



# **Is a Left Ventricular Assist Device (LVAD) the right treatment for me?**

Decision Aid



**THE OHIO STATE UNIVERSITY**

WEXNER MEDICAL CENTER



## Table of Contents

Making an Informed Decision .....	3
Left Ventricular Assist Device (LVAD).....	4
Life With an LVAD .....	6
Major Surgery = Major Decision .....	8
Looking at the Numbers .....	10
Caregiver Impact .....	11
Your Care Support .....	12
Things to Consider .....	13
Questions I Need to Ask .....	14

For a digital copy of this book, visit [go.osu.edu/pted3948](https://go.osu.edu/pted3948).

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**This book is for informational purposes only. Talk to your healthcare provider if you have any questions about your care.**

For more health information, go to [wexnermedical.osu.edu/patiented](https://wexnermedical.osu.edu/patiented) or contact the Library for Health Information at 614-293-3707 or [health-info@osu.edu](mailto:health-info@osu.edu).

# Making an Informed Decision

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## Review this book

This information will help you understand what Left Ventricular Assist Device (LVAD) treatment is and what it will require when you consider it as an option for your care.

We want you to take time to review this book and think about the **decision that is right for you**. Do you want to move forward with having an LVAD, or not?

- Think about your expectations, values, and life goals to decide if this is the treatment for you.
- Talk with your family and have them review this information so they understand the treatment.
- This treatment may extend your life with heart failure, but it also comes with challenges. You will have to deal with a new normal.

Ask questions of your doctor or others on your health care team if there is anything that is not clear.

**Having difficult conversations now will help with difficult decisions in the future.**

# Left Ventricular Assist Device (LVAD)

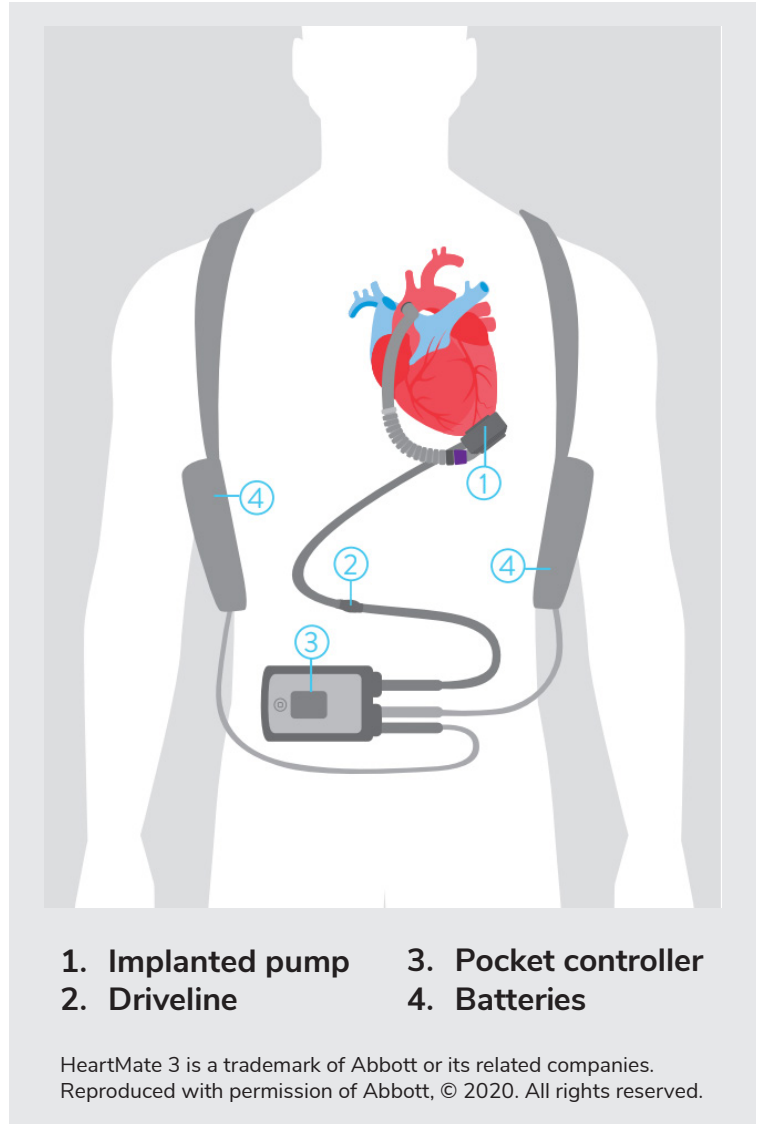
## Heart Pump for Patients with Advanced Heart Failure

### About the device

An LVAD is used when the heart is not able to pump enough blood on its own.

It has parts that are placed inside the body during surgery.

- The sternum or chest bone is opened to place the **pump** into the heart at the left ventricle, and into the aorta.
- The mechanical part of the pump is placed in the chest with a cable, called the **driveline**, which comes out of the skin in the abdomen.
- The driveline connects to the **controller**. The controller shows alarms, battery life, and other functions. It is carried in a bag or vest pocket.
- The system controller attaches to the **power source or battery packs**. The pump must **always** be plugged into the batteries or an electrical wall outlet. Extra batteries must be available at all times.



### Reasons for use

An LVAD does not cure heart failure, but it can ease shortness of breath, fatigue, and other symptoms.

- For a person who is not able to get a heart transplant, the pump can improve quality of life. This is called a **destination therapy LVAD**. The device would be in place for the rest of the person's life.
- For a person who has been approved and is **waiting for a heart transplant**, or is a possible transplant candidate, the pump may be used as a **bridge to having a transplant**. Not everyone is eligible for a heart transplant for different reasons.

## What are your treatment options?

You have severe heart failure, which means that medicines and other treatments are not working as well as they used to.

### Option 1: No LVAD

If you change nothing about your treatment, you may live for a short time, often a year or less.

### Option 2: LVAD

You could have **major open heart surgery** to place an **LVAD** to take over the workload of the your heart's left ventricle. The goal is to reduce your heart failure symptoms. This comes with risks, but also benefits. The benefits include:

- Fewer hospital stays
- Better quality of life
- More time with family and friends
- May be able to return to work
- More able to travel

## If you choose an LVAD

### Surgery

The pump is put in during surgery that lasts about 4 to 6 hours. Your surgeon will either do an incision in the middle of the chest bone (sternotomy) or an incision between the ribs on the left side (thoracotomy) to implant an LVAD into the heart. The surgery requires a heart and lung bypass machine to circulate blood to your body during the procedure. After the surgery your heart and LVAD will work together to send blood to the body.

### Recovery

Once the operation is complete, you will recover in the ICU (intensive care unit). You will likely have a breathing tube that is connected to a ventilator (breathing machine). You will also be connected to many lines, tubes, and other medical equipment.

Your care team will decide when you are medically ready to transfer to the progressive care unit (PCU). This area is where patients go who are not critically ill but who are still recovering from surgery.

### Learning to manage an LVAD

After surgery, you and your caregiver will need to learn how to manage your LVAD equipment. You will also need to learn how to do a driveline dressing change, to help avoid any possible infection. You will be taught how to trouble shoot any alarms or technical issues that may come up with your LVAD.

There is a 24-hour emergency number to call, if needed.

# Life With an LVAD

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This table provides some general information about living with an LVAD. For more detailed information, please talk with the members of your healthcare team.

<b>Equipment</b>	<p>There are belts, bags, or a vest to carry your LVAD controller and battery packs when you are mobile.</p> <p>You also need to carry extra batteries and an extra controller, in case they need to be changed. A thorough review of all equipment, including how to manage an LVAD controller will be discussed. You and your caregiver will be taught to troubleshoot any problems or alarms that may come up. You will be provided with a 24-hour emergency number to call if needed.</p>
<b>Power</b>	<p>To keep the pump running, you must always be connected to a power source. Death can occur if power is lost. During the day, you can connect to batteries, so you can be up and moving around. At night, you can plug into your home wall unit.</p>
<b>Appointments</b>	<p>You will need to make routine clinic visits to Ohio State often. These are specific appointments for your heart and LVAD. There are at least 10 in the first year. This does not include appointments for any problems you may have for non-heart related issues. You will be followed by a group of heart failure doctors in clinic. You will also be seen by your surgeon a few weeks after discharge.</p>
<b>Driveline site care</b>	<p>The driveline site needs special care to reduce the risk of infection. A sterile dressing must be applied and changed, often twice each week.</p>
<b>Blood tests</b>	<p>You will be on blood thinner medicines to prevent clots from forming that could cause a stroke. You will need blood tests 2 times each week, which can be done locally. Over time, these tests can be done less often.</p>
<b>Medicines</b>	<p>You will take blood thinner medicines, and you may need to continue to take heart medicines. Some patients take less medicine when they have an LVAD.</p>

<p><b>Water precautions</b></p>	<p>To prevent infection and to protect the equipment, do not get into water or submerge yourself to bathe, soak, or swim.</p> <p>You are allowed to shower. You must change your driveline dressing after each shower.</p>
<p><b>Emotions</b></p>	<p>Some people adapt easily to life with an LVAD. Others become overwhelmed, feel anxious, or become depressed. Mental health counseling can be helpful.</p>
<p><b>Caregiver burden</b></p>	<p><b>You cannot and should not do this alone!</b> You will need help from a loved one, friend, family member, or whomever you can count on for help. <b>You must be willing to rely on someone for help</b> to change your sterile dressing, drive you to appointments, learn to manage the equipment, and respond to emergencies.</p>
<p><b>Cost</b></p>	<p>Depending on your insurance, you may have more costs, such as paying for the driveline dressing supplies and the co-payments for clinic visits. Ask to talk to a financial counselor if you have more questions about the cost.</p>

# Major Surgery = Major Decision

The choice to get an LVAD is up to you and your family with guidance from your doctor and healthcare team. Getting information and understanding what could happen may help you feel better about your decision. We want you to be comfortable and satisfied with whatever you decide to do.

## Risks or problems that could occur with surgery

All surgeries have risks, but some of the problems that may occur include:

- Right heart failure
- Irregular heart rhythms, called arrhythmias
- Bleeding
- Breakdown of blood cells, called hemolysis
- Infection
- Lung, kidney, or liver failure
- Stroke
- Device failure
- Death

## Risks during the first year

Return for hospital stay: 7 out of 10



Stroke: 1 out of 10



Bleeding of stomach or intestines:  
4 out of 10



Bleeding needing surgery:  
1 out of 10



Sepsis or driveline infection:  
2 out of 10



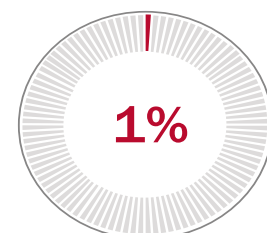
Any infection: 8 out of 10



Ongoing heart failure: 2 out of 10



LVAD needs to be replaced:  
1 out of 100  
(or 1%)





## Are you eligible for an LVAD?

Your doctor and health care team will review your history, symptoms, and overall health to come up with the best treatment plan for you.

If you are eligible for an LVAD and you decide to have the surgery, it will be scheduled.

If you delay the surgery because you want more time to think about it, your health may get worse. You may become too sick for the surgery, and an LVAD may not help you.

## Conditions that could affect your recovery

Having any of the following conditions could affect how well you recover after getting your LVAD placed:

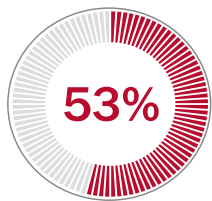
- Right heart failure
- Stroke
- End stage liver, kidney, or lung disease that is not likely to improve with surgery
- Lack of needed, such as no one to care for you at home or take you to appointments
- Alzheimer's disease or dementia
- Clotting issues
- Infection
- Smoking or other tobacco use

# Looking at the Numbers

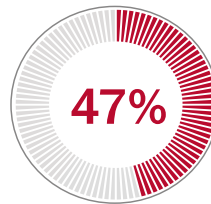
Life with an LVAD can look different for every person. While no one can predict what will happen, looking at the overall results can help you decide.

## Treating heart failure with medicines alone

Heart failure can often be managed with medicines and a healthy lifestyle early on. As the disease progresses, medicines may no longer work as well. Studies showed people without an LVAD had:

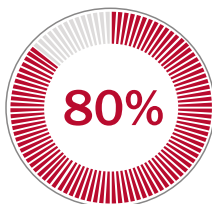


**Survival at 2 years**  
with advanced heart failure on medical therapy

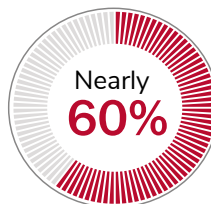


**Survival at 1 year**  
with advanced heart failure on medical therapy and with 1 or more heart failure hospital stays.

## An LVAD can prolong life and improve quality



**80% survival**  
at 1 year



**Nearly 60% survival**  
at 5 years

Within 3 months, and lasting at least 2 years after implant, people with an LVAD had:



Improved ability to walk 1 block (18% to 71%)



Improved ability to do everyday tasks without limits (29% to 50% or more)



Improved ability to get dressed without help (61% to 86%)



Less discomfort from edema (45% to 75%)



More satisfaction living with heart failure (14% to 70%)

# Caregiver Impact

Caring for a person with severe heart failure can be challenging. It can mean lifestyle changes for both people involved. Adding in an LVAD can require even more changes.

Most caregivers are happy to help their loved one deal with their condition and care. Meanwhile, it is common for others to feel overwhelmed and stressed, and have some financial strain. Because of these possible burdens, it is important that your caregiver is part of your decision process.

## Full time caregiver support needed for at least 3 months

- You will need a caregiver with you 24 hours a day for at least 3 months.
- You may have a primary caregiver, as well as others who are able to help.
- Caregivers must be committed to helping daily. It can be stressful.
- You will need other people who can learn about your care to be with you for a few hours while your primary caregiver takes a break.

## Care needs with an LVAD

You and your caregiver will need to be taught how to care for the equipment and manage alarms before you leave the hospital. LVAD coordinators will schedule times throughout the week for hands-on education with family.

As you recover, often at least for the first 3 months after surgery, your caregiver will need to help you with daily activities, such as bathing, meal preparation, driving, and running errands.

As long as you have an LVAD, your caregiver may be responsible for:

- Changing the driveline dressing 2 times each week, or as directed to keep it clean and dry.
- Checking for signs of infection.
- Helping manage your medicines.
- Going to follow up appointments at the clinic, testing, or other procedures.
- Caring for equipment and responding to alarms.

# Your Care Support

## With or without an LVAD

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### Palliative care

As a person with advanced heart failure, you will meet with our palliative care team. This is a special medical team that can help you with emotional, social, psychological, and spiritual support as you deal with a chronic condition.

This group's goal is to help improve the quality of life for you and your caregivers. They can provide symptom relief, including pain control and stress relief.

The palliative care team can be involved in your care, whether or not you decide to have an LVAD.

### Hospice

Hospice provides care to patients near the end of life. The focus is on care and comfort rather than a cure.

Hospice care can sometimes be done in your home, but may also be done in a hospice unit at a nursing facility. The care provided includes medical, emotional, and spiritual support for you and your family as you near the end of your life. Even if your life cannot be extended, comfort can be provided.

### LVAD support

You will be asked if you would like to meet a patient who has an LVAD. It can be very helpful to speak to someone who has gone through a similar experience.

### Online support

- [Abbott.com/HeartMate](http://Abbott.com/HeartMate)
  - Stories of people living with LVADs
  - Connect with a HeartMate 3 LVAD Ambassador

Some patients with an LVAD get sicker because of other health problems. You may need to make a choice about turning off the pump.

# Things to Consider

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How do I want to live the rest of my life?

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What are my hopes and fears?

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What are my concerns?

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What questions do I have for my healthcare team about the process?

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What other information do I need to make my decision?

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What questions do I have for my family?

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What activities do I want to continue in my life?

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What are my family members' thoughts and feelings?

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# Questions I Need to Ask

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## Questions for my doctor or LVAD coordinator:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

## Questions for my family and caregiver:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

## Questions for people who have an LVAD:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

## Questions to ask myself:

Do I want to do everything I can to live as long as I can, even if it means having major surgery and being dependent on a machine?

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

Am I at peace with the life I have lived and feel it is my time?

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

What are my expectations for the rest of my life?

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