

# CT Department Work Flow Tip

## Exam: CTA GATED CHEST LVAD

QDOC Exam Code: [CCACO+/CCAST+](#)

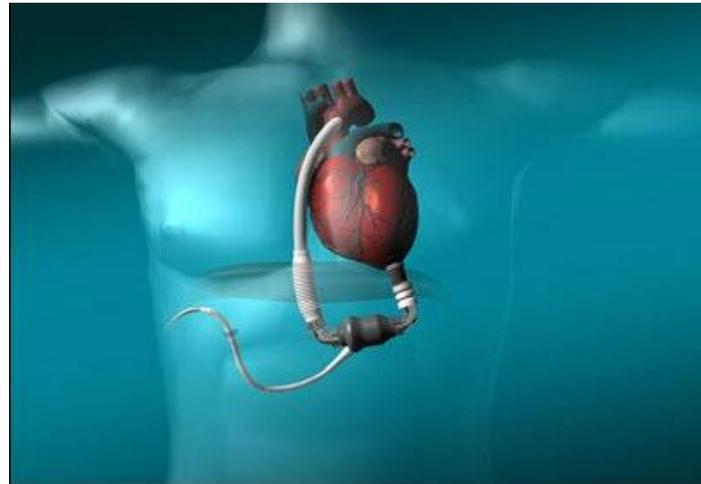
**Protocol not required(page 5)**

Systems: 64 slice to 256 slice

Protocol Location:

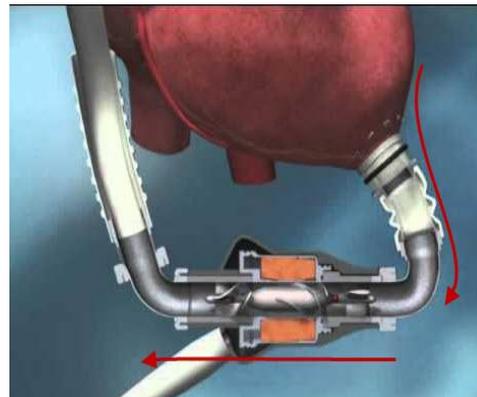
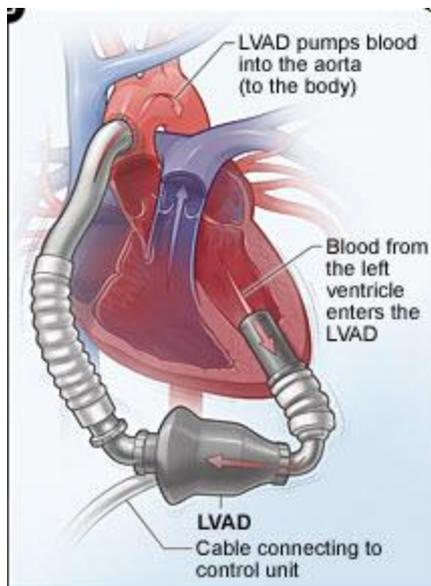


Exam:



## LVAD(Heart Disease and the Left Ventricular Assist Device)

The left ventricular assist device, LVAD or VAD, is a kind of mechanical heart. It's placed inside a person's chest, where it helps the heart pump oxygen-rich blood throughout the body. Unlike an artificial heart, the LVAD doesn't replace the heart. It just helps it do its job. This can mean the difference between life and death for a person whose heart needs a rest after open-heart surgery, whose heart is too weak to effectively pump on its own. or who is waiting for a [heart transplant](#).



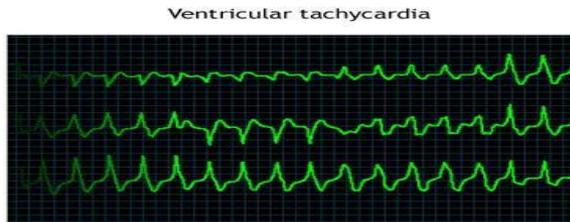
### How Does an LVAD Work?

Like the heart, the LVAD is a pump. One end hooks up to the left ventricle -- that's the chamber of the heart that pumps blood out of the lungs and into the body. The other end hooks up to the aorta, the body's main artery. A tube passes from the device through the skin. The outside of the tube is covered with a special material to aid in healing and allow the skin to regrow.

## Patient Preparation – ECG Signal

These pts will arrive with a LVAD support team and they will not present a normal rhythm. They will be either in Ventricular tachycardia or no rhythm.

**Ventricular tachycardia (V-tach or VT)** is a [tachycardia](#), or fast heart rhythm, that originates in one of the [ventricles](#) of the [heart](#)

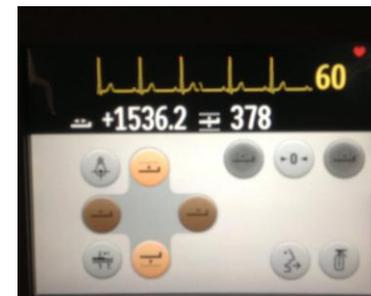
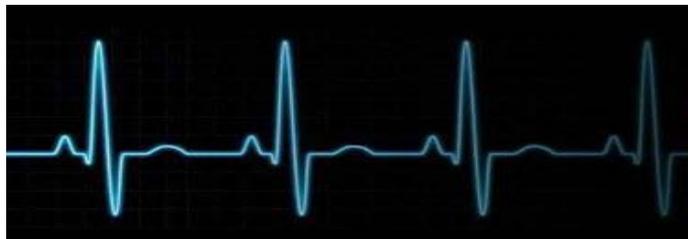


ADAM

• In this case since the pts with rhythm is to either to high or unreadable we connect to the Patient Simulator(Chicken Heart) at a rate of 60bpm

### Connect leads to Simulator

- RA (right arm) lead
- RL (right leg) lead
- LA (left arm) lead
- LL (left Leg) lead



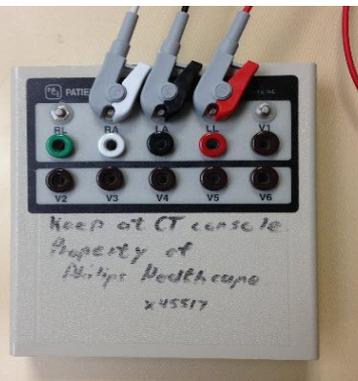
Displayed Rhythm



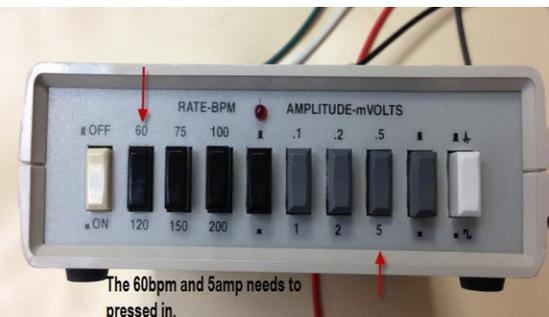
Chicken Heart



iCt 128/256

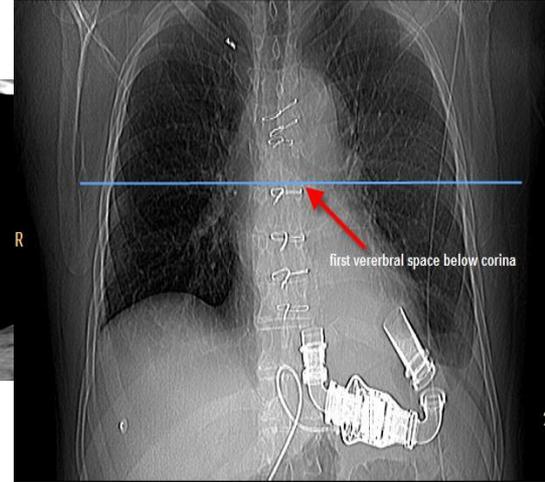


Ingenuity 128



Turn on and Depress only the 60bpm and 5amp

1. Scout: Dual 350 - 400mm  
Breath Hold: inspiration
2. Gating: **Yes** - Patient Simulator(Chicken Heart)
3. Locator/tracker: 3cm Below Carina(first vertebral space)  
in the descending aorta.
4. CTA CAP: Helical(retrospective)  
.8mm x .4mmcm Arch to Apex  
  - a. Recon: Equally spaced 10phase .8mm x .4mm
  - b. Recon: Lung 3mm x 1.5mm
5. IV access: 18g
6. PO Prep: None
7. Contrast: Isovue 370  
100cc @ 5.5cc per sec  
 Saline Flush: 50cc @ 5.5cc per sec



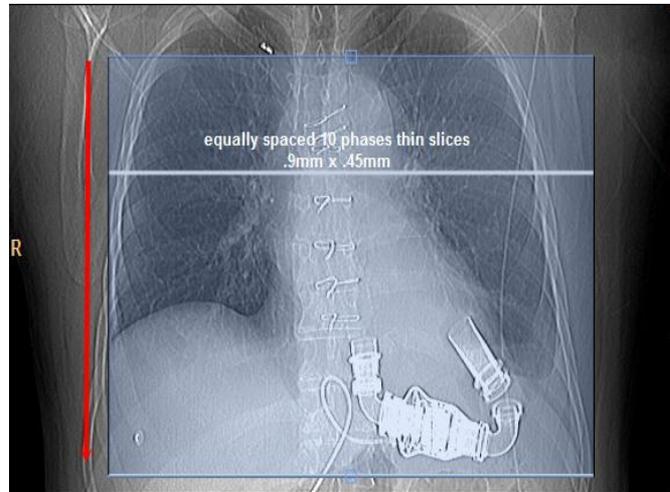
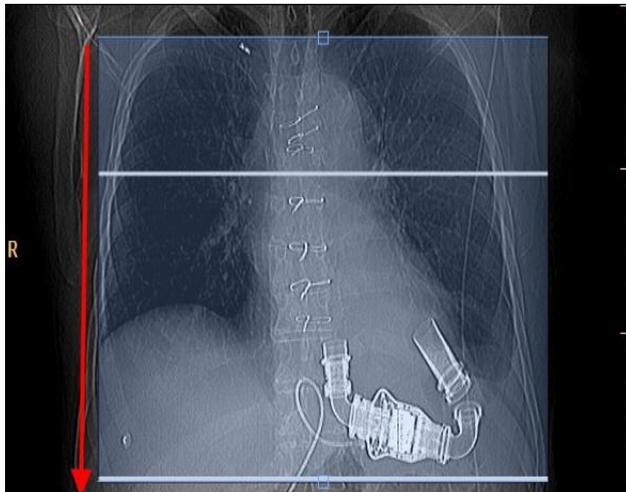
**Technique**  
 <150lbs = 120kv @ 750mAs  
 150lbs – 200lbs = 120kv @ 850mAs  
 200lbs – 250lbs = 120kv @ 1050mAs  
 250lbs – 300lbs = 120kv @ 1250mAs  
 \*explanation on page 5

### CTA Chest(acq)

Scan from Top of Aorta all the way though the LVAD.

### CTA Coronary Recon

### Lungs Recon



## Point of Contact

Cardiac Radiologist:	Bardo, Dianna M MD(T,Th,Fr)	pager: 15171
Cardiologist:	Shapiro, Michael D DO (M,W)	pager: 13616
Chest Radiologist:	Cristina Fuss MD	pager: 12055
Lead Cardiac:	Bobby Hill (R)(CT)(R)	pager: 14083

- **This is ordered as a CCH+ and will need to be changed to a CTA Chest without non-cons. Description states “Evaluation of LVAD inflow and outflow”**

• **Technique factors** are based on a Retrospective Gated(helical) Cardiac protocol, which uses an extremely low pitch combined with an extremely fast Rotation to get the best Temporal Resolution in order to visualize the arteries of the heart. Any questions on this please contact Bobby to go over the physics of this.

- **Prep:** [Contrast Questionnaire](#) and [Current Labs](#) Needed, **No Cardiac Meds** required for this protocol.
- Complete exam in QDOC  
Billing: Contrast  
If you draw labs bill venipuncture, bun and creatine (CHH only bill venipuncture).
- For In-Patients Order and MAR all contrast once given.
- Send all series to EBW10, EBW Cardiac, EBW Demo.

**If there are any questions about Questionnaire, prep, IV Contrast, or Protocol contact the Protocols Rad.**

