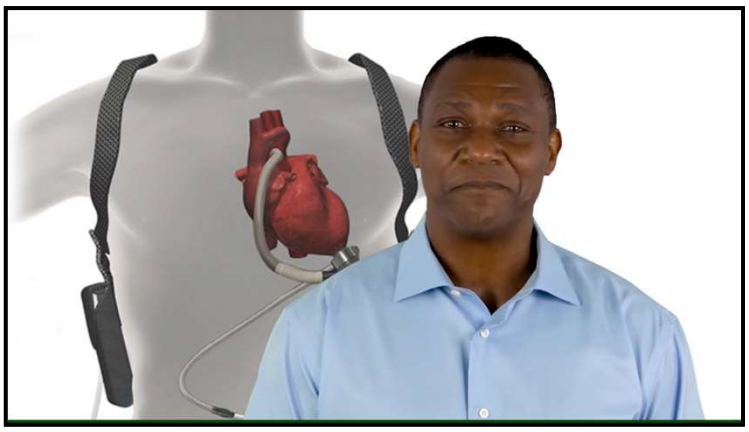
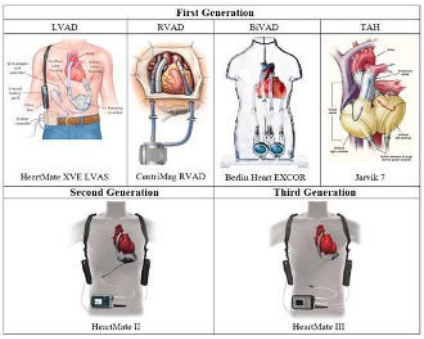




CONTROLS FOR DIFFERENT LVADS

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Throughout this topic, we spoke about other LVADs you may encounter. In this lesson, we will review the two versions of the HeartMate II; the HeartMate III, and the HeartWare Device. It is also possible to run into a Jarvik 2000 or a Freedom Driver artificial heart.

At the end of the chapter are two short videos. One on the HeartMate III, and the other is on the HeartWare device. They will be helpful in your overall understanding of the LVAD.

HeartMate II

- May see two different controllers
  - ✓ Pocket Controller (newer model)
    - Display screen
  - ✓ EPC (older model)
    - No display screen
  - ✓ Powered by two external batteries or small mobile power unit
  - ✓ Backup battery inside controller



EPC Controller



HMII Pocket controller

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The notable thing to remember is that there are two different controllers for the HeartMate II.
The Pocket Controller is a newer model and has a Display screen.
The EPC is the older model originally introduced in 2008. It has no display screen.
Both units are Powered by two external batteries or a small mobile power unit.
There is a Backup battery inside each controller as well, using AA batteries.

HeartMate III

- Powered by two external batteries or small mobile power unit
- Backup battery inside controller
- Centrifugal flow
  - ✓ Hemodynamic bearings



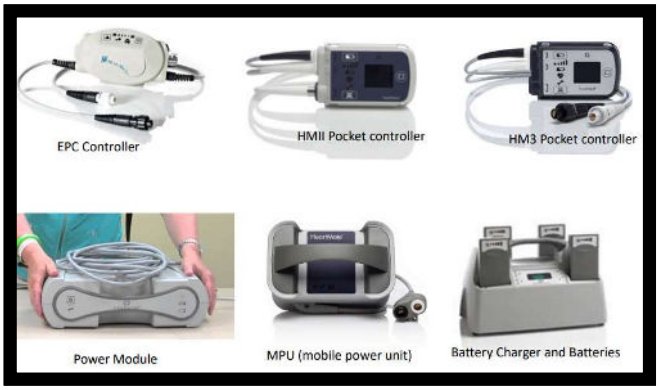


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The HeartMate III is a centrifugal flow device with hemodynamic bearings. This third-generation system provides improved blood flow in a pump that uses full magnetic levitation, to reduce trauma to the blood passing through it.

HeartMate II & HeartMate III | Components

- HeartMate II and III share:
  - ✓ Similar power module
  - ✓ Mobile power unit
  - ✓ Batteries
  - ✓ Battery charger units
- Pumps and controllers are different
- Pocket controllers have similar function and design



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The HeartMate II and III share a similar Power Module, Mobile Power Unit, Batteries and Battery Charger units.
Obviously, the pumps are different; as well as the controllers. The pocket controllers have similar function and design.

Other LVAD Devices you may encounter | HeartMate III



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Now, view a short video on the HeartMate III.

HeartWare System Components

- HeartWare® Controller: Controls and manages VAD operation
- HeartWare® Power Sources: Power the controller and pump
  - ✓ Batteries
  - ✓ AC adapter (plugs into wall outlet)
  - ✓ DC adapter (plugs into car outlet)
- HeartWare® Battery Charger
  - ✓ Can simultaneously charge up to 4 batteries

HeartWare® Controller



HeartWare® Power Sources



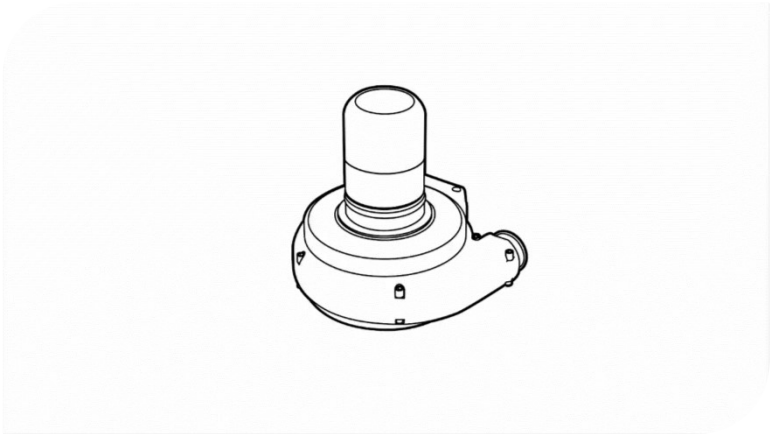
HeartWare® Battery Charger



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The HeartWare System components are similar in function to the HeartMate units. Shown are the Controller, power sources and battery charger. The upcoming video will show the device in more detail.

Other LVAD Devices you may encounter | HeartWare Ventricular Assist Device



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Following now is a short video on the HeartWare device.
Following the video is a 10 question test. You will need to score 75% or better to get credit for the LVAD topic.
Good studying and good testing!