

## MR SIM: Sarcoma

09/21/2016 EP

### Patient Preparation:

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

### Equipment (Coils, Immobilization Devices, etc):

- Spine array coil
- (2) Large flex (surface) coils
- (2) Coil bridges
- (2) Nylon straps
- G9 fiberglass flat table overlay
- Patient-specific immobilization device(s)
- Fiducial markers

### Setup and Landmark:

1. Remove everything from MR table except spine array coil.
2. Secure G9 fiberglass in place over spine array.
3. Secure patient's alpha cradle/vacloc (if applicable).
4. Setup patient according to orientation on CT/MR image checklist. Confirm imaging region is above S8 on the spine array coil.
5. If patient consented for research, place IV line into patient arm and fill injector.
6. Call radiation therapists (x53809) to verify patient setup.
7. If **POST-OP Patient: Place fiducial markers on superior/inferior extents of scars.**
8. When possible, place **RF coil bridges** over imaging region in scanner table slots and adjust to conform to patient surface anatomy. Do not deform patient surface anatomy.
9. Arrange **both** body flex coils circumferentially over RF coil bridges and secure with two Nylon straps. Do not deform patient surface anatomy.
10. Landmark over center of flex coil.

### Protocol:

- USER → MR SIM → SARCOMA → U/L EXTREMITY

### Scans:

- LOC
- SAG STIR (5:00):
  - Cover lesion. **If Post-Op, confirm coverage extends 5 cm superior and 5 cm inferior of fiducials placed on scar.**
- AX STIR (~6:45):
  - Prescribe slices centered over the lesion. If upper/lower volumes required, use Ctrl+3,4 to align upper and lower groups. DO NOT change any parameters between upper and lower groups.
  - Choose phase encode direction to reduce flow/breathing artifacts (if applicable).
- AX T1 (~3:00):
  - Copy AX STIR prescription and phase encode direction. If upper/lower volumes required, use Ctrl+3,4 to align upper and lower groups. DO NOT change any parameters between upper and lower groups.
- AX DWI (~5:30):
  - Copy AX STIR prescription.
- \*\*\*\*\* RESEARCH SCANS (IF PATIENT SIGNED CONSENT) \*\*\*\*\*
- AX T1+F (~6:00):
  - Copy AX STIR prescription and phase encode direction. If upper/lower volumes required, use Ctrl+3,4 to align upper and lower groups. DO NOT change any parameters between upper and lower groups.

### 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).
- If upper and lower volumes acquired for axial STIR and axial T1+(f) images, merge the upper and lower volumes together in 3D viewer. Save the merged series as "AX STIR Combined" and "AX T1+(f) Combined".
- Send the distortion-corrected images (i.e., those with a "\_DIS3D" suffix) to **MIM Clinical** and **PACS**.
- Send the "AX STIR Combined" and "AX T1+(f) Combined" images to **MIM Clinical**.