

## MR SIM: Cervix (Brachytherapy)

8/11/2016 EP

### Coils and Immobilization Devices:

- Spine array coil
- (2) Large flex (surface) coil
- (2) Nylon straps
- G9 fiberglass flat table insert
- Physiologic monitor (Anesthesiology)

### Setup and Landmark:

1. Remove everything from MR table except spine array coil.
2. Secure G9 fiberglass table insert over spine array.
3. Using Siemens trolley, detach table from scanner and transport to CT or brachytherapy suite. Transfer patient from CT table or brachytherapy treatment table to MR table.
4. Setup the patient **foot-first supine**, making sure that entire pelvis is **above S8** on spine coil.
5. Arrange both body flex coils to wrap around the patient circumferentially over the abdomen and secure with two Nylon straps.
6. **Hang catheter down to drain bladder** (bladder should be empty for this exam). The exception is if the patient has small bowel near the uterus, in which case the bladder should be full.
7. Administer **1mg Glucagon** IV (1/2 at start of exam, 1/2 midway through exam).
8. Landmark over center of flex coils.

### Protocol:

- USER → MR SIM → PELVIS → BRACHY CERVIX FFS

### Scans:

- LOC
- 3PL T2 HASTE (~1:00):
  - Prescribe first slice group sagittally, parallel to applicator. Prescribe second group parallel to tandem (orthogonal to ring). Prescribe third group parallel to ring (orthogonal to tandem). Page Beth Erickson (557-9418), Meena Bedi (557-7302), Jason Rownd (557-9307) to confirm applicator position.
- **\*\*\* Inject ½ mg Glucagon IV here \*\*\***
- **Review flex coil placement** and **move flex coils superiorly** if signal over superior aspect of uterus is low.
- AX 3D T2 SPACE (~16:00):
  - Prescribe axial 3D volume extending from pubic symphysis to a margin superior to the uterus. Axial slices **MUST** be used only. **Do not use oblique slice prescriptions**. Confirm **R/L phase encode** direction. Do not adjust TE or TR. Confirm slice prescription with Radiation Oncologist or Medical Physicist before starting acquisition.
- **\*\*\* Inject ½ mg Glucagon IV here \*\*\***
- SAG T2 FRFSE (~3:00):
  - Prescribe sagittally, parallel to applicator, with coverage through uterus.
- AX T2 FRFSE (~3:00):
  - Prescribe parallel to ring, extending from cervical os through uterus.
- COR T2 FRFSE (~3:00):
  - Prescribe parallel to tandem, with coverage through uterus.
- **\*\*\* Additional Research Scans for First and Fourth Fractions \*\*\***

### Post-MR:

- **Distortion-correct all images** (in the Browser window, select the scan (e.g., AX 3D T2) 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**.
- **If advanced imaging performed**, transfer raw k-space data with Yarra client (Ctrl+Esc → Transfer Raw Data).