Patient Preparation

- Patient communication is crucial in achieving a high quality scan.
- This entire procedure needs to be thoroughly explained to the patient prior to starting the exam.
- After laying the patient on the table, place their arms at the 10 o’clock and 2 o’clock positions. Place the ECG leads on the patient and verify a good rhythm. If a noisy or unclear rhythm is seen the patient’s chest may need to be shaved or cleaned with alcohol swabs to help guarantee good contact with the leads are made.
- Perform the following prior to performing the procedure
  - Rehearse the breath hold with the patient and observe the ECG response during the breath hold
  - Explain the importance of holding still during the exam
  - Explain the warm flush feeling that may occur during the injection of contrast
  - Make the patient as comfortable as possible

Power Injection Protocol

Power injector is to be loaded with two syringes
- one syringe of 100ml normal saline
- one syringe of 120ml of 350-370 mg/dl non-ionic contrast

Dual-Phase Injection

| Phase 1 (used to initiate scan) | 90cc of contrast injected at 5cc/sec ~ 18sec |
| Phase 2                        | 30cc of contrast injected at 3cc/sec ~ 10sec |
| Phase 3                        | 30cc of normal saline injected at 3cc/sec |

Acquisition Parameters

- 120 kVp
- 350-400 mAs
- Care Dose 4D
- 30 x 0.6
- Rotation Time 0.33s
- Pitch 0.2
Scanning Parameters

- Bolus Tracking used with ROI placed in the ascending aorta above the pulmonary artery
  - Trigger set at 100HU

- CTA scan should start above the aortic arch and extend to below the base of the heart.

Reconstruction Parameters

After the scan is complete a preview series at the level of the mid heart should be performed. Choose the R-R interval % with the least amount of motion to perform the following reconstructions.

- Recon 1 (Source Images/CD Set)
  1 mm slice increment x 1 mm slice thickness
  B35

- Recon 2 Reformat
  0.75 mm slice increment x .3mm slice thickness
  B35

Reformat set will be used to create:

- Coronal MPR’s at 1x1
- Coronal MIPS at 10mm thickness x 1mm increment
- Sag MIPs at 10mm thick x 1mm increment
- Colored VR images of the pulmonary vein