Your Patient Has a Left Ventricular Assist Device:

Do you know what to do?
Conflicts of Interest

None to disclose

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Objectives

- Learn key tasks for assessing and treating patients with a VAD
- Briefly review the clinical use of LVADs
- Build confidence for the next time you encounter a patient with an LVAD
Caution

✿ Despite what is said today, you should always follow your own patient care guidelines

✿ For patients with VADs, treatment guidelines should be made in concert with the facility placing the VADs
What is a VAD?

- Ventricular assist device
  - Mechanical device that directly augments cardiac output by moving blood from the hear to the aorta
  - Can be right, left or both ventricles
Frequency

- About 2,000 heart transplants are done in the US each year.
- Many of these people will end up with an LVAD.
  - Speculation is that there are 60,000 people in the US who would benefit from an LVAD.
Who gets a Ventricular Assist Device?

- People waiting for a heart transplant
- People with a reversible cardiomyopathy
- Bridge Therapy
Also

❖ People with no other choice

❖ Destination therapy
Assessing the patients

- Sick or not sick?
  - Vital signs may not be helpful
- Have they contacted their VAD coordinator
  - Get that number
- Do they have a pulse?
  - Older models, and some new models produce a pulse
- Can you hear the device?
Non-pump problems

- Stroke
- Infection
- Hemorrhage
- Volume overload
- Recurrence of heart failure
- Arrhythmia
Examples

- 75 year old with a GI bleed
  - How do you know if it is significant?
  - Amount of blood
  - How does the patient feel?

- Treatment?
  - Fluids yes or no?
Example 2

- 58 year old with left arm and face weakness for 2 hours
  - What would you do in a patient with no VAD?
  - How do you approach this one differently?
- Scene time?
- Destination?
  - Where is the best place for all VAD patients
Example 3

60 year old male, shortness of breath

Exam: edema, crackles on his lungs, accessory muscle use

What are you thinking?
CHF

- CHF with an LVAD

- What would you normally do?
  - NTG
  - EKG
  - CPAP

- What should you do here?
Electricity

- Cardioversion and defibrillation are not absolutely contraindicated in patients with VADS.

- The **may** tolerate an abnormal rhythm unexpectedly because of the function of the pump.

- They **may not** tolerate an abnormal rhythm because the lack of left ventricular preload.
Chest Compressions

❖ To compress or not
❖ Debated
❖ Use a hand pump if available for that model.
❖ Compressions have risks, as does not doing compressions
Pump-related problems

- Drive line malfunction or damage.
- Infection
- Power failure
- Thrombosis
Resources

www.mylvad.com
Conclusion

- Don’t let the presence of a ventricular assist device intimidate you
  - Many of your protocols still apply
- Get better at assessing people without vital signs
  - Get used to thinking “sick or not sick”
- Utilize the patient’s support team immediately