

BRYAN RADIOLOGY ASSOCIATES

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Head & Neck MR Protocol

Latest revision: 2020-11-29

MR11: CRANIAL NERVE generic (cranial nerves 4 - 12, except 7 & 8)

DWI & ADC map

T1 SAG whole brain

FSE (FSE) T2 AX whole brain [FAQ 11](#)

Thin slice bright fluid sequence CN-AX*

GE: FIESTA AX

(If your GE machine does not have FIESTA, then do 3D FSE (TSE) T2 AX. Suggestion: FOV 20, TR 3000, TE 102, slice 2, skip 0,

matrix 256 x 256. Feel free to experiment with or change the parameters to get good images. As a default, use the manufacturer's

suggested settings if they exist)

Siemens: CISS 3D AX

Philips: try Balanced FFE AX

Toshiba: try True SSFP AX

T1 AX CN-AX* (Suggestion: FOV 18, TR 600, TE MIN, slice 3, skip 0.5, matrix 256 x 256)

GAD FATSAT T1 COR CN-COR**

GE: try T1 FAME

Siemens: T1 VIBE

Philips: try T1 THRIVE

Toshiba, and GE or Philips without FAME/THRIVE: (Suggestion: FOV 18, TR 600, TE MIN, slice 1mm, skip 0.5, matrix 256 x 256)

GAD FATSAT T1 AX CN-AX*

GE: try T1 FAME

Siemens: T1 VIBE

Philips: try T1 THRIVE

Toshiba, and GE or Philips without FAME/THRIVE: (Suggestion: FOV 18, TR 500, TE MIN, slice 1mm, skip 0.5, matrix 256 x 192)

GAD T1 AX WHOLE BRAIN

FLAIR AX WHOLE BRAIN

* note: CN-AX = From cerebral peduncles (of midbrain) to foramen magnum

** note: CN-COR = From anterior edge of sphenoid sinus to just posterior to medulla

MR12: IAC's (cranial nerve 8 [VIII])

Same as MR11, but the thin slice sequences cover just the internal auditory canal and middle ear levels.

MR13: FACIAL NERVE (cranial nerve 7 [VII])

Same as MR12, except:

GAD FATSAT T1 AX should extend down to angle of mandible

GAD FATSAT T1 COR: be sure FOV is wide enough to show angle of mandible (i.e. show entire parotid gland)

MR14: ORBITS

DWI & ADC map

T1 SAG whole brain

T1 COR orbits*

FSE (TSE) T2 FATSAT orbits*\$

FLAIR AX whole brain**

GAD T1 FATSAT COR orbits*

GE: try T1 FAME

Siemens: T1 VIBE

Philips: try T1 THRIVE

Toshiba, and GE or Philips without FAME/THRIVE: (Suggestion: slice 4, skip 0)

GAD T1 FATSAT AX orbits*

GE: try T1 FAME

Siemens: T1 VIBE

Philips: try T1 THRIVE

Toshiba, and GE or Philips without FAME/THRIVE: (Suggestion: slice 3, skip 0)

Use SAG scouts to angle the orbital AX along the plane of the optic nerves

* coverage: antero-posterior = lens to anterior edge of pons

** If see obvious large brain lesion of FLAIR, then add GAD T1 AX whole brain

\$ If metallic dentalwork degrades images, then add STIR AX

MR15: PUSATILE TINNITUS

DWI & ADC map

FLAIR AX

T1 FATSAT COR (slice 4, skip 0. Cover from anterior edge of pons to back of occipital bone)

GAD T1 FATSAT AX (slice 3, skip 0. Cover from foramen magnum to midbrain just above cerebral peduncles)

GAD T1 FATSAT COR (slice 4, skip 0. Same coverage as the pre-gad COR sequence)

MR16: NECK

T1 SAG

T1 AX (slice 5)

FSE (TSE) T2 FATSAT AX (slice 5)

GAD T1 FATSAT AX (slice 5)

GAD T1 FATSAT COR (slice 5)

* AX in 2 stacks, from skull base to T1 of T-spine

MR17: LARYNX

Do MR16 Neck protocol, then add:

FSE (TSE) T2 FATSAT AX (slice 3) through larynx (top of epiglottis to bottom of cricoid cartilage)

GAD T1 FATSAT COR (slice 3) through larynx

MR18: PAROTID

Do MR16 Neck protocol, but with the following modifications:

for AX: cover from skull base to top of larynx

all AX and COR: slice 3

MR17: FACE/NASOPHARYNX/SINUS

T1 SAG
T1 AX slice 4
FSE (TSE) T2 FATSAT AX slice 4
GAD T1 FATSAT COR
GAD T1 FATSAT AX slice 4

for AX coverage: from mandible to top of frontal sinus
for COR coverage: from posterior edge of medulla to anterior border of sinuses

MR18: SKULL BASE

Do MR17 FACE/NASOPHARYNX/SINUS protocol
Areas of coverage for AX and COR: same as MR17
(Exception: for glomus tumor/paraganglioma/carotid body tumor: cover inferiorly down to carotid bifurcation)
Then add:
FLAIR AX whole brain
GAD T1 whole brain

MR19: PARATHYROID

T1 AX
T1 COR
FSE (FSE) T2 FATSAT AX
GAD T1 FATSAT AX
GAD T1 FATSAT COR
GAD T1 FATSAT SAG
Coverage: Hyoid bone to upper chest
Suggestion: slice 3, skip 0 or 0.1