- Check most recent Echo report.
  - *Look at summary, it may overestimate things.*

- Aortic Measurement
  - *Use coronal cine view or candy cane view*
  - *Sagittal and axial may overestimate*

- Lungs, PA Measurement and descending aorta
  - *Use axial T2*

- Cine LVOT
  - *Aortic Root*
  - *Aortic Flow*
  - *Aortic valve – 3 levels*

- Next look cine chamber views

- 2 chamber view
  - *Mitral valve*
  - *Look for left atrial appendage thrombus*
  - *Look for LV apical thrombus from infarct.*

- 3 chamber view = (LA, LV, LVOT)
  - *systolic anterior motion (SAM)*

- 4 chamber view
  - *Tricuspid regurgitation*
  - *Septal bounce*
  - *LV wall motion*
  - *Measure LA (oblique to valve, exclude PV)*
  - *Measure LV chamber size (inside wall to wall)*
  - *Measure wall (at ED where it is thinnest).* **< 11mm**
  - *Should be less than*

- Next due functional numbers
  - ❖ *Use syngovia = CVI42*
  - ❖ *Pick image on right use Cine short axis (SAX); DOUBLE CLICK*
  - ❖ *BSA = indexes*
  - ❖ *Fill in blanks, left and right*
  - ❖ *Aortic valve area – use cine AV view on right; Double click*
  - ❖ *Use squiggly line icon on top left – draw inside the valves when open*
  - ❖ *Use the right and left arrow key to go 1 image at a time*

- Next look at short axis cine for wall motion

- Next T1 mapping
  - ❖ *Not really used currently, but is a pre T1 (for pre and post comparison)*

- Candy cane view (not always done) – used for aortic valve disease

- Phase-sensitive inversion-recovery (PSIR)
  - ❖ *Technique commonly used in cardiac MRI to enhance the contrast between normal and infarcted heart tissue while nulling signals from blood and fat. In PSIR, two datasets are acquired, a conventional image and a reference phase dataset.*
  - ❖ *These are the post contrast images, in 3 planes*

- Analysis numbers:
  - ❖ *Already done with CVI42*
  - ❖ *Double check, CVI42 more accurate*
  - ❖ *Compare stroke volume of left and right ventricle, approximately with in 15 ml*

- Velocity encoding or VENC
  - ❖ *Operator-controlled parameter for the determination of the maximum velocity within a velocity encoded phase contrast imaging study.*

- ❖ *Velocity-encoding (Venc) gradients are used to generate a phase shift in magnetic resonance* <u>*phase contrast imaging*</u> *proportional to the velocity of moving protons. This phenomenon can be used to depict and measure the velocity of spins and thus flow* [1].
- ❖ *Venc has to be defined by the user before image acquisition and adapted to the anticipated peak velocities to obtain accurate flow measurements* [2].
- ❖ *In case Venc is chosen too low* <u>*aliasing*</u> *occurs, if it is chosen too high, flow measurements suffer from low accuracy and/or a jet might not be seen.*
- ❖ *A velocity scout may help in an improved predefinition* [3].
- ❖ *Typical VENC values for different flow measurements are listed below:*
- ❖ <u>*Aorta*</u>*:    150 cm/s*
- ❖ <u>*MPA*</u>*:    120 cm/s*