

## MR SIM: Esophagus

08/21/2017 EP

### Patient Preparation:

- Have patient change into gown
- Confirm GFR > 60 within 45 days

### Coils and Immobilization Devices:

- Spine array coil
- (2) Body flex (surface) coils
- (2) Coil bridges
- (2) Nylon straps
- G9 fiberglass flat table insert
- Headphones
- Patient-specific immobilization device (vac-fix or alpha cradle)

### Setup and Landmark:

1. Remove everything from MR table except spine array coil.
2. Secure G9 fiberglass in place over spine array.
3. Setup the patient head-first supine.
4. Place IV line into patient arm. Fill injector.
5. Secure patient's upper extremities in the vac-fix or alpha cradle.
6. Call radiation therapists (x53809) to verify patient setup.
7. Place **RF coil bridges** over thorax in scanner table slots and adjust to conform to patient surface anatomy.
8. Arrange **two** body flex coils circumferentially over RF coil bridges and secure with two Nylon straps.
9. Place **head phones** on the patient, if possible, to help hear breathing instructions.
10. Attach **ECG leads** and **Bluetooth** transceiver
11. Landmark over thorax.

### Protocol:

- USER → MR SIM → CHEST → ESOPHAGUS

### Scans:

- LOC – Free Breathing
- LOC – Breath Hold at **end expiration**
- AX T2 FRFSE (~6:00):
  - If tumor close to GE Junction use respiratory gating.
  - If tumor close to heart, use cardiac gating.
  - Certain tumors may need both cardiac and respiratory gating.
- AX T2 HASTE (2:30):
  - Respiratory triggered (50% phase). Keep full FOV.
- AX DWI b=150/400/800 (4:30):
  - Respiratory triggered (50% phase). Copy AX T2 HASTE prescription, adjust volume, and navigator.
- AX T1 DIXON Pre (0:17):
  - Breath hold at **end expiration**. Center prescription over esophageal tumor.
- AX Timing Bolus
- AX T1 DIXON Arterial (0:17):
  - Breath hold at **end expiration**. Copy AX T1 (FatSat) VIBE pre prescription. Inject, wait for delay, scan.
- AX T1 DIXON Venous (0:17):
  - Breath hold at **end expiration**. Copy AX T1 (FatSat) VIBE pre prescription. Begin scanning immediately.
- AX T1 DIXON Equil (0:17):
  - Breath hold at **end expiration**. Copy AX T1 (FatSat) VIBE pre prescription. Begin scanning immediately.

### Post-Scanning:

- **Distortion-correct all images** (in the Browser window, select a series and then go to Evaluation → 3D Distortion Correction. Note: After correction the corrected images will have a “\_DIS3D” suffix).
- Send the distortion-corrected images (i.e., those with a “\_Dis3d” suffix) to **MIM Clinical** and **PACS**.
- **If advanced imaging performed**, transfer raw k-space data with Yarra client (Ctrl+Esc → Transfer Raw Data).