

## MR SIM: Gamma Knife (Framed)

8/20/2017 EP

### Patient Preparation:

- Confirm GFR > 60 within 45 days

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

- (2) Large body MATRIX (surface) coils
- (2) Nylon (locking) straps
- G9 fiberglass flat table overlay
- G9 fiberglass head frame holder

### Setup and Landmark:

1. Remove everything from MR table except spine array coil.
2. Secure G9 fiberglass table overlay in place over spine array.
3. Position head frame holder in second notch of flat table overlay.
4. Setup patient head-first supine, securing head frame into head frame mount.
5. Wrap body MATRIX coils around patient's head and secure with two Nylon straps.
6. Position sandbags to conform coil tightly against head frame. Confirm that the coil is **symmetric**.
7. Landmark over patient's eyes.

### Notes:

- Do not oblique axial slices.
- Prescribe high order shim volume (green box) over brain.
- Confirm Whisper gradient mode set for all sequences.
- Inject **double dose** of contrast **if mets patient**.

### Protocol:

- USER → MR SIM → Gamma Knife → GK – <Disease Site>

### Scans:

- LOC
- B AX FLAIR (if mets) (~3:30):
- B AX 3D T1 (if trigeminal) (~6:00):
  - Do not reduce phase encode FOV (matrix must be square).
  - Confirm **A/P phase encode** direction.
  - Prescribe to capture at least one slice in air superior to skull.
- B AX 3D T1+C (if mets/pituitary) (6:00):
  - Do not reduce phase encode FOV (matrix must be square).
  - Confirm **A/P phase encode** direction.
  - Prescribe to capture at least one slice in air superior to skull.

### 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).
- **Confirm distances between fiducial markers** are as follows:
  1. 120 mm +/- 1 mm L/R
  2. 190 mm +/- 1 mm A/P
- Send the distortion-corrected images (i.e., those with a “\_DIS3D” suffix) to **MIM Clinical** and **PACS**.

