying the main power.

Checking your electrical outlets

It is important to make sure your wall outlets are working. Use the checklist to the right. If you have a problem with an outlet, or you need help testing your outlets, please call an electrician.

If you will test the outlets yourself, you will need to buy these items from the hardware store:

- a receptacle tension tester, and
- a polarity tester or voltmeter.
Checklist for Electrical Outlets

☐ Check that each outlet is 3-prong and in good condition. Look for electrical hazards such as bare or frayed wires.

☐ Use a receptacle tension tester to measure blade and pin tension for each outlet. Tension should be 4 ounces or more on all of the holes (small blade hole, large blade hole and round hole).

☐ Use a polarity tester or voltmeter to check polarity.
  - From the round hole to the small blade hole (from ground to hot):
    Line voltage should be present.
  - From the small blade hole to the large blade hole (from hot to neutral):
    Line voltage should be present.
  - From the large blade hole to the round hole (from neutral to ground):
    There should be less than 5 VAC.

☐ Find and label the circuit breakers for your outlets. These will be in your electrical panel or breaker box. Leave instructions for yourself or your family members. Explain how to reset the breakers or change the fuses.

☐ You will find a form for your energy company in this packet. Fill this out and send it to your power company. The form asks that you receive priority in the event of a power loss. Your energy company should restore your power first.
What to do in an emergency

What is an emergency?

If your LVAD can’t pump enough blood, this is an emergency. Causes may include:

- Loss of power to the pump.
- Broken wires.
- Damage to the pump or the controller.
- Health changes that affect your heart.

If your system isn’t working the way it should, the controller will sound an alarm.

If you notice a sudden change in how your pump is working (with or without an alarm), call your LVAD team right away.

What should I do in an emergency?

Stay calm. Most problems are easy to solve. Your main goal is to keep the LVAD pumping.

If the pump is running: Check all the wires attached to the controller. Then, call your LVAD team for advice.

If the pump has stopped:

1. Check all the wires attached to the controller. Make sure they are secure.
2. If you still hear the alarm, but there are no warning lights, change your power source. (If you are on batteries, remove one of the batteries and connect the AC or DC adapter. If you are using the adapter, replace it with a battery.)
3. If you still hear the alarm, call 911. Do this first to make sure help is on the way.
4. Then, call your LVAD team at 612-273-3000.
   - Ask the operator to page number 0700. This is the pager for your LVAD coordinator.
   - Stay on the line until you have a chance to speak with the LVAD coordinator.
5. As you wait for help to arrive, change your system controller.

What will happen after I call 911?

After help arrives, the medical team might:

- Give you CPR (chest compressions).
- Shock your heart through the chest (called defibrillation).
- Place a breathing tube down your windpipe (called intubation).
- Give you medicines.

None of this will hurt your pump.