3T NEUROLOGICAL MRI PROTOCOLS
(Updated April 19, 2018)

**BRAIN ROUTINE** *(HA, trauma, CVA, dizziness, altered mental status, etc.)*
- T1 dark fluid Sag
- Diffusion Axial
- T2 FLAIR Axial
- CONTRAST FULL DOSE
- T2 FS Axial
- T2 FS Cor
- GRE Cor
- T1 FS SPACE Axial post *(1mm, with 4x0mm Cor & Sag MPR)*

**NOTE:**
- Create 4x0mm Cor & Sag MPR from the T1 FS SPACE Axial post.
- Send T1 FS SPACE Axial post source images, Cor & Sag MPR to PACS.

**BRAIN TUMOR**
- T1 dark fluid Sag
- Diffusion Axial
- T2 FLAIR Axial
- **T1 Axial**
- CONTRAST FULL DOSE
- T2 FS Axial
- T2 FS Cor
- GRE Cor
- T1 FS SPACE Axial post *(1mm, with 4x0mm Cor & Sag MPR)*

**NOTE:**
- Create 4x0mm Cor & Sag MPR from the T1 FS SPACE Axial post.
- Send T1 FS SPACE Axial post source images, Cor & Sag MPR to PACS.

**BRAIN ROUTINE WITHOUT CONTRAST**
- T1 dark fluid Sag
- Diffusion Axial
- T2 FLAIR Axial
- T2 FS Axial
- T2 FS Cor
- GRE Cor
BRAIN ROUTINE WITH BRACES – NON-FS, FSE/TSE
T1 dark fluid Sag
Diffusion Axial
T2 FLAIR Axial
CONTRAST
T2 Axial
T2 Cor
GRE Cor
T1 SPACE Axial post (1mm, with 4x0mm Cor & Sag MPR)

NOTE:
- Create 4x0mm Cor & Sag MPR from the T1 FS SPACE Axial post.
- Send T1 SPACE Axial post source images, Cor & Sag MPR to PACS.

SETON NETWORK ONLY * BRAIN ROUTINE/TUMOR (HA, trauma, CVA, dizziness, altered mental status, etc.)
T1 dark fluid Sag
Diffusion Axial
T2 FLAIR Axial
CONTRAST
T2 FS Axial
GRE Axial
T2 Cor
GRE Cor
T1 FS SPACE Axial post

NOTE: Create 2x2mm MPR Cor & Sag from the T1 FS SPACE Axial post.

SETON NETWORK ONLY * BRAIN ROUTINE WITHOUT CONTRAST
T1 dark fluid Sag
Diffusion Axial
T2 FLAIR Axial
T2 FS Axial
GRE Axial
T2 Cor
GRE Cor

BRAIN CRANIAL NERVE (trigeminal neuralgia, facial pain, twitch)
T1 dark fluid Sag
Diffusion Axial
T2 FLAIR Axial
T2 FS Axial
GRE Cor
T2 SPACE Axial (posterior fossa)
T2 FS hires Cor (behind the pons through face)
CONTRAST
T1 FS hires vibe Cor post
T1 FS hires vibe Axial post (posterior fossa)
T1 FS SPACE Axial post

NOTE: Create 4x0mm MPR Cor / Sag / Axial from the T1 FS SPACE Axial post. Only send MPR’s to PACS.
BRAIN CSF FLOW
T1 dark fluid Sag
Diffusion Axial
T2 FLAIR Axial
FLASH 6 in phase
T2 SPACE Sag
CONTRAST
T2 FS Axial
T2 FS Cor
GRE Cor
T1 FS SPACE Axial post

NOTE: Create 4x0mm MPR Cor / Sag / Axial from the T1 FS SPACE Axial post. Only send MPR’s to PACS.

BRAIN DBS PLANNING
FGATIR Axial (1mm, ~176 slices)
T2 Axial (2mm, ~54 slices)
CONTRAST
T1 mprage Axial post (1mm, ~176 slices)

BRAIN SWI Perform only on M18 3T, CP MR3 3T.
T1 dark fluid Sag
Diffusion axial
T2 FLAIR Axial
T2 3D SWI Axial (1.5mm, iPat 2)
CONTRAST
T2 FS Axial
T2 FS Cor
T2 GRE Cor
T1 FS 3D MPRAGE Axial post

NOTE: Create 4x0mm MPR Cor / Sag / Axial from the T1 FS SPACE Axial post. Only send MPR’s to PACS.

BRAIN FAST ACQUISITION
T2 HASTE Axial
T2 HASTE Sag

BRAIN IACS NON-CONTRASt (cerebellopontine angle mass, tinnitus, hearing loss, dizziness)
T1 dark fluid Sag
Diffusion Axial
T2 FLAIR Axial
GRE Cor
T2 FS Axial
T2 SPACE Axial (IAC only, with 1mm Cor MPR)
T1 vibe Axial

NOTE: Follow up / known schwannoma studies may be ordered without contrast (Dr. Kemper). Create 1mmCor MPR from 3D FSE T2 Axial hires for non-contrast studies.
BRAIN IACS (cerebellopontine angle mass, tinnitus, hearing loss, dizziness)
T1 dark fluid Sag
Diffusion Axial
T2 FLAIR Axial
GRE Cor
T2 FS Axial
T2 SPACE Axial
T1 vibe Axial pre
CONTRAST
T1 vibe FS Axial post
T1 vibe FS Cor post
T1 FS SPACE Axial post

NOTE:
- Create 4x0mm MPR Cor / Sag / Axial from the T1 FS SPACE Axial post. Only send MPR’s to PACS.

BRAIN MULTIPLE SCLEROSIS
T1 dark fluid Sag
T2 FLAIR Sag
Diffusion Axial
T2 FLAIR Axial
CONTRAST
T2 FS Axial
T2 FS Cor
GRE Cor
T1 FS SPACE Axial post

NOTE: Create 4x0mm MPR Cor / Sag / Axial from the T1 FS SPACE Axial post. Only send MPR’s to PACS.

BRAIN MULTIPLE SYSTEM ATROPHY (MSA) DR. IZOR Evaluation of Middle Cerebellar Peduncle width.
T1 dark fluid Sag
T1 3D mprage Sag (240 FOV, .9 slice thickness, 192 slices/slab, create Cor MPR at 1x1)
Diffusion Axial
T2 FLAIR Axial
CONTRAST
T2 FS Axial
T2 FS Cor
GRE Cor
T1 FS SPACE Axial post

NOTE: Create 4x0mm MPR Cor / Sag / Axial from the T1 FS SPACE Axial post. Only send MPR’s to PACS.
BRAIN NEUROQUANT
T1 dark fluid Sag
Diffusion Axial
T2 FLAIR Axial
T1 mprage Sag (Do not adjust parameters as set in scanner, no angle)
CONTRAST
T2 FS Axial
T2 FS Cor
GRE Cor
T1 FS SPACE Axial post

NOTE:
- NOTE: Create 4x0mm MPR Cor / Sag / Axial from the T1 FS SPACE Axial post. Only send MPR’s to PACS.
- Send T1 mprage Sag to ClearCanvas & notify both Amy Shaw & Elianna Rivera in Image Library.
- Reserve study in “Pending Documents” for 2 hours if done before 5pm. If done after hours, reserve for appropriate time allowing for at least 2 hours of processing time the following day.

ORBITS
T1 tirm dark fluid Sag
Diffusion Axial
STIR Cor hires (mid-pons to mid-globe)
T1 Hires Cor pre
CONTRAST
T1 hires FS Cor post
T2 FS hires Axial
T1 FS hires Axial post

NOTE:
- Always to be scanned as an individual exam, separate ACC/charge.
- Eye make-up must be removed prior to imaging.

BRAIN PEDI
T1 dark fluid Sag
Diffusion Axial
T2 FLAIR Axial
T1 3D mprage axial pre (include if 9y/o or less or pathology)
CONTRAST
T2 FS Axial
T2 FS Cor
GRE Cor
T1 FS SPACE Axial post

NOTE: Create 4x0mm MPR Cor / Sag / Axial from the T1 FS SPACE Axial post. Only send MPR’s to PACS.

PITUITARY – Always to be scanned as an individual exam, separate ACC/charge.
Diffusion Axial
T2 FS Axial (full brain, used to prescribe true Cor/Sag)
T1 hires Sag (150 FOV, 3x0, 11 slices min)
T2 hires Cor (150 FOV, 3x0, 11 slices min)
CONTRASAT
T1 hires Cor pre
T1 hires Cor post
T1 hires Sag post
BRAIN OR PITUITARY AUSTIN CA CTR THERAPY STAGING
(3X0, all skin to skin, whole brain, no angle, full 100% FOV)
T1 Axial
T2 3D Axial
CONTRAST
T1 Axial post
T1 3D FSPGR Axial post

BRAIN ROUTINE WITH PERFUSION
T1 dark fluid Sag
Diffusion Axial
T2 FLAIR Axial
CONTRAST BOLUS FULL DOSE AFTER 1MIN OF SCANNING: 3ml/sec, 15ml normal saline flush
EP2D Axial Perfusion (Include entire mass/swelling, only approx. 1/3 of brain, DO NOT add slices if not absolutely necessary, TR 1600, consult Rad for coverage concerns)
T2 FS Axial
T2 FS Cor
GRE Cor
T1 FS 3D mprage axial post

NOTE:
- Create 3x3mm MPR Cor & Sag from the T1 FS 3D mprage axial post.
- Perfusion Post Processing
  - Reserve case in Pending Documents
  - Send ep2d axial perfusion to MPT_Skyra & notify technologist of pending post processing.
  - To be performed by MPT_Skyra, How To
    - CBV, CBF, MTT, TTP, PBP

BRAIN SEIZURE 0-49y/o (50+y/o ONLY if ordered by neurologist specifically requesting SZ protocol)
** PEDI SEIZURE ** – mprage must include entire brain with air around skull for future MEG planning
Diffusion Axial
** T1 3D mprage Axial pre (MPR 1x0mm, Cor & Sag)
T2 FLAIR Axial
T2 FLAIR Obl Cor (180 FOV, 2.5x.5, 28 slices include entire temporal lobe)
CONTRAST
T2 Obl Cor
T2 FS Axial
GRE Cor
DIR Sag (ONLY for Austin Epilepsy group)
T1 FS SPACE Axial post

NOTE:
- Create 4x0mm MPR Cor / Sag / Axial from the T1 FS SPACE Axial post. Only send MPR’s to PACS.
- If patient is 50+y/o perform routine brain protocol.
- Austin Epilepsy – include DIR Sag with 1x0mm Cor & Ax MPRs.
  - Epileptologists
    - Sami Aboumatar, M.D.
    - Daniel Schere, M.D.
    - Jeanne Beattie, M.D.
    - Diego Tovar Quiroga, M.D.
  - Neurosurgeons
    - Richard Stovall, M.D.
- Optional sequence for Dr. Briggs, T2 SPACE FLAIR 3D Sag post.
BRAIN SEIZURE ICTAL SCAN (ST. DAVIDS)
Diffusion Axial
T1 3D FSPGR/MPRAGE Axial 1mm (MPR 1x0 Cor & Sag – mandatory for MIM software)
T2 FLAIR Axial
FLAIR Obl Cor hires (180 FOV, 2.5x.5, 28 slice include entire temporal lobe)
CONTRAST
T2 Obl Cor hires (include entire temporal lobe, 26+ slices)
T2 FS Axial
GRE Cor
T1 FS SPACE Axial post

NOTE:
- Create 1x0mm Cor & Sag MPR from T1 3D PSPGR/MPRAGE.
- Create 4x0mm MPR Cor / Sag / Axial from the T1 FS SPACE Axial post. Only send MPR’s to PACS.

NOTE: The following protocols: RTP, Stealth, Stryker, Cyberknife, And Stereotatic Therapy Planning Unless otherwise stated. Do not angle images. Scan from inferior to superior. Entire brain skin to skin, include hard palate to skull vertex. Do not cut off tip of nose, top of head, or ear lobes. Smallest FOV to include patient’s external contours. 100% FOV/no rectangular FOV. Slice thickness of 1x0mm. Matrix of 256x256. Contrast full dose.

BRAIN RTP WITH CONTRAST (TO INCLUDE TOPA – TX ONCOLOGY REFERRING’s DR. WU / DR. TIERNEY / DR. SHEINBEIN)
T2 3D Space dark fluid post (230 FOV, 1x0mm, 230x256)
T1 3D Flash axial post (230 FOV, 1x0mm, 230x256)

NOTE:
- Create 1mm Cor & Sag MPRs from both sequences & send all to PACS.
- Both to be performed with interpolation on.
- Do not perform on GE, SW MR1 Symphony, SM Symphony, WLK Symphony, WMC Symphony.

BRAIN RTP CRANIAL NERVE WITH CONTRAST (TO INCLUDE TOPA – TX ONCOLOGY REFERRING’S DR. WU / DR. TIERNEY / DR. SHEINBEIN)
T2 3D Space bright fluid (230 FOV, 1x0mm, 230x256)
T1 3D Flash Axial post (230 FOV, 1x0mm, 230x256)

NOTE:
- Create 1mm Cor & Sag MPRs from both sequences & send all to PACS.
- Both to be performed with interpolation on.
- Do not perform on GE, SW MR1 Symphony, SM Symphony, WLK Symphony, WMC Symphony.

BRAIN STEALTH WITH CONTRAST
T2 3D SPACE Axial post
T1 3D mprage Axial post

BRAIN FOR STRYKER / CYBERKNIFE / STEREOTACTIC THERAPY PLANNING, DR. DZUK & DR. THATIKONDA
T2 SPACE 3D Axial
T1 3D mprage Axial pre
T1 3D mprage Axial post
BRAIN TEMPORAL ARTERITIS Place marker at site of pain for intracranial only.
TOF 3D multi slab intracranial (with 1ML Gadolinium)
CONTRAST FULL DOSE / REMOVE MARKER
T1 se FS Axial post (include 1/3-3/4 of brain from zygomatic arch up, must be through ears)

TMJ Acquire sequences in this exact order, document # of cm open mouth.
Left T1 Cor
Left PD Sag
Left T2 FS Sag
Right T1 Cor
Right PD Sag
Right T2 FS Sag
Right PD Sag open
Left PD Sag open

Contrast: RA, infection, abscess, etc. Add following sequences post contrast.
Left T1 FS Cor closed post
Left T1 FS Sag closed post
Right T1 FS Cor closed post
Right T1 FS Sag closed post

NOTE: Open series performed with patient in maximum open mouth, document mm in Tech Notes.
**TMJ WITH CINE** Acquire sequences in this exact order. Do not perform on GE.

- Left T1 Cor
- Left PD Sag
- Left T2 FS Sag
- Right T1 Cor
- Right PD Sag
- Right T2 FS Sag
- Right PD Sag open
- Left PD Sag open

*The following sequences are to be centered mid-line joint space, can remove anterior head coil if needed due to patient size. Do not send the following sequences to PACS, only the resulting cine series.*

- PD tse sag bilat closed
- PD tse sag bilat bite (biting down)
- PD tse sag bilat 4mm
- PD tse sag bilat 8mm
- PD tse sag bilat 12mm
- PD tse sag bilat 16mm
- PD tse sag bilat 20mm
- PD tse sag bilat 24mm

**NOTE:**
- To create the cine, save the center slice from each of the 8 sequences into a separate sequence, named “RT PD Sag Cine” and/or “LT PD Sag Cine” in separate series. Once this is complete you will need to label each slice with the appropriate opening, “CLOSED” “BITE” “4MM”, etc.
- If patient is unable to complete cine up to the 24mm, document in Tech Notes as to why.
- Open series performed with patient in maximum open mouth, document mm in Tech Notes.

Contrast: RA, infection, abscess, etc. Add following sequences post contrast.
- Left T1 FS Cor closed post
- Left T1 FS Sag closed post
- Right T1 FS Cor closed post
- Right T1 FS Sag closed post

**TMJ PEDI JRA** Acquire sequences in this exact order, document # of cm open mouth.

- Left T1 Cor
- Left PD Sag
- Left T2 FS Sag
- Right T1 Cor
- Right PD Sag
- Right T2 FS Sag
- Right PD Sag open
- Left PD Sag open
- Left T1 FS Cor closed post
- Left T1 FS Sag closed post
- Right T1 FS Cor closed post
- Right T1 FS Sag closed post
- T1 tse FS Cor bilateral post

**NOTE:** Open series performed with patient in maximum open mouth, document mm in Tech Notes.
INTRACRANIAL MRA WITH 1ML GADOLINIUM
3D TOF Axial (include full brain)

NOTE:
- All Intracranial MRAs should be done with 1ml of Gadolinium flushed with 10ml of saline.
- Send raw data & MIPs to PACS.
  - Uncut Lateral & Tumble MIPs
  - Anterior Circulation Lateral & Tumble MIPs
  - Anterior Circulation Obl 1 & Obl 2 MIPs
  - Unilateral LT & RT Anterior Circulation Lateral MIPs
  - Posterior Circulation Lateral & Tumble MIPs
- Consult with a Radiologist with metallic dental work causing significant artifact. The Radiologist may prefer a CTA. If a CTA is preferred then the referring physician’s office should be notified for a change of orders prior to the patient being scanned.

INTRACRANIAL MRV
Sag Localizer
GRE Cor
2D TOF Cor (full brain)
3D Cor Volume pre (full brain)
BOLUS CONTRAST: 10ML Gadavist, 20ML Multihance, 2 ml/sec
  - 15ml normal saline flush. Axial slice centered at skull base, start post 5 seconds after observing contrast.
  - Axial centered at skull base, begin post 5 seconds after observing contrast)
3D Cor Volume post

NOTE: Subtract 3D volume pre/post & use subtraction for MIP lateral & tumble.

INTRACRANIAL MRV WITHOUT CONTRAST
GRE Cor
2D TOF Cor (full brain)
2D TOF Obl Sag (full brain)

NOTE: Add T1 Sag full brain, if patient does not have a concurrent brain exam.

CAROTID MRA WITH CONTRAST
Sag Localizer
2D TOF Axial (7 mm slice thickness, 55 slices)
T1 FS Axial
3D Cor Volume pre
BOLUS FULL DOSE CONTRAST: 2ml/sec, 15ml normal saline flush
3D Cor Volume post

NOTE:
- Create R/L carotid & bilateral vertebral lateral MIP’s from pre/post subtraction.
- Axial 2x2mm MPR from 3D Cor Volume post.

CAROTID MRA NON-CONTRAST
Sag Localizer
2D TOF Axial (3x1, -33% distance factor)
3D TOF Axial (centered at bifurcation)
T1 tse FS dixon Axial
**BRACHIAL PLEXUS AFFECTED SIDE**
- T1 Axial (3X1)
- STIR Axial
- T2 FS Dixon Obl Cor (3x1)
- T1 Sag (5x1)
- STIR Cor (3x1, 400 FOV, bilateral)

NOTE: Contrast for diagnosis or history of tumor infection, radiation.

Add following sequences post contrast.
- T1 FS dixon Axial post (3x1)
- T1 FS dixon Obl Cor post (3x1)

**CERVICAL SPINE**
- T1 Sag (180 FOV, 3x.3, 15 slices)
- T2 Sag
- STIR Sag
- T2* GRE Axial (3x.3, inferior tip of clivus to mid T1)
- T2 FS dixon Axial

NOTE:
- Limit FOV, not including more than T1-T2 in sagittal planes.
- Document presence or absence of radiculopathy with effected side.

**CERVICAL SPINE WITH CONTRAST (myelopathy, MS, CA, etc.)**
- T1 Sag (180 FOV)
- T2 Sag
- STIR Sag
- T2* GRE Axial (3x.3, inferior tip of clivus to mid T1)
- T2 FS dixon Axial
- CONTRAST
- T1 FS Sag post
- T1 Sag post (if hardware present)
- T1 vibe Axial post

NOTE:
- Limit FOV, not including more than T1-T2 in sagittal planes.
- If hardware limits the FS on post imaging, include additional non-FS series.
- Document presence or absence of radiculopathy with effected side.

**SIALOGRAM** Include orbits to mandible to ear lobes.
- T1 Sag (240 FOV, 5x1)
- T1 Axial (200 FOV, 3x.5)
- T2 FS Dixon Axial (200 FOV, 3x.5)
- T2 Space Axial (160 FOV, 1.2 mm, Cor MPR, to focus on salivary glands)
- STIR Cor (180 FOV, 3x.5)
- CONTRAST
- T1 FS Dixon Axial post (200 FOV, 2x.5)
- T1 FS Dixon Cor post (180 FOV, 2x.5)

NOTE: Reserve read for Dr. Hassibi or Dr. Farhataziz.
**SKULL BASE / FACE**
T1 Sag (200 FOV, 3x.5, ~42 slices)
T1 Axial (220 FOV, 3x.5, ~35 slices)
T2 FS Dixon Axial
STIR Cor (180 FOV, 3x1, ~50 slices)
CONTRAST
T1 FS Dixon Axial post
T1 FS Dixon Cor post

**NOTE:**
- Confirm protocol with radiologist before performing.
- Primarily used for facial lesions, include entire P>A / L>R diameter of skull / face, orbital roof through C1.

**SOFT TISSUE NECK**
T1 Sag (5x1)
T1 Axial (4x1)
T2 FS Dixon Axial
STIR Cor (5x1)
CONTRAST
T1 FS Dixon Axial post immediate
T1 FS Dixon Cor post

**SOFT TISSUE NECK WITHOUT CONTRAST**
T1 Sag (5x1)
T1 Axial (4x1)
T2 FS Dixon Axial
STIR Cor (5x1)
T1 TSE Cor

**SOFT TISSUE NECK ACC THERAPY STAGING / RTP** Include entire anatomy, skin to skin.
T2 FS Dixon Axial (3x0, 65 slices)
T2 3D CISS Axial
CONTRAST
T1 Fl2d Axial post immediate
T1 3D MPRAGE Axial post

**SOFT TISSUE NECK MANDIBLE DR. PETER SCHOLL**
T1 Sag (5x1)
T1 Axial (4x1)
T2 FS Dixon Axial
STIR Cor (5x1)
T1 HiRES Sag (2x0, 140 FOV, RT or LT affected side only, parallel to the long axis of the mandible)
T1 HiRES Cor (3x0, 160 FOV, RT or LT affected side only, perpendicular to the long axis of the mandible)
CONTRAST
T1 FS Axial post immediate (4x1)
T1 FS Dixon Cor post (5x1)
THORACIC SPINE
T1 Sag Total Spine Localizer (3T auto-composing)
T1 Sag (3x1, 14 slices)
T2 Sag
STIR Sag
T2 Axial upper (4x1, overlap at least 1 full vertebrae with lower axial, mid L1 through mid C7)
T2 Axial lower

Note: Document presence or absence of radiculopathy with effected side.

THORACIC SPINE WITH CONTRAST (myelopathy, MS, CA, etc.)
T1 Sag Total Spine Localizer (3T auto-composing)
T1 Sag (3x1, 14 slices)
T2 Sag
STIR Sag
T2 Axial upper (4x1, overlap at least 1 full vertebrae with lower axial, mid L1 through mid C7)
T2 Axial lower
CONTRAST
T1 vibe axial upper post
T1 vibe axial lower post
T1 FS Sag post
T1 Sag post (if hardware present)

NOTE:
- Contrast with history of surgery within ten years.
- If hardware limits the FS on post imaging, include additional non-FS series.
- Document presence or absence of radiculopathy with effected side.

LUMBAR SPINE, ADULT 18+y/o
T1 Sag Total Spine Localizer (3T auto-composing)
T1 Sag (260 FOV, 3x0, 19 slices)
T2 Sag
STIR Sag
PD Axial (180 FOV, 4x1, inferior to L5-S1 to mid-T12)
T2 Axial
T2 Axial (200 FOV, parallel L5-S1 disc space)

Note: Document presence or absence of radiculopathy with effected side.
LUMBAR SPINE WITH CONTRAST, ADULT 18+y/o (myelopathy, MS, CA, etc.)
T1 Sag Total Spine Localizer (3T auto-composing)
T1 Sag (260 FOV, 3x0, 19 slices)
T2 Sag
STIR Sag
T2 Axial (180 FOV, 4x1, inferior to L5-S1 to mid T12)
T2 Axial (parallel L5-S1 disc space)
T1 Axial pre (200 FOV, 4x1, inferior to L5-S1 to mid T12)
CONTRAST
T1 Axial post
T1 FS Sag post
T1 Sag post (if hardware present)

NOTE:
- Contrast with history of surgery within ten years.
- If hardware limits the FS on post imaging, include additional non-FS series.
- Document presence or absence of radiculopathy with effected side.

SPINE SCOLIOSIS Only if specifically ordered for scoliosis
Routine Protocol
Adults: T1 Cor
Pedi: T2 Cor

SPINE STEREOTACTIC THERAPHY PLANNING DR. DZIUK & DR. THATIKONDA
T1 Sag Total Spine Localizer (3T auto-composing, not needed for cervical spine studies.)
T2 3D Axial (180 FOV, 1-2 mm slice thickness depending on requested coverage. Do not angle.)
T1 3D Axial pre
T1 3D Axial post

SPINE STRYKER
T1 Sag Total Spine Localizer (3T auto-composing, not needed for cervical spine studies.)
T2 Axial
T1 Axial pre
T1 Axial post

NOTE: Do not angle images. Scan from inferior to superior. Include 1 vertebrae above and below area of interest. 3x0, 100% FOV, no rectangular FOV, matrix of 256x256. Position feet first, supine.

NEUROGRAPHY – SACRAL PLEXUS
IR 3D SPC Cor (L2 down)
T1 Cor
PD Spair Cor
T1 Axial (mid-L2 down)
T2 Spair Axial (mid-L3 down)

CONTRAST, if needed
T1 FS Cor post
T1 FS Ax post

NOTE:
- Create 1mm orthogonal Axial & Sag MPR’s from IR 3D SPC Cor.
- All series are orthogonal, no angles.