Routine Neck

- Scan parameters are set up for **helical** acquisition of data from the base of the skull through the sternal notch **(MD should specify if scan needs to be extended past the aortic arch for hoarseness or suspected recurrent laryngeal nerve injury)**. The gantry should be angled parallel to the hard palate.
- Image reconstruction is set for **5 mm x 5 mm** images in both bone and soft tissue algorithm.
- Contrast is injected and scanning begins as follows:

  - Lightspeed Plus (4) – 80 cc at 2 cc per second. Scan begins 40 seconds after the beginning of contrast injection.
  - Lightspeed 16 – 80 cc at 2 cc per second. Scan begins 40 seconds after the beginning of contrast injection.
  - Aquilion 64 – 80 cc at 2 cc per second. Scan begins 45 seconds after the beginning of contrast injection

It is imperative that a physician check the scan to determine if a Suprahyoid or Infrahyoid exam needs to be performed while the patient is on the table.

Suprahyoid Neck Protocol

(Three Phase Exam)

- Phase I – Scan is performed exactly as for the routine neck above.

- Phase II – Scan is set up for **non-helical (*except Aquilion 64)** acquisition of **3 mm x 3 mm** images from the base of the skull through the hyoid bone. Gantry is angled parallel to the hard palate (the same as for Phase I). Contrast is injected and scanning begins as follows:

  - Lightspeed Plus (4) – 40 cc at 2 cc per second. Scan begins 15 seconds after the beginning of contrast injection.
  - Lightspeed 16 – 40 cc at 2 cc per second. Scan begins 20seconds after the beginning of contrast injection.
  - Aquilion 64 – 40 cc at 2 cc per second. Scan begins 35 seconds after the beginning of contrast injection.

- Phase III – Patient is turned prone and the neck is positioned for direct coronal scanning. Scan is set up for **non-helical (except Aquilion 64)** acquisition of **3 mm x 3 mm direct coronal** images from the anterior nose through the posterior

mastoids. Gantry is angled parallel to the ramus of the mandible. Contrast is injected and scanning begins as follows:

- Lightspeed Plus (4) - 40 cc at 2 cc per second. Scan begins 15 seconds after the beginning of contrast injection.
- Lightspeed 16 – 40 cc at 2 cc per second. Scan begins 20 seconds after the beginning of contrast injection.
- Aquilion 64 – 40 cc at 2 cc per second. Scan begins 35 seconds after the beginning of contrast injection.

*** On the Aquilion 64, phase II and phase III are performed with helical technique and thus require the longer delay. All three phases still need to be performed and the phase III component of the exam should still be performed with direct coronal acquisition if the patient is able.**

Infrahyoid Neck Protocol

(Usually a Two Phase Exam)

- Phase I – Scan is performed exactly as for the routine neck as above.

- Phase II – Scan is set up for **non-helical (except Aquilion 64)** acquisition of **3 mm x 3 mm** images from the top of the hyoid bone to the sternal notch (**MD should specify if there is a need to extend images below the aortic arch)**. **It is imperative that the gantry be angled parallel to the hyoid bone.** Contrast is injected and scanning begins as follows:

  - Lightspeed Plus (4) - 40 cc at 2 cc per second. Scan begins 15 seconds after the beginning of contrast injection.
  - Lightspeed 16 – 40 cc at 2 cc per second. Scan begins 20 seconds after the beginning of contrast injection.
  - Aquilion 64 – 40 cc at 2 cc per second. Scan begins 35 seconds after the beginning of contrast injection.

Possible Additional Infrahyoid Scans

Pinched Nose Blow-Out

- Scan is set up for **helical** acquisition of **3mm x 3 mm** images. **MD should specify region to scan.** Gantry is angled parallel to the hard palate (same as for a routine neck).

- Contrast is injected, then have patient perform the pinched nose blow out maneuver during scanning. Injection and scanning begins as follows:

  - Lightspeed Plus (4) - 40 cc at 2 cc per second. Scan begins 30 seconds after the beginning of contrast injection.
  - Lightspeed 16 – 40 cc at 2 cc per second. Scan begins 30 seconds after the beginning of contrast injection.
  - Aquilion 64 – 40 cc at 2 cc per second. Scan begins 35 seconds after the beginning of contrast injection.

E Phonation Scan

- Scan is set up for **helical** acquisition of **3 mm x 3 mm** images from the top of the hyoid to the sternal notch. The gantry should be angled **parallel to the hyoid bone**.
- **No contrast** is used.
- Just before starting the scan, have the patient perform E phonation and continue this until the scan is done.

Re-Angling for Dental Artifact

- Scan is set up for **helical** acquisition of **5 mm x 5 mm** images through the region of artifact.
- **Gantry is angled parallel to the spinous processes.**
- Contrast is injected and scanning begins as follows:

  - Lightspeed Plus (4) - 40 cc at 2 cc per second. Scan begins 30 seconds after the beginning of contrast injection.
  - Lightspeed 16 – 40 cc at 2 cc per second. Scan begins 30 seconds after the beginning of contrast injection.

- Aquilion 64 – 40 cc at 2 cc per second. Scan begins 35 seconds after the beginning of contrast injection.

CT Airway Protocol

- This is usually done as a non-contrast study.
- Scan is set up for **helical** acquisition of axial **3 mm x 3 mm** images from the hyoid to below the carina.
- Sagittal and Coronal reconstructions in the bone algorithm are acquired through the airway