

BRIGHAM HEALTH



BRIGHAM AND
WOMEN'S HOSPITAL

Head & Neck MRI Protocols

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Brigham and Women's Hospital*



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Head & Neck Protocols

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Face – Orbits

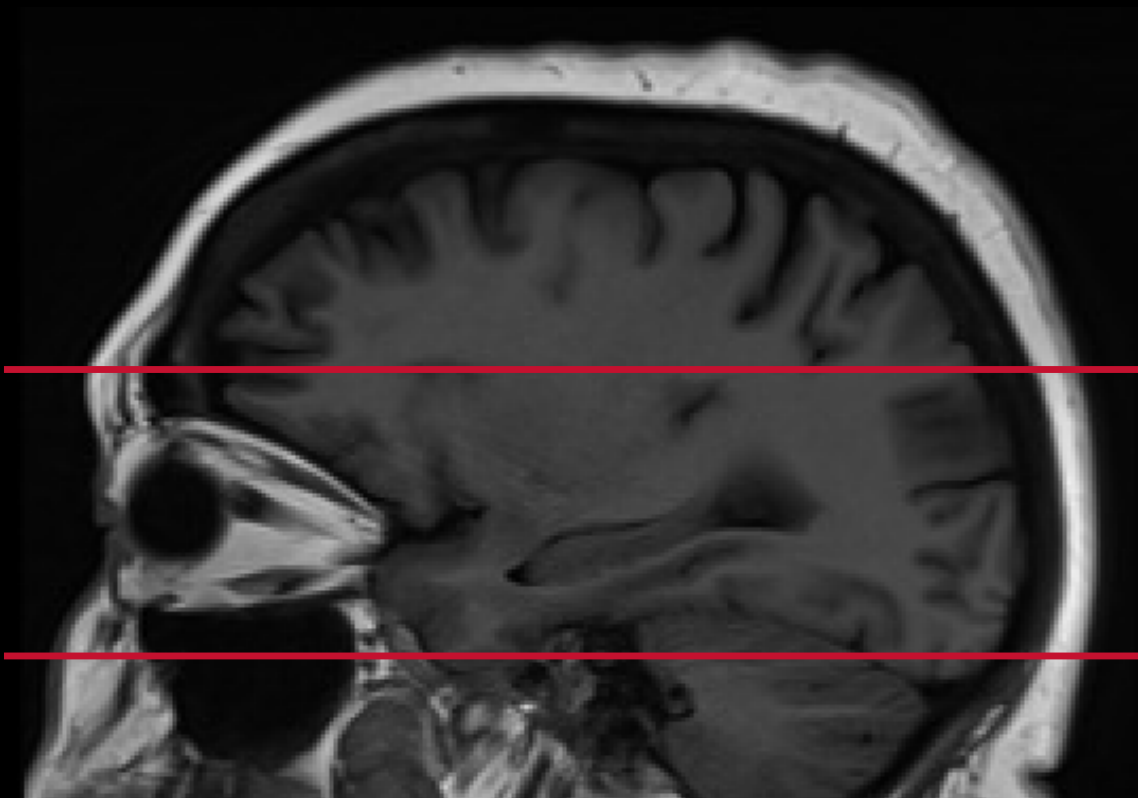
- Cor T1 3mm high res (eyelid through orbit)
- Cor STIR 3mm high res (eyelid through sella)
- Ax T1 3mm high res
- Axial T2 3mm high res

Contrast

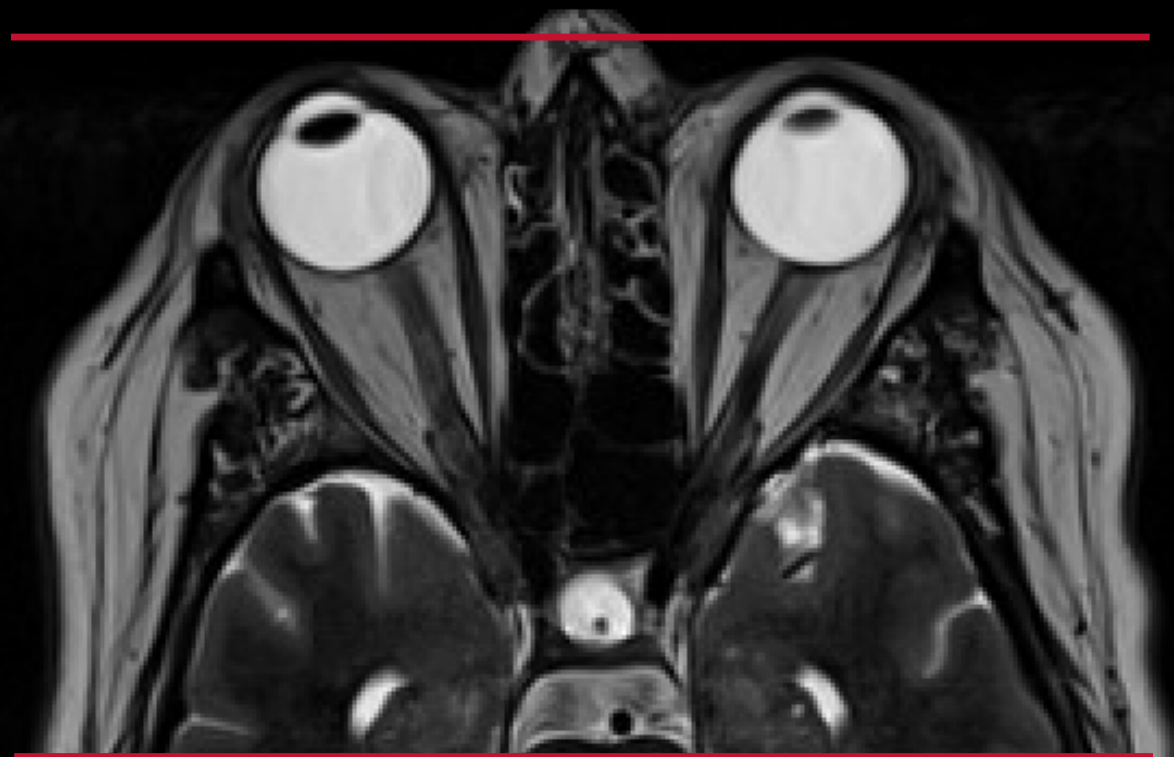
- Cor T1 3mm high res (eyelid through orbit)
- Ax T1 3mm high res
- Cor T1 FS 4mm (eyelid through brain stem)

Face – Orbits

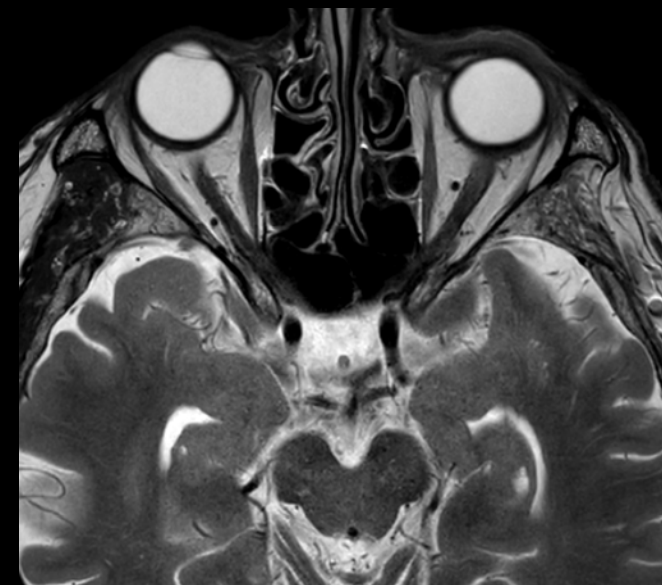
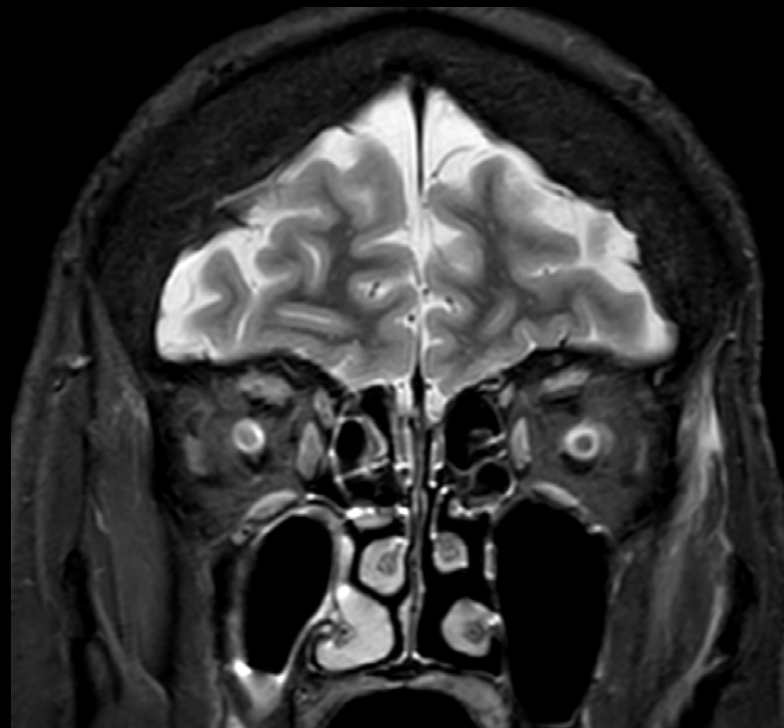
Axial Slice Selection



Coronal Slice Selection / Axial FOV



Face – Orbits



Face – Optic Nerve

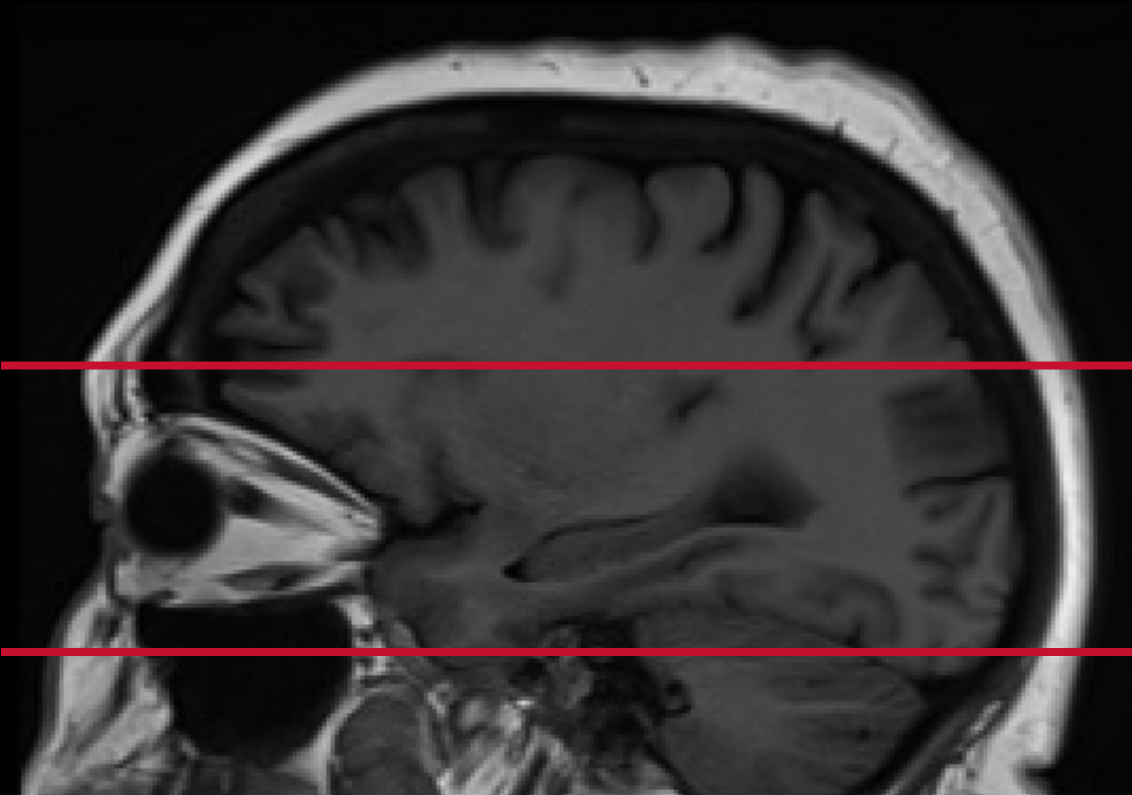
- Ax T2 2mm (bilateral orbits)
- Cor Obl T1 2mm (affected orbit)
- Cor Obl STIR (affected orbit)

Contrast

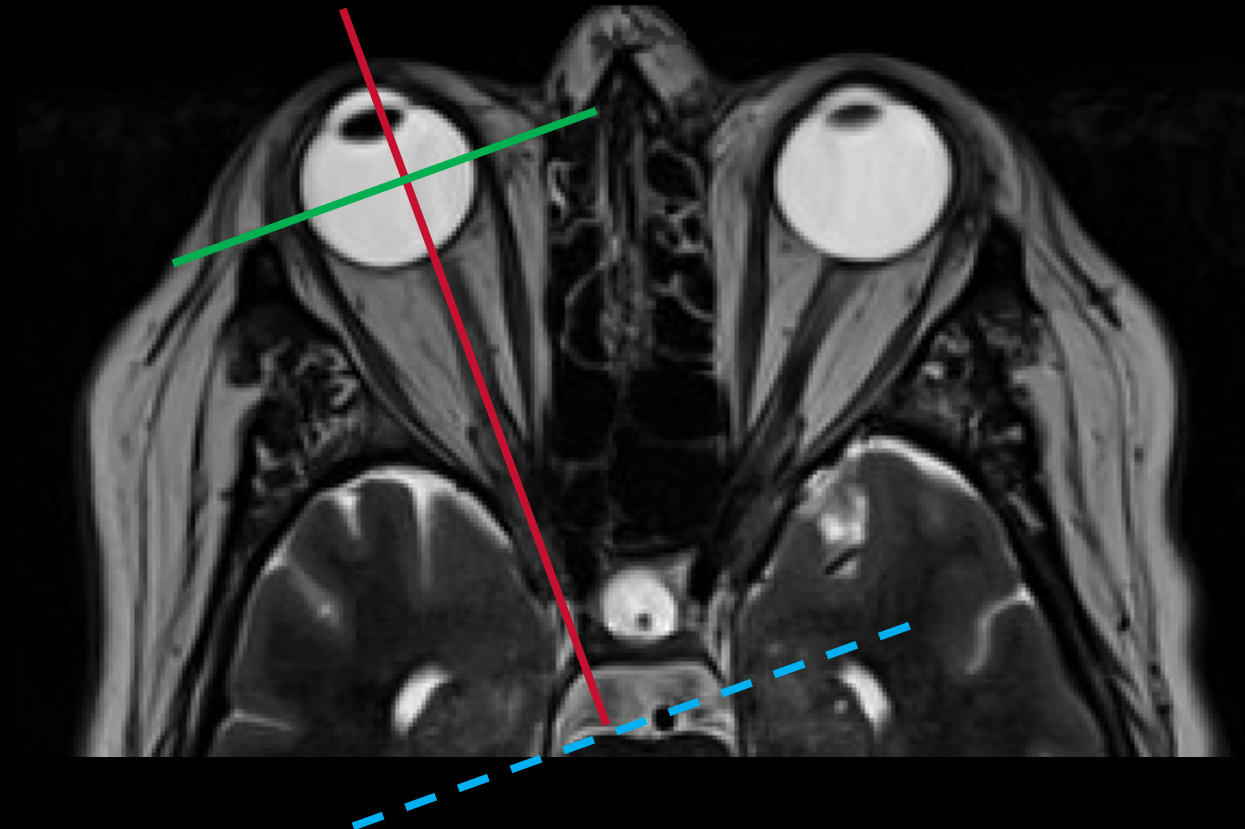
- Ax DWI (bilateral orbits)
- Cor Obl T1FS (affected orbit)
- Sag Obl T1FS (affected orbit)
- Ax 3D VIBE (whole head)

Face – Optic Nerve

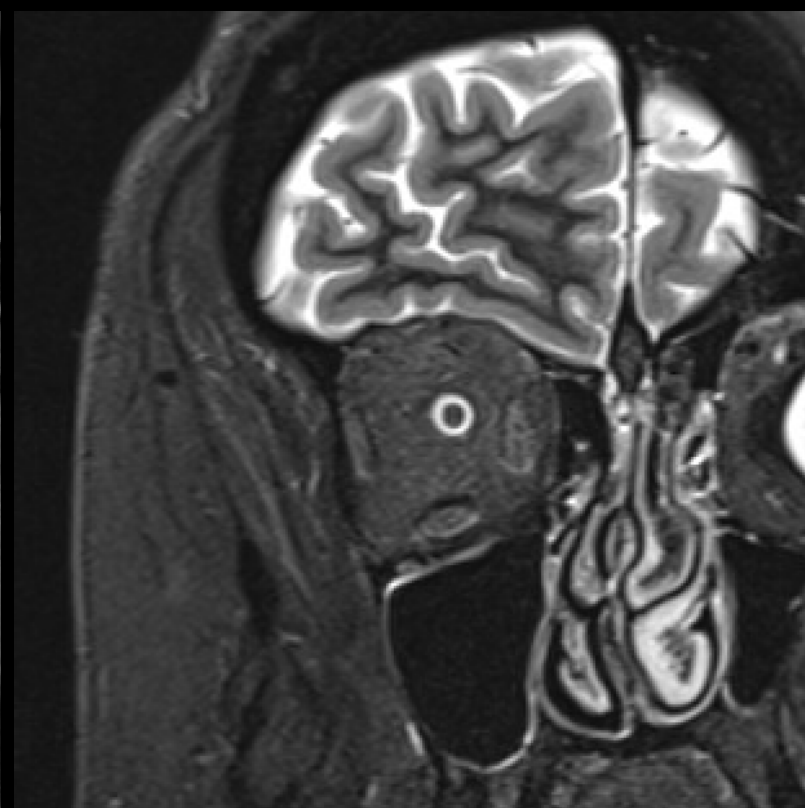
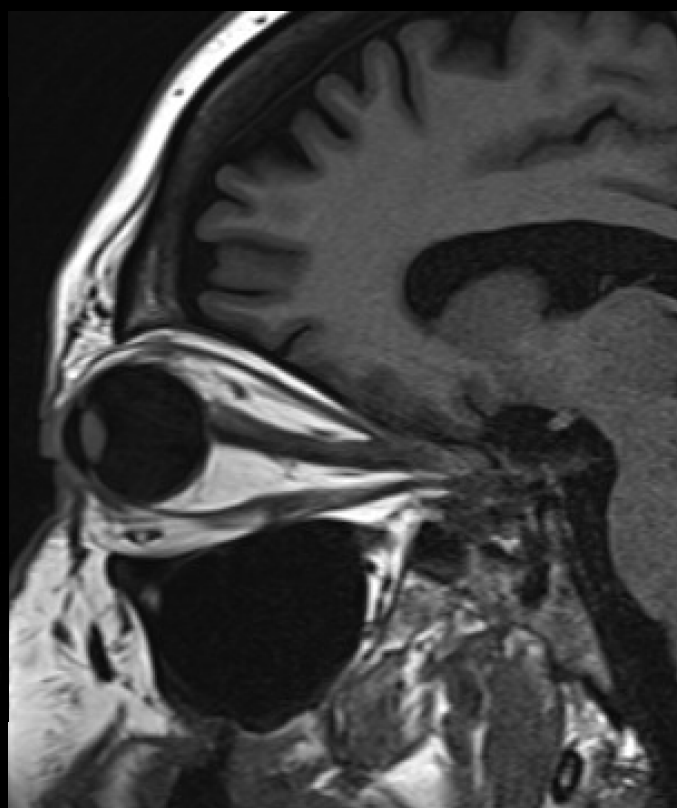
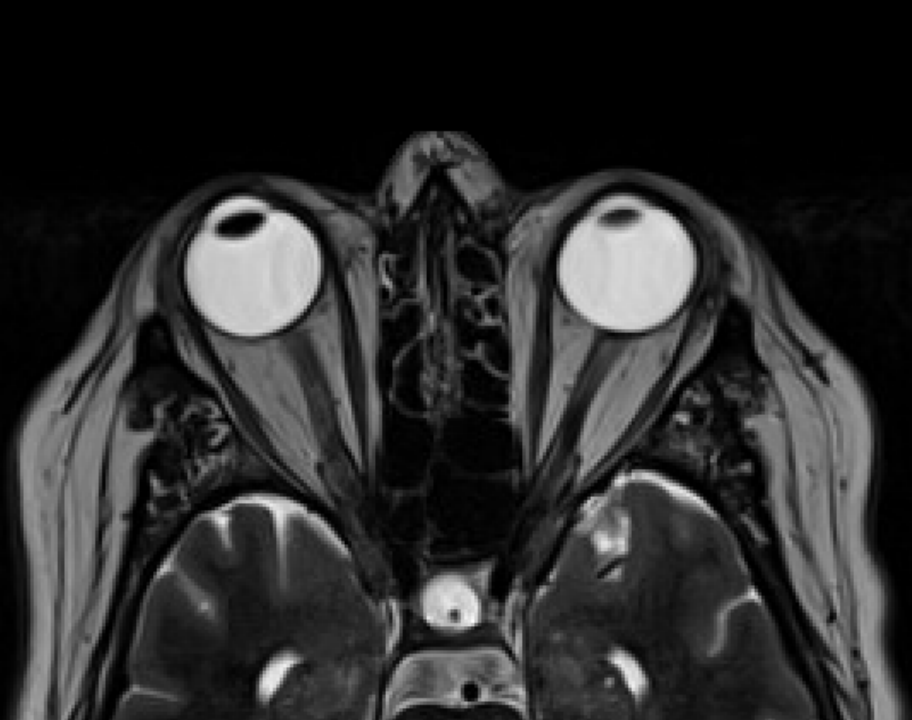
Axial Slice Selection



Sagittal Oblique Plane
Coronal Oblique Plane
FOV/Slice Selection Through Optic Chiasm



Face – Optic Nerve



Face – Sinus

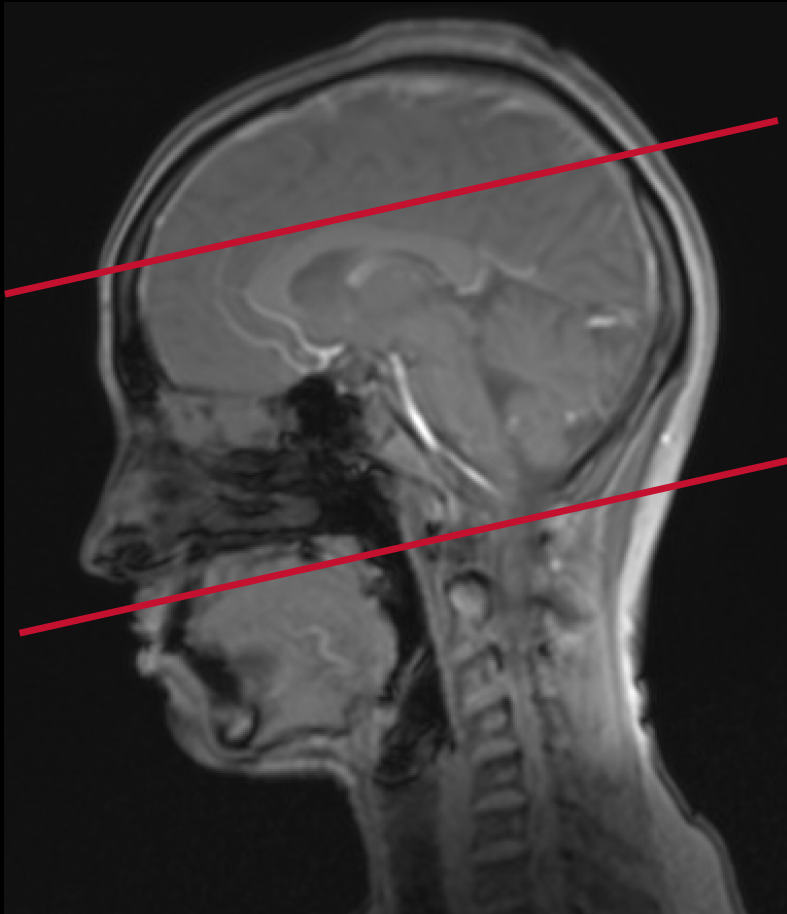
- Cor T1 3mm high res (nose to brain stem)
- Cor T2 3mm high res (nose to brain stem)
- Ax T1 3mm high res (frontal sinus to hard palate)

Contrast

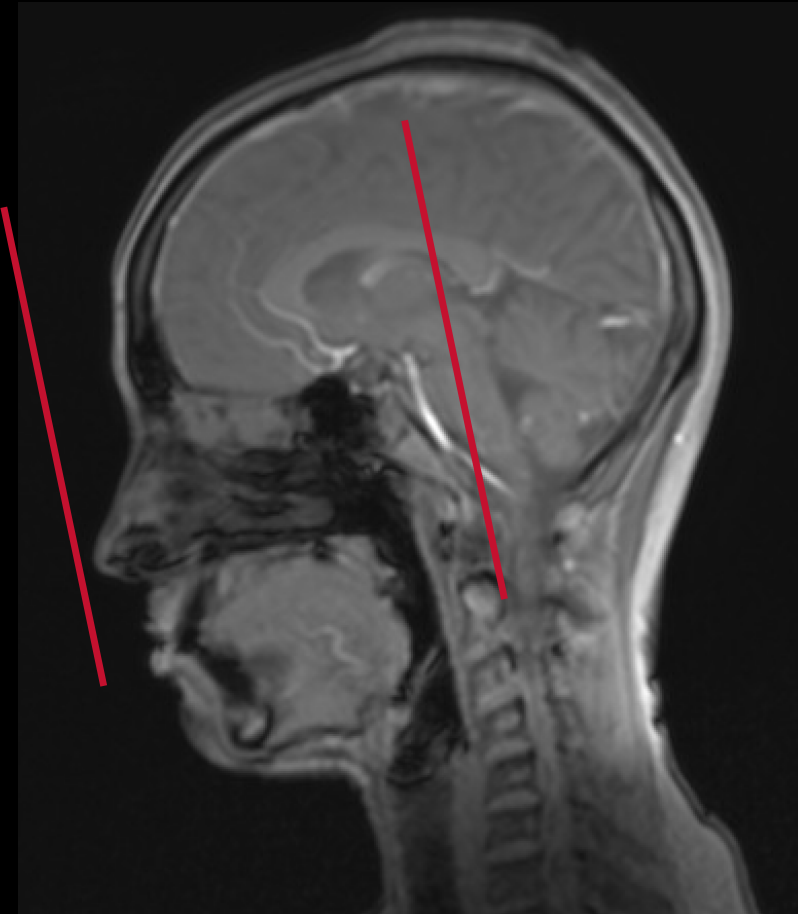
- Cor T1 3mm high res (nose to brain stem)
- Ax T1 3mm high res (frontal sinus to hard palate)
- Ax T1 FS 3mm (frontal sinus to hard palate)

Face – Sinus

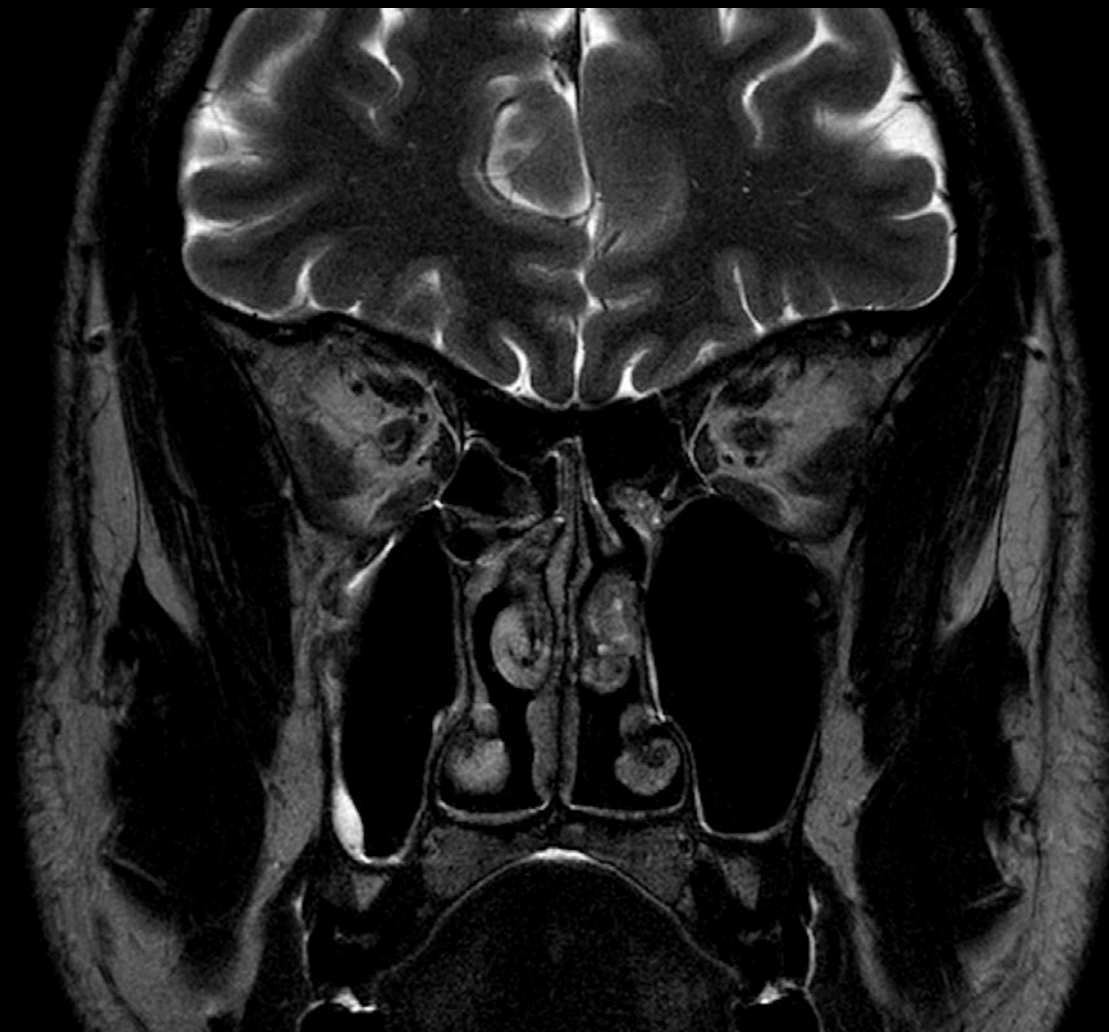
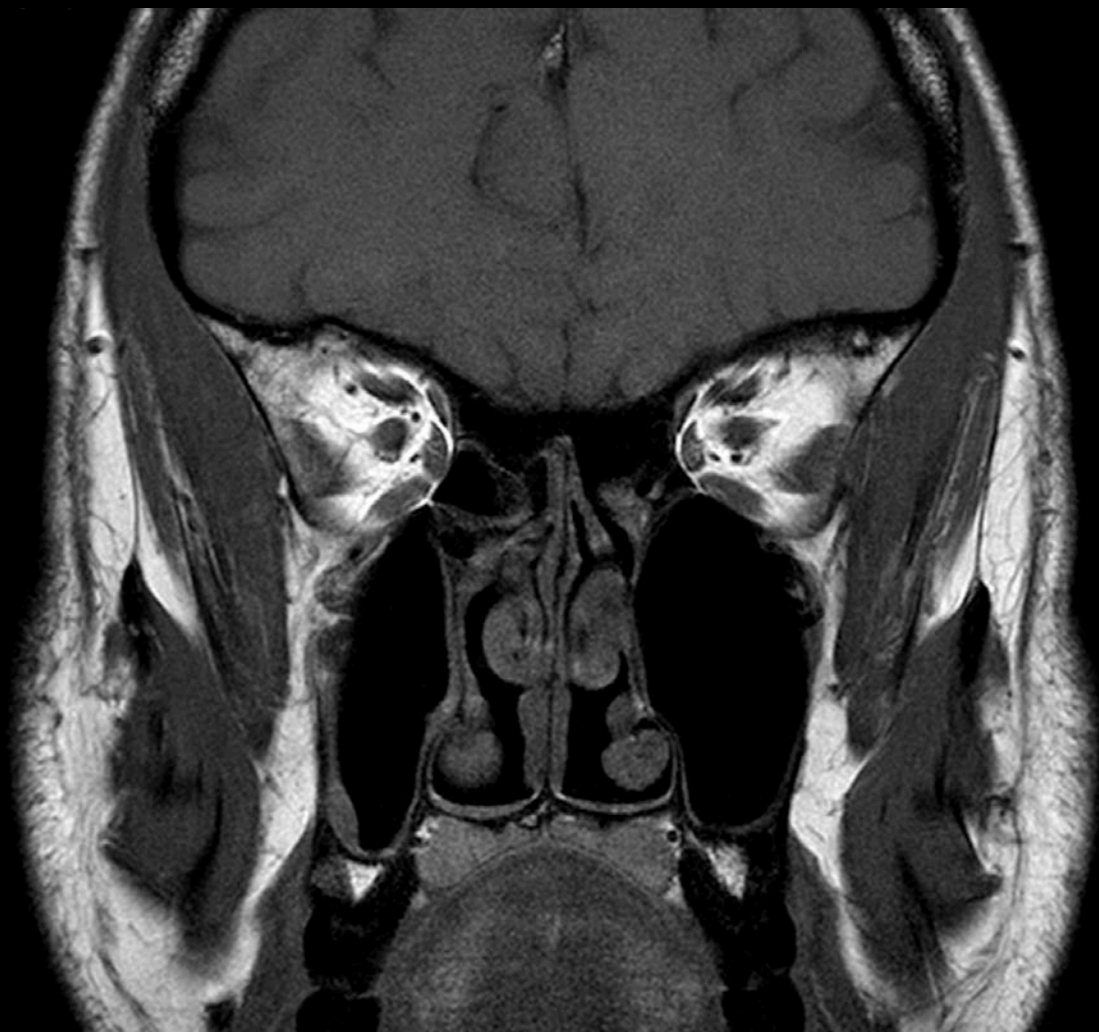
Axial Slice Selection (angle to hard palate)



Coronal Slice Selection / Axial FOV



Face – Sinus



Face – TMJ

Closed Mouth

- Cor Oblique T1 2mm high res (TMJ)
- Sag Oblique T2 Fat Suppressed 2mm high res (TMJ)
- Sag Oblique PD 2mm high res (TMJ)

Open Mouth

- Sag Oblique T2 Fat Suppressed 2mm high res (TMJ)
- Sag Oblique PD 2mm high res (TMJ)

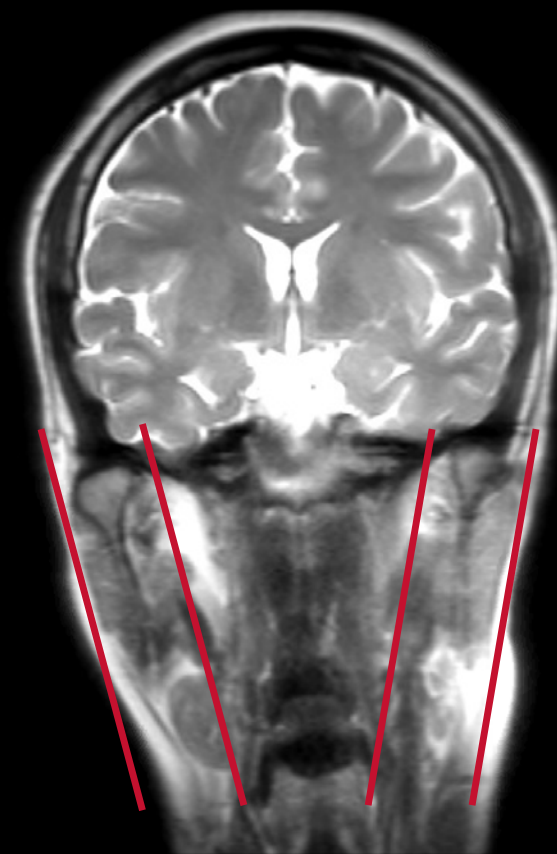
If bilateral perform each side separately.

Face – TMJ

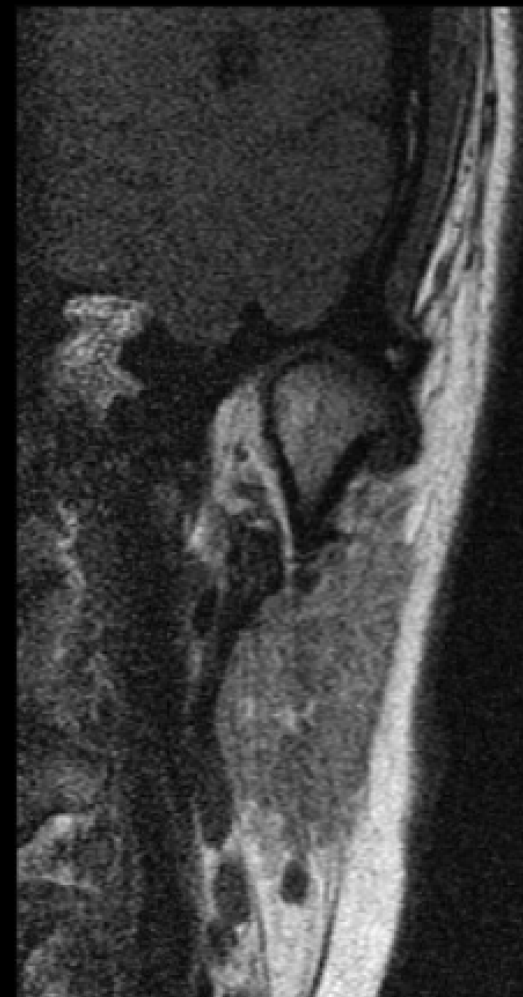
Sagittal Oblique Slice Selection



Coronal Oblique Slice Selection



Face – TMJ



Cranial Nerves 1 – Perineural Tumor

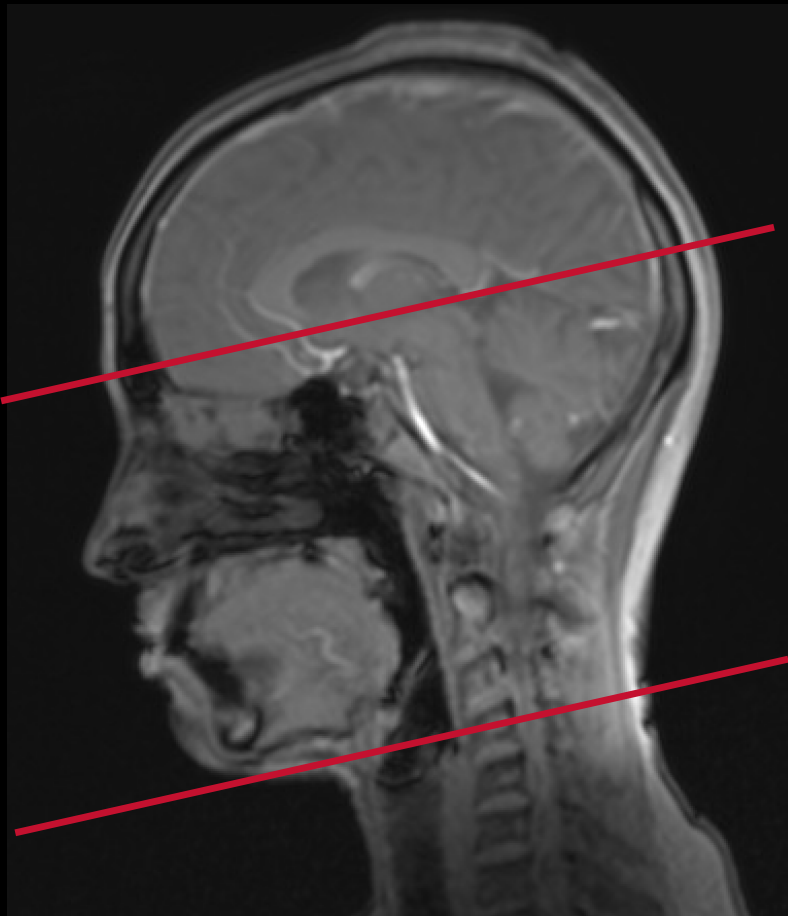
- Ax STIR (top orbits through mandible) 4mm
- Cor STIR (lips to vertebral bodies, face only FOV) 3mm high res
- Ax T1 (top orbits through mandible) 3mm high res
- Cor T1 (lips to spinal cord, face only FOV) 3mm high res

Contrast

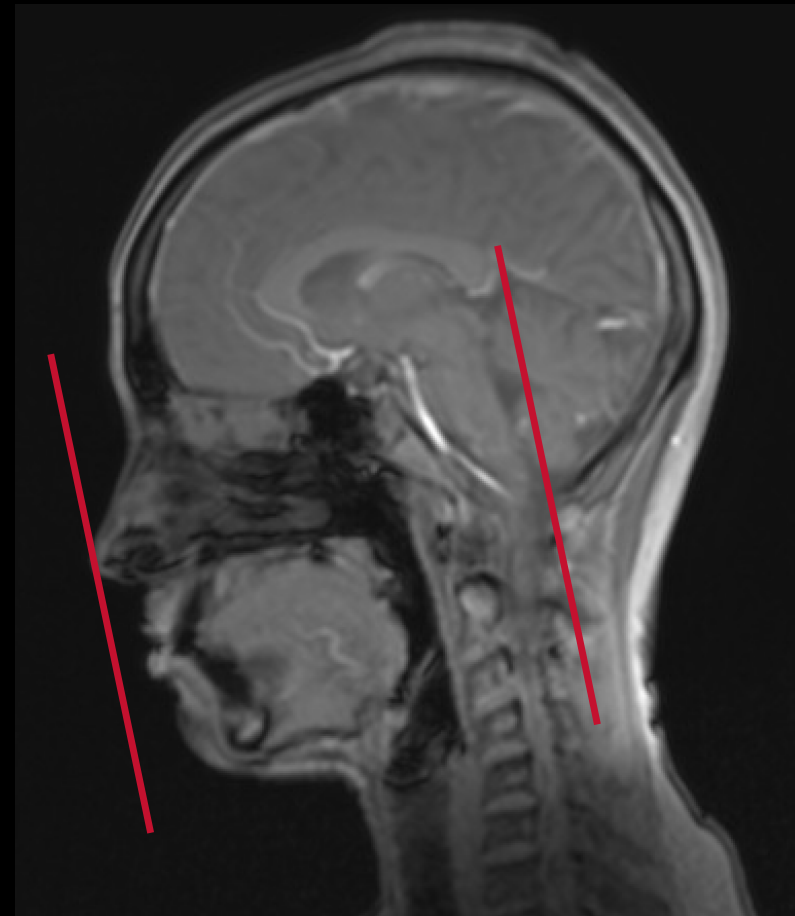
- Ax T1 (top orbits through mandible) 3mm high res
- Cor T1 (lips to spinal cord, face only FOV) 3mm high res
- Ax T1FS (top orbits through mandible) 4mm

Cranial Nerves 1 – Perineural Tumor

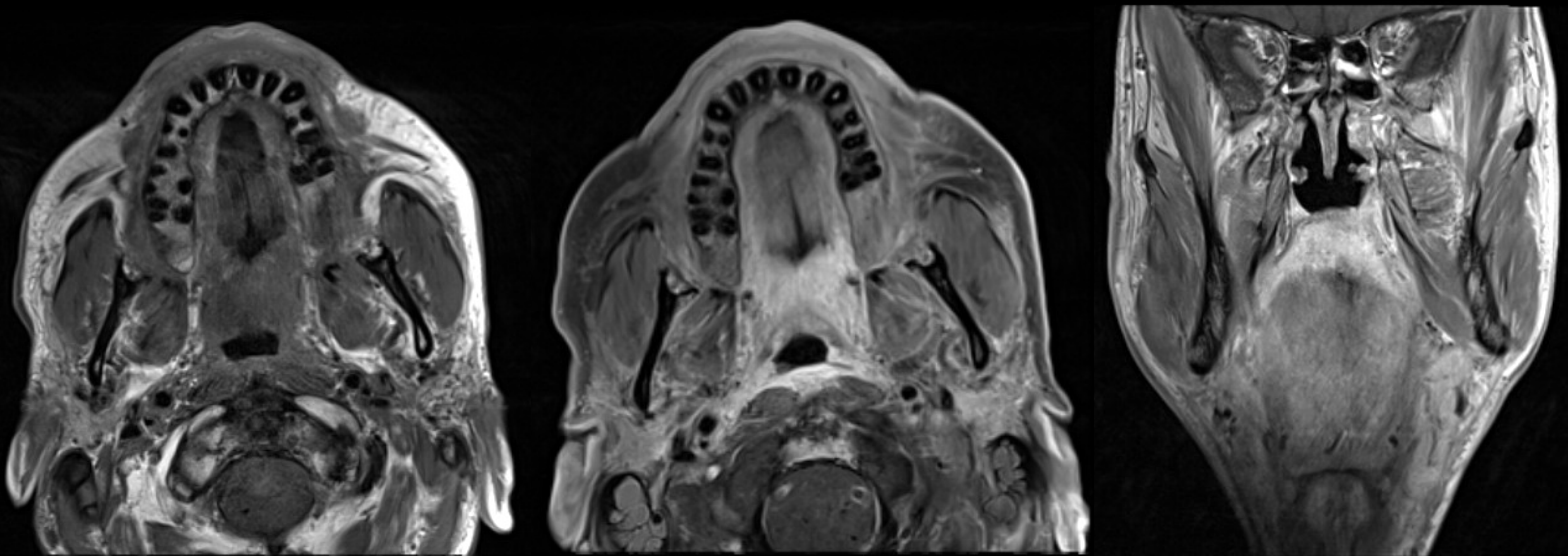
Axial Slice Selection (angle to hard palate)



Coronal Slice Selection / Axial FOV



Cranial Nerves 1 – Perineural Tumor



Neck - General

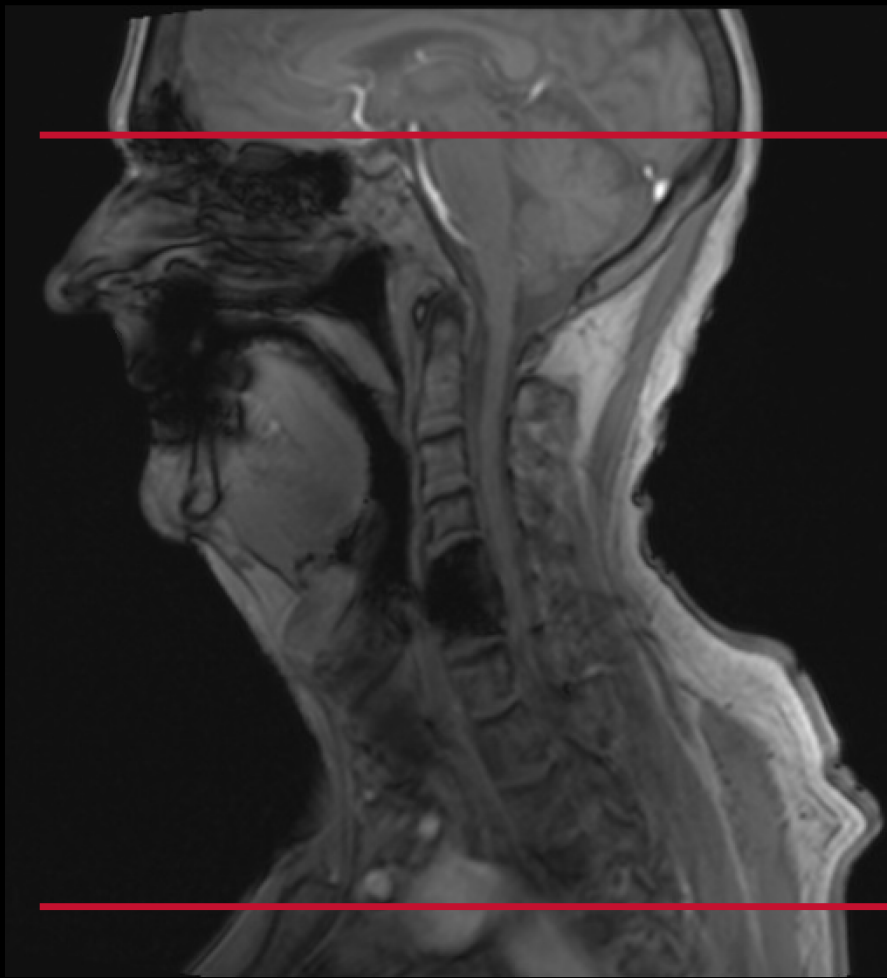
- Cor STIR (mid orbits to manubrium) 4mm
- Ax STIR (mid orbits to manubrium) 4mm
- Ax T1 (mid orbits to manubrium) 4mm
- Sag T1 (mid orbits to manubrium) 3mm

Contrast

- Ax DWI (mid orbits to manubrium)
- Cor T1FS (mid orbits to manubrium) 4mm
- Ax T1FS (mid orbits to manubrium) 4mm

Neck - General

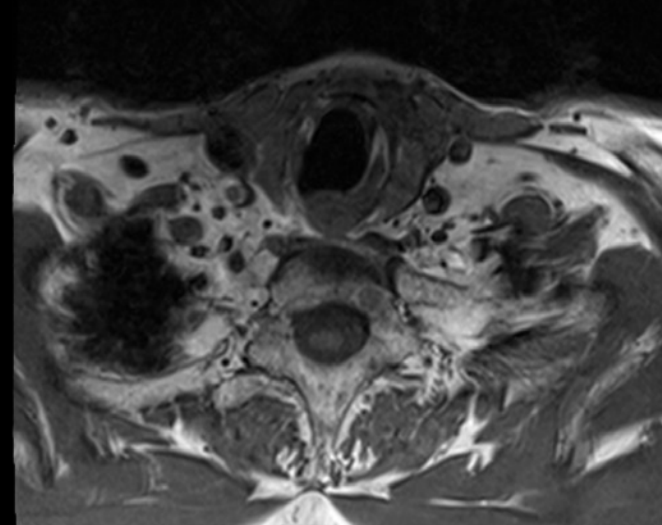
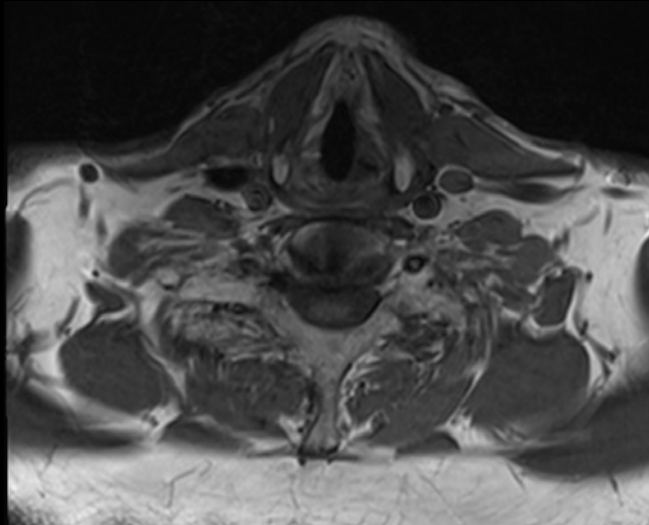
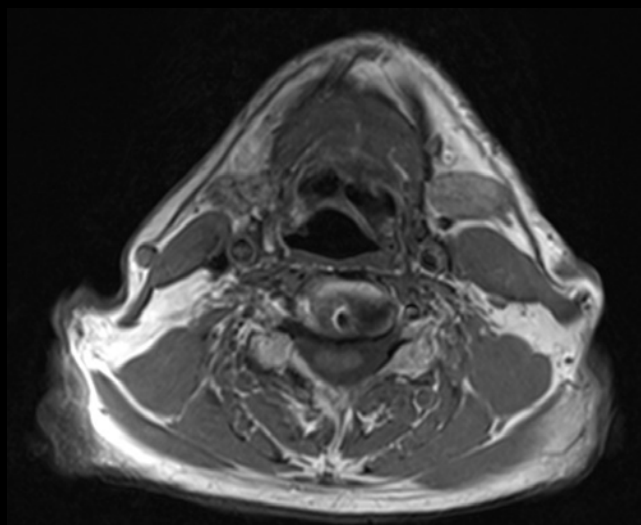
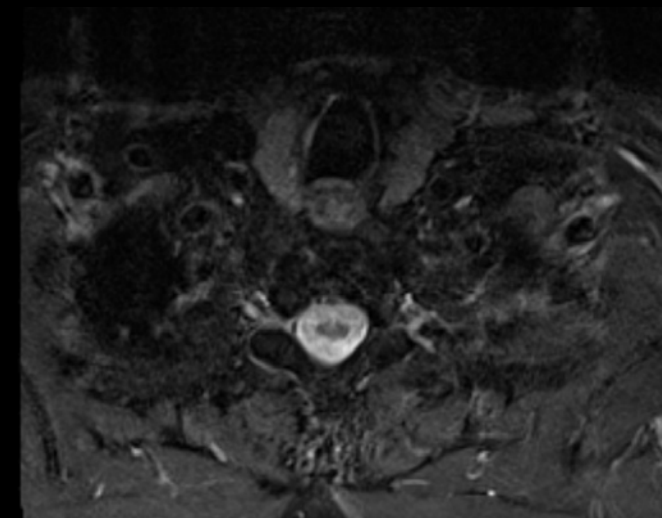
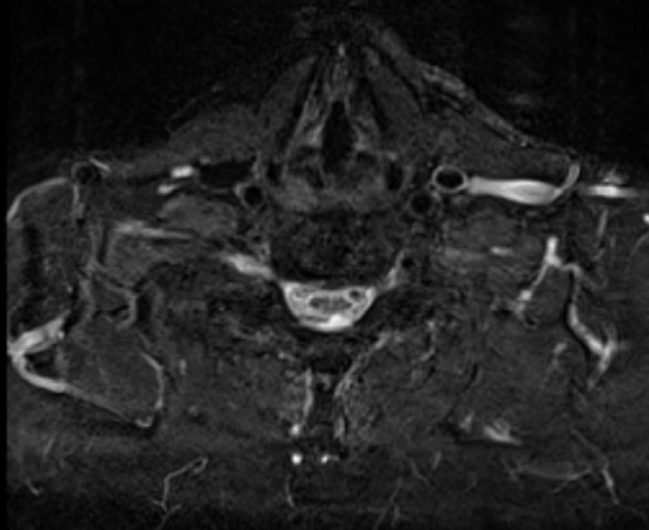
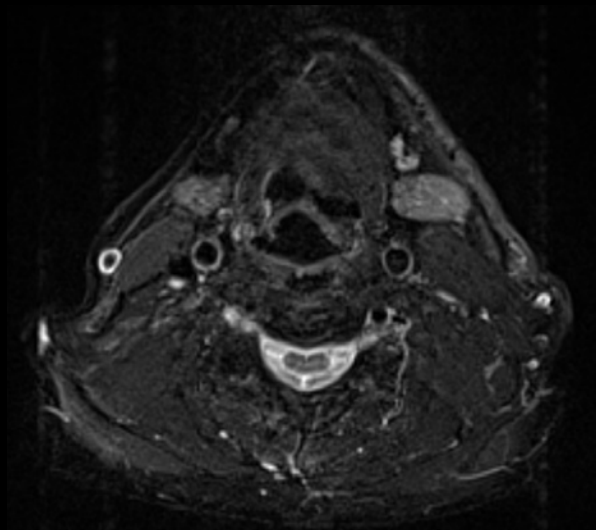
Axial Slice Selection



Coronal Slice Selection



Neck - General



Neck – Parotid

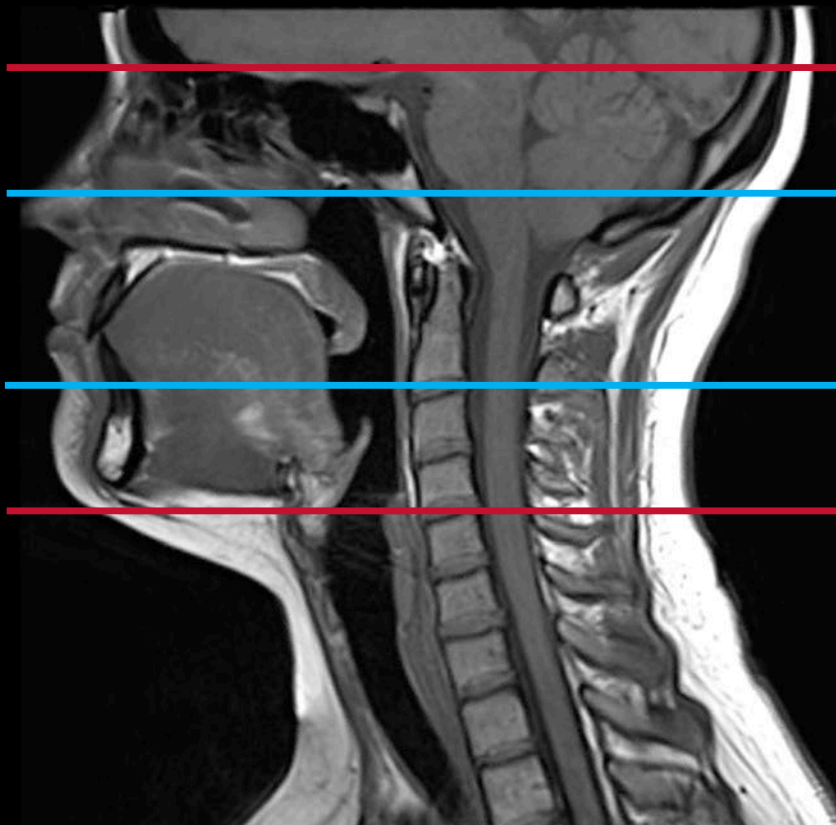
- Sag T1 (face) 4mm
- Ax STIR (mid orbits to manubrium) 4mm
- Cor STIR (lips to vertebral bodies, face only FOV) 4mm
- Ax T1 (mandibular condyle to angle) 4mm
- CISS (mid nasal cavity to mid tongue) 0.8mm isotropic

Contrast

- Ax T1 (mandibular condyle to angle) 4mm
- Cor T1 (lips to vertebral bodies, face only FOV) 4mm
- Ax T1FS (mandibular condyle to angle) 4mm

Neck – Parotid

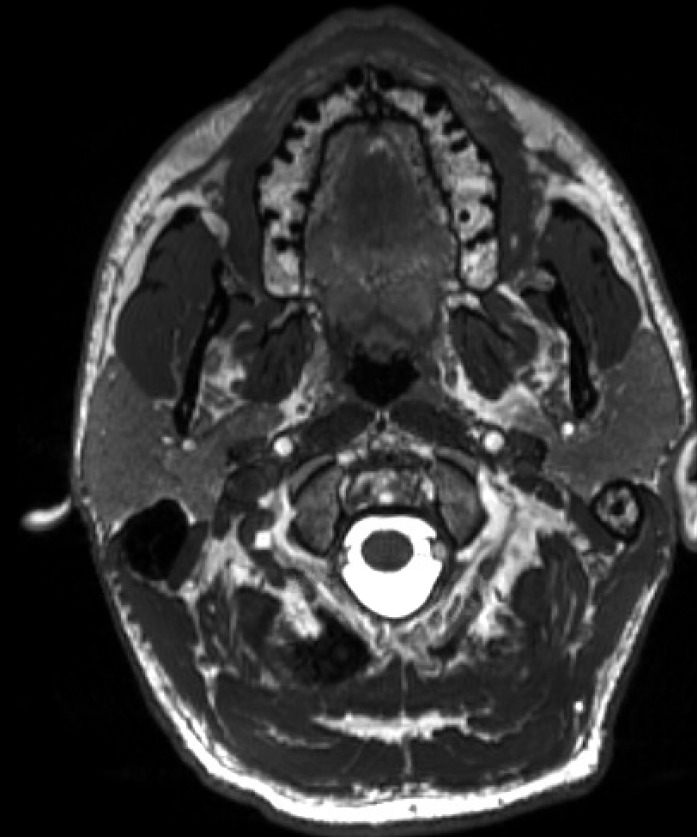
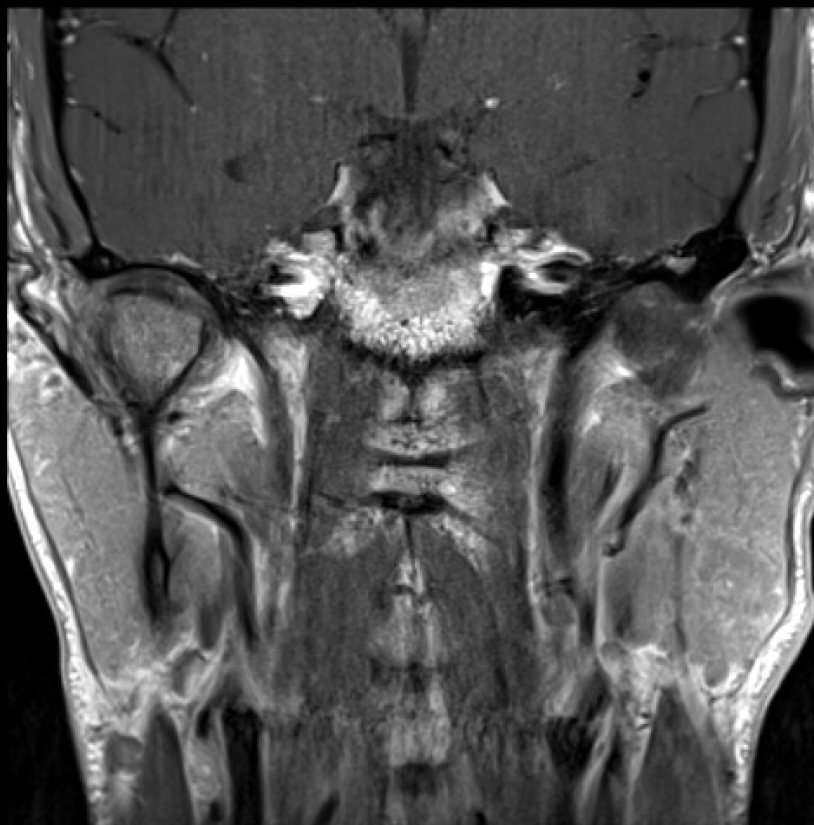
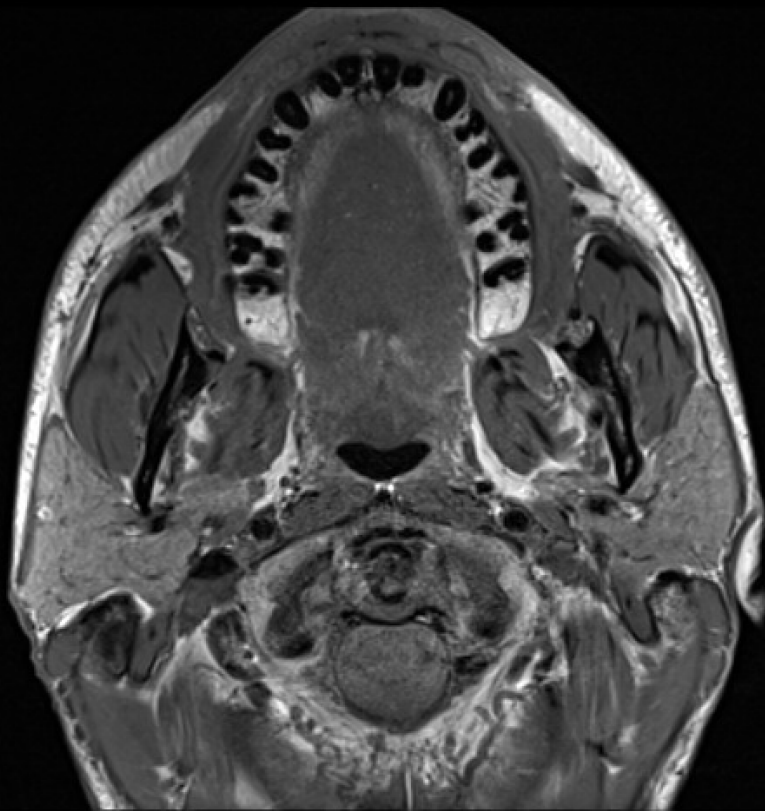
Axial T1 Slice Selection
CISS Slice Selection



Coronal Slice Selection



Neck – Parotid



Neck – Nasopharynx & Nasal Cavity

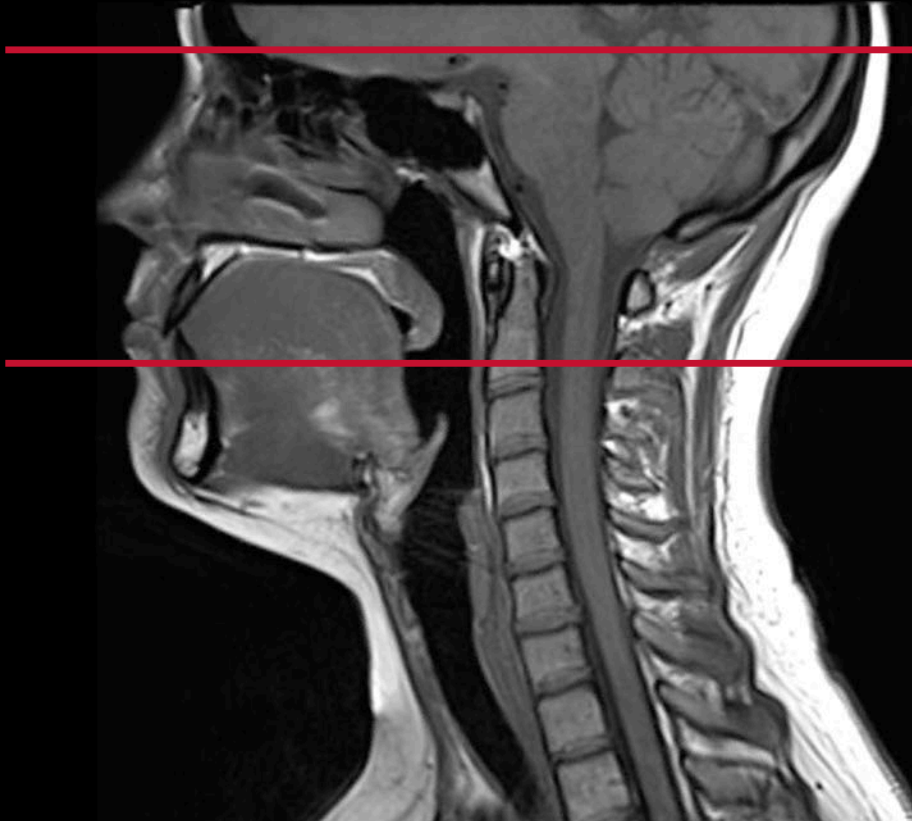
- Sag T1 (face) 3mm
- Ax STIR (mid orbits to manubrium) 4mm
- Ax T1 (mid orbits to mid tongue) 3mm high res
- Cor T1 (lips to spinal cord, face only FOV) 3mm high res

Contrast

- Ax T1 (mid orbits to mid tongue) 3mm high res
- Cor T1 (lips to spinal cord, face only FOV) 3mm high res
- Ax T1FS (mid orbits to mid tongue) 4mm

Neck – Nasopharynx & Nasal Cavity

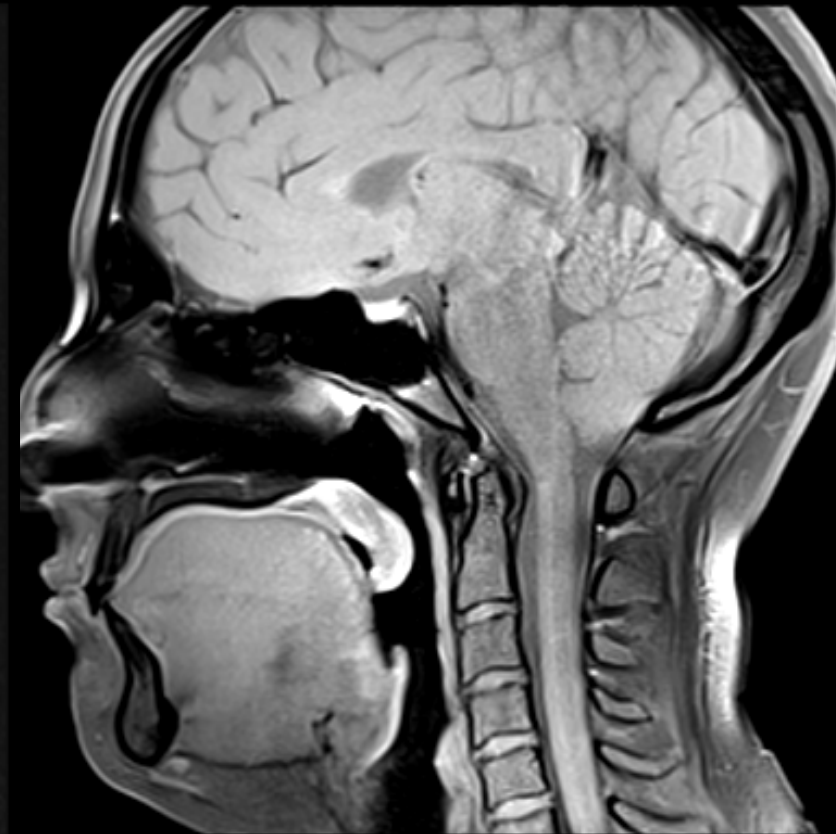
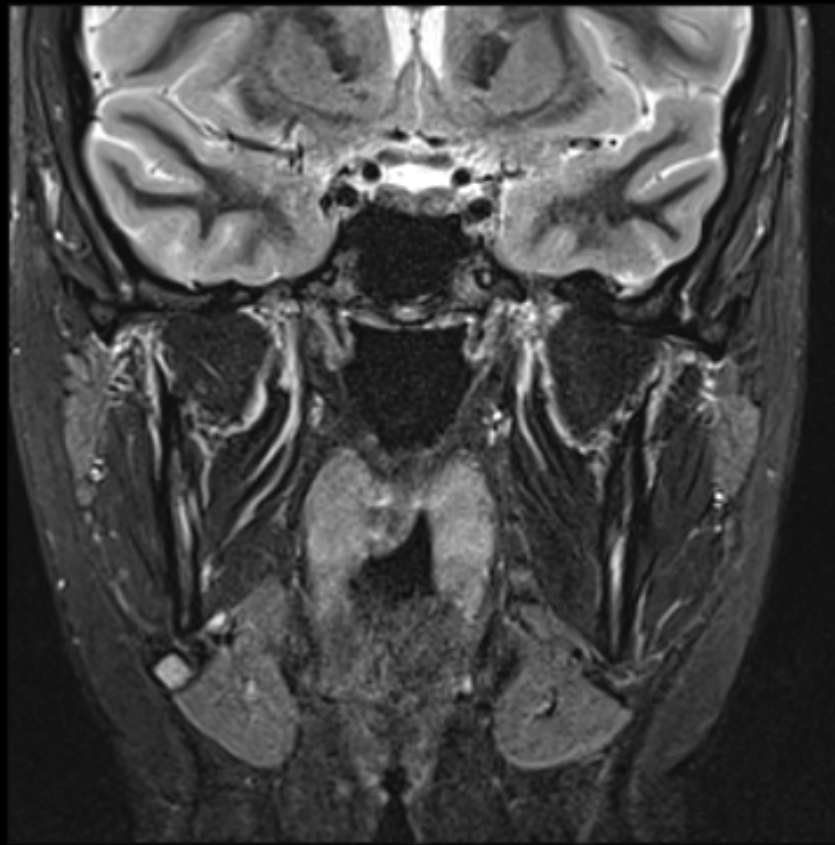
High Res Axial Slice Selection



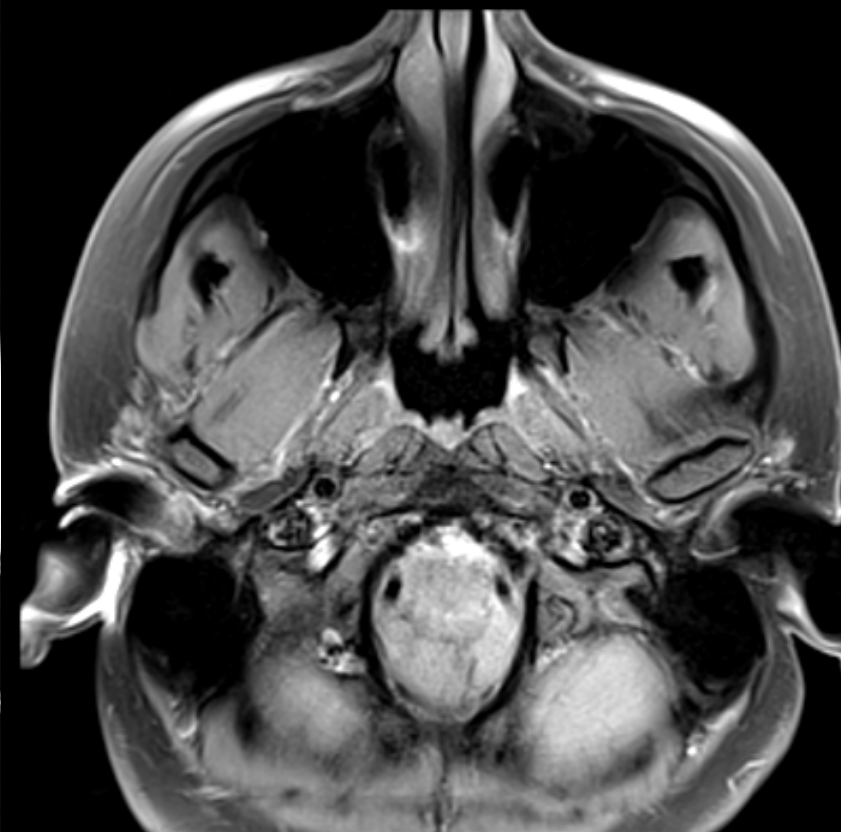
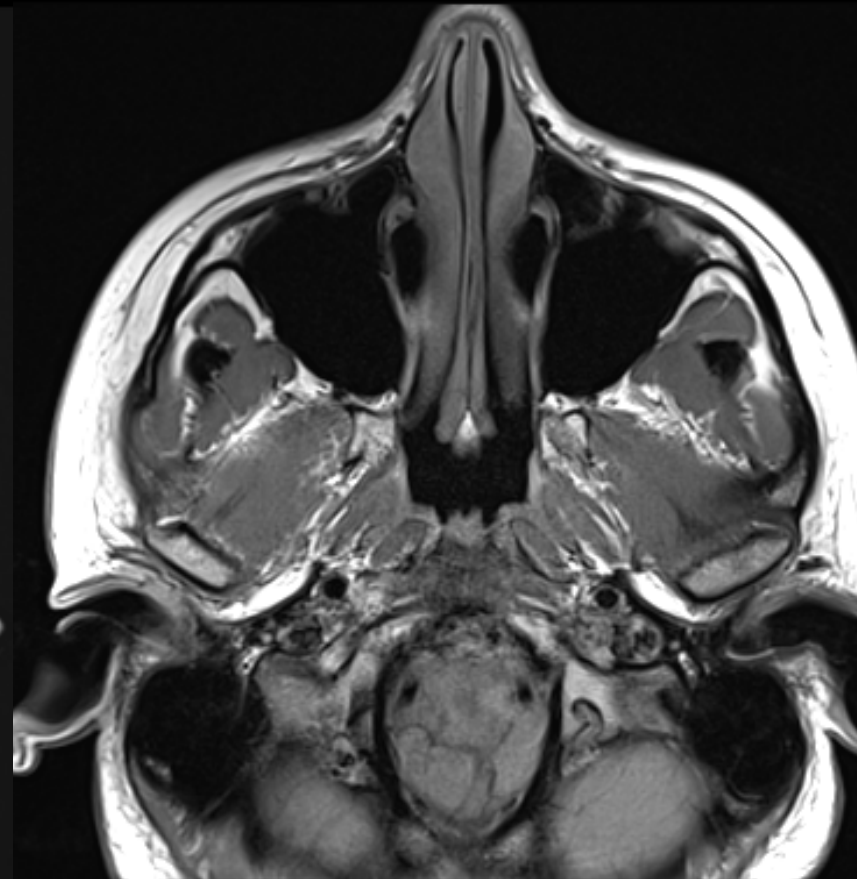
High Res Coronal Slice Selection



Neck – Nasopharynx & Nasal Cavity



Neck – Nasopharynx & Nasal Cavity



Neck – Oropharynx & Oral Cavity

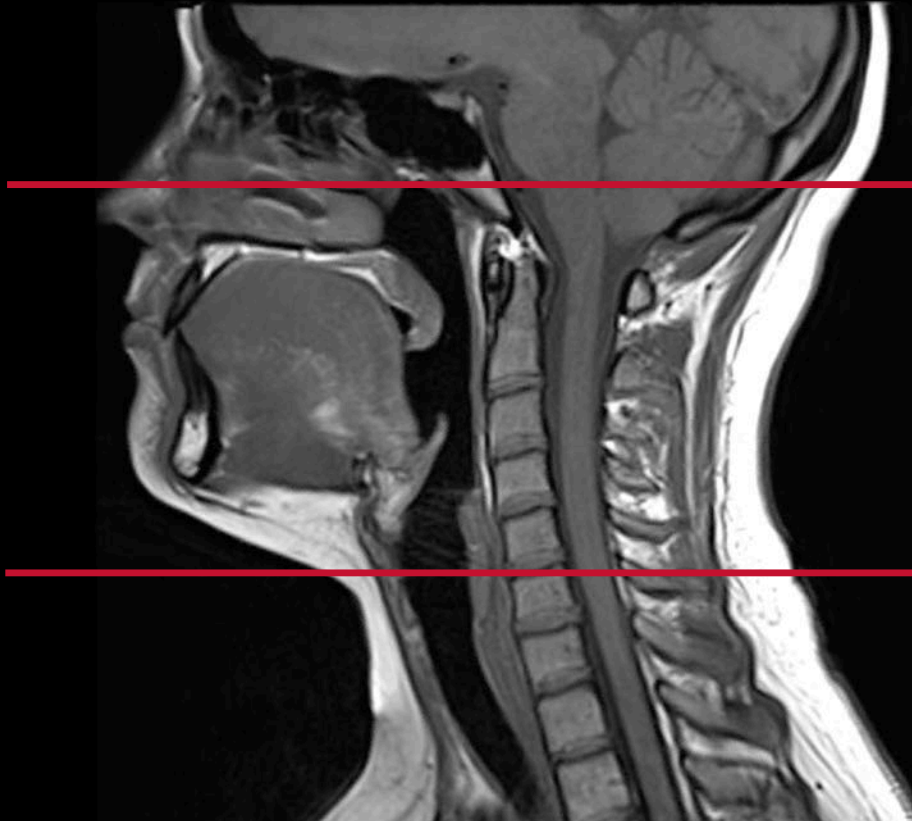
- Sag T1 (face) 3mm
- Ax STIR (mid orbits to manubrium) 4mm
- Cor STIR (lips to vertebral bodies, face only FOV) 3mm high res
- Ax T1 (mid nose to larynx) 3mm high res
- Cor T1 (lips to vertebral bodies, face only FOV) 3mm high res

Contrast

- Ax T1 (mid nose to larynx) 3mm high res
- Cor T1 (lips to vertebral bodies, face only FOV) 3mm high res
- Ax T1FS (mid nose to larynx) 4mm

Neck – Oropharynx & Oral Cavity

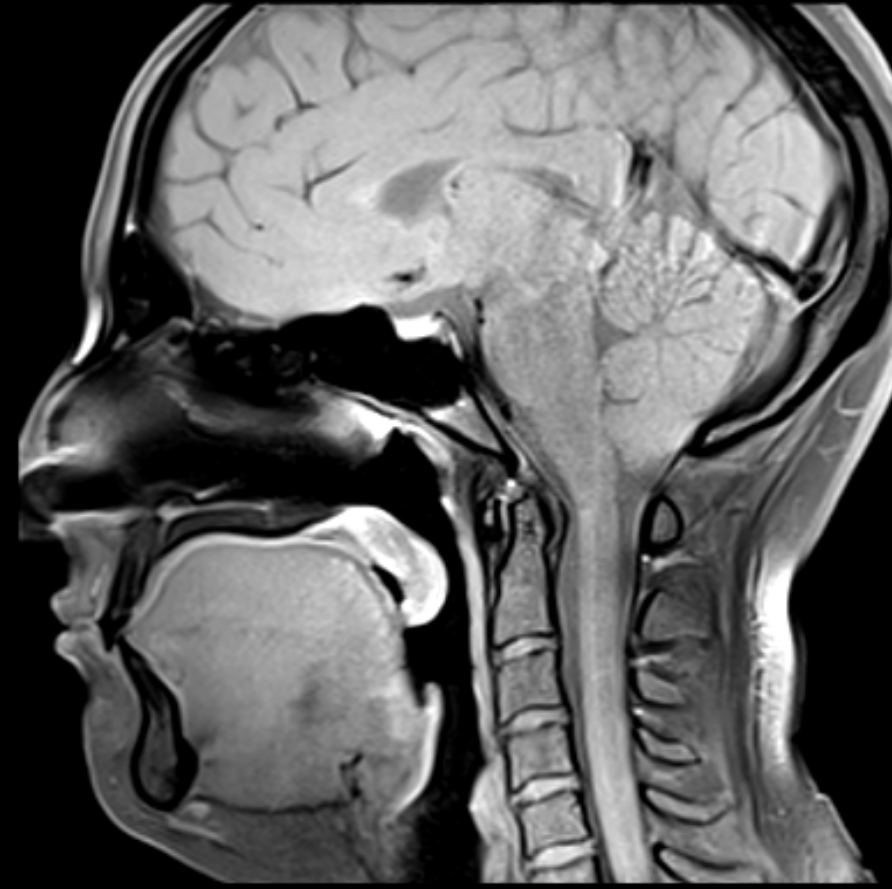
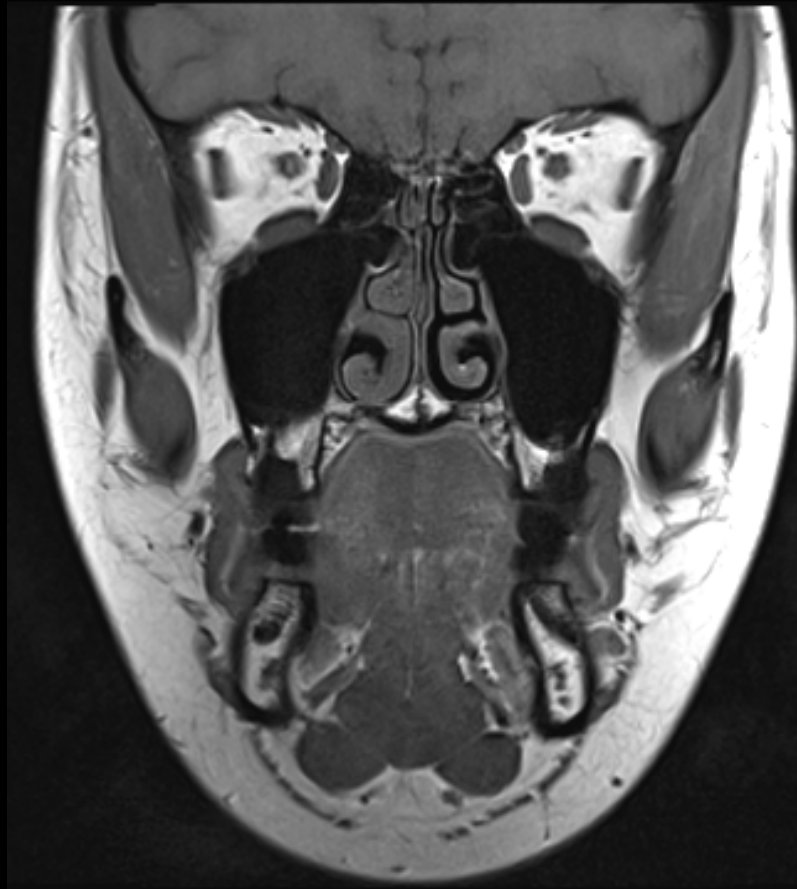
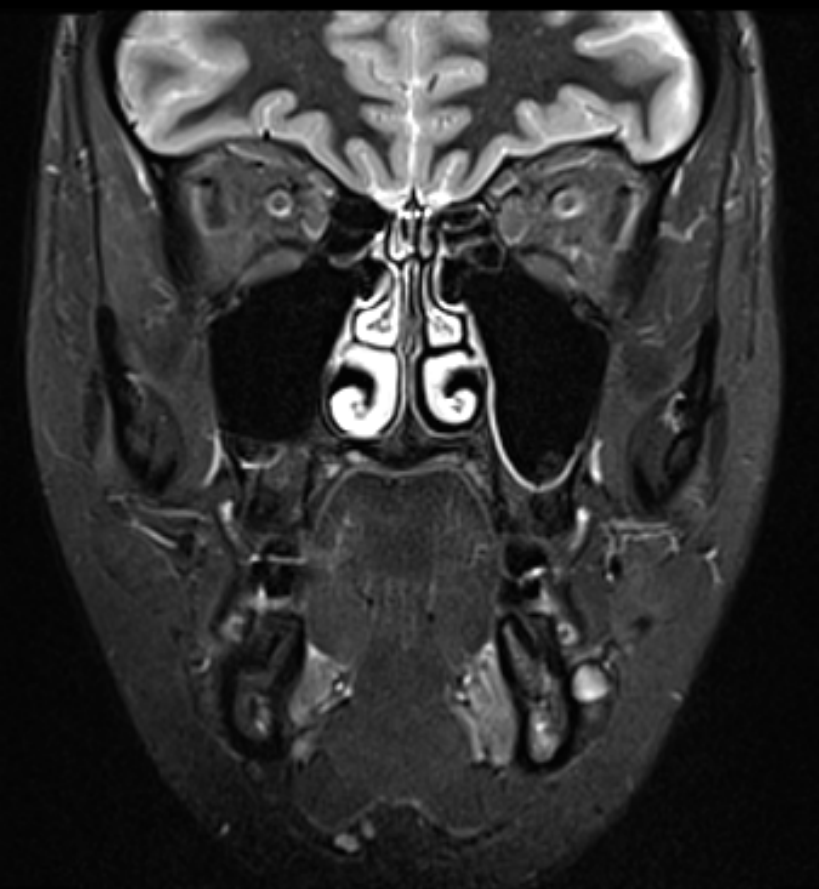
High Res Axial Slice Selection



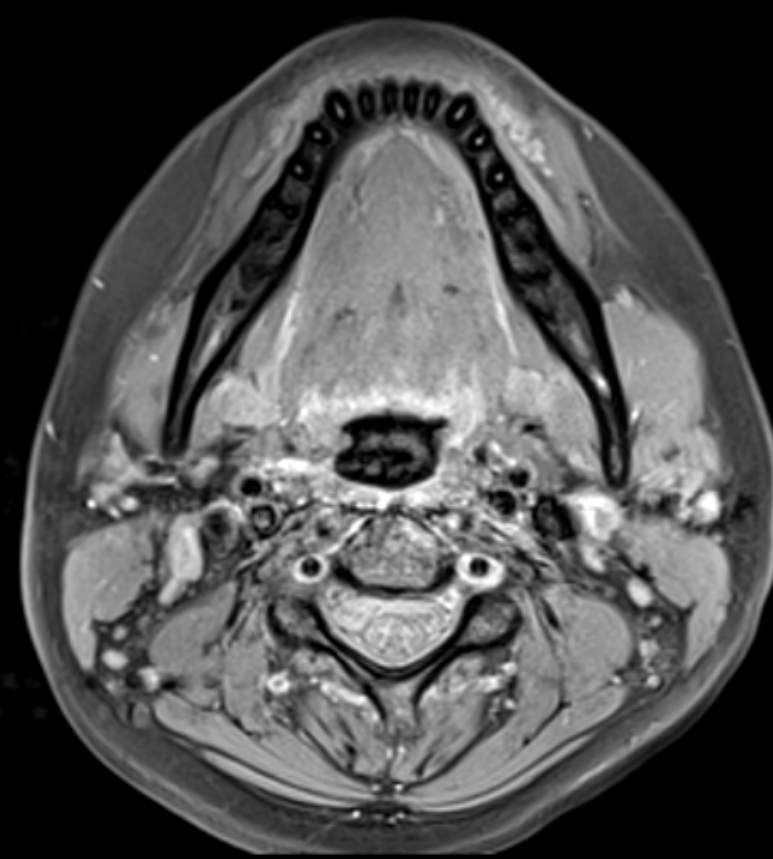
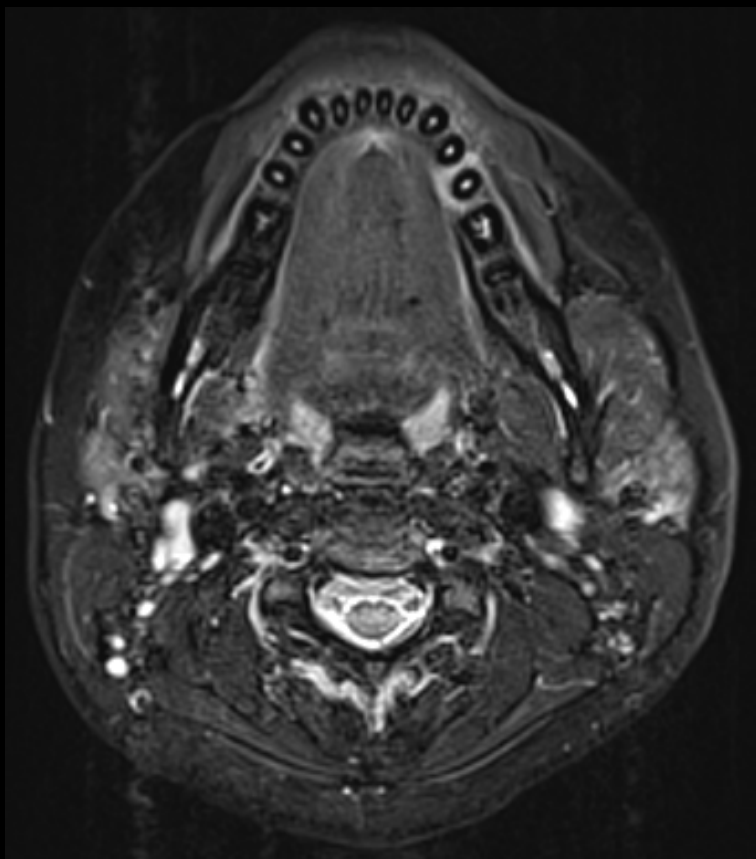
High Res Coronal Slice Selection



Neck – Oropharynx & Oral Cavity



Neck – Oropharynx & Oral Cavity



Neck - Larynx

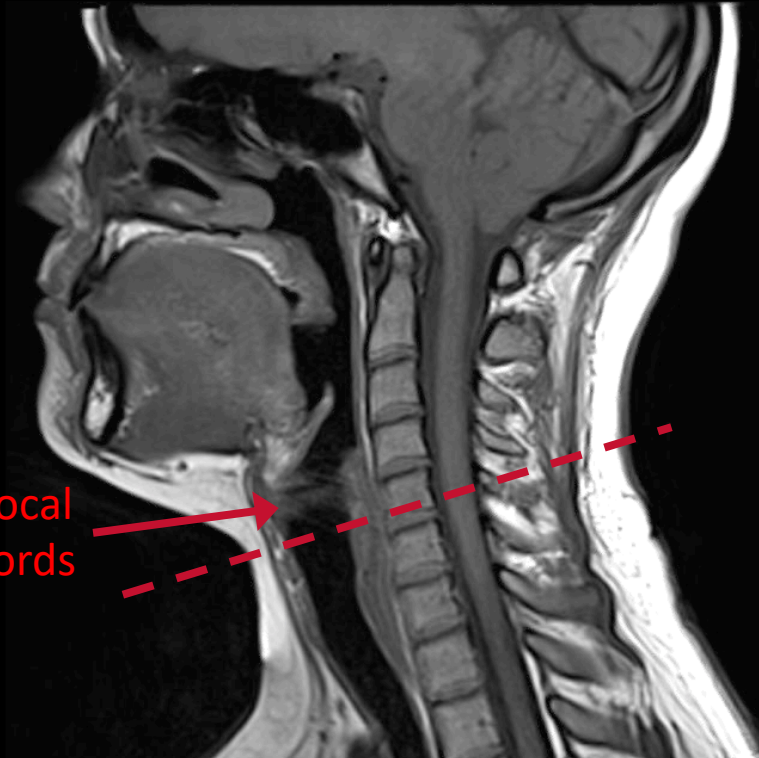
- Sag T1 (mid orbits to manubrium) 3mm
- Ax STIR (mid orbits to manubrium) 4mm
- Ax T2 FS (larynx, angled) 3mm high res
- Cor T1 (larynx, angled) 3mm high res
- Ax T1 (larynx, angled) 3mm high res

Contrast

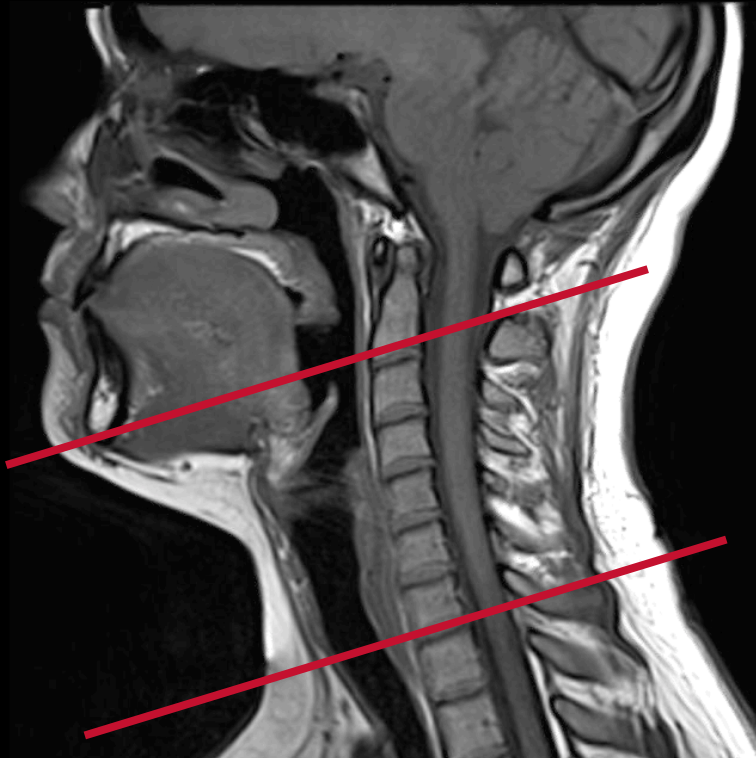
- Ax T1 (larynx, angled) 3mm high res
- Cor T1 (larynx, angled) 3mm high res
- Ax T1 FS (larynx, angled) 4mm

Neck – Larynx

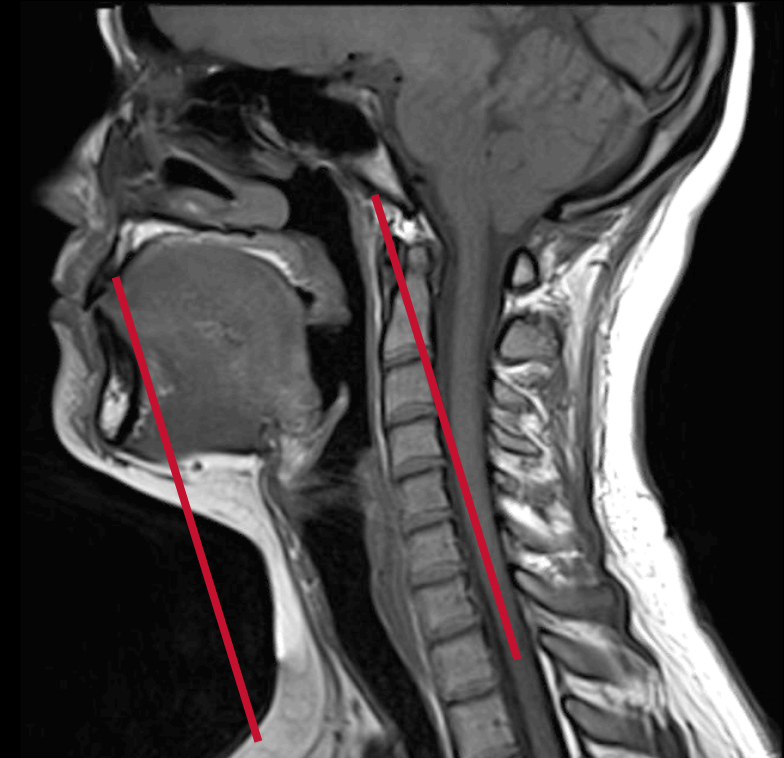
High Res Axials Angled Along Vocal Cords



Angled Axial Slice Selection



Angled Coronal Slice Selection



Neck – Larynx



Brain – IAC

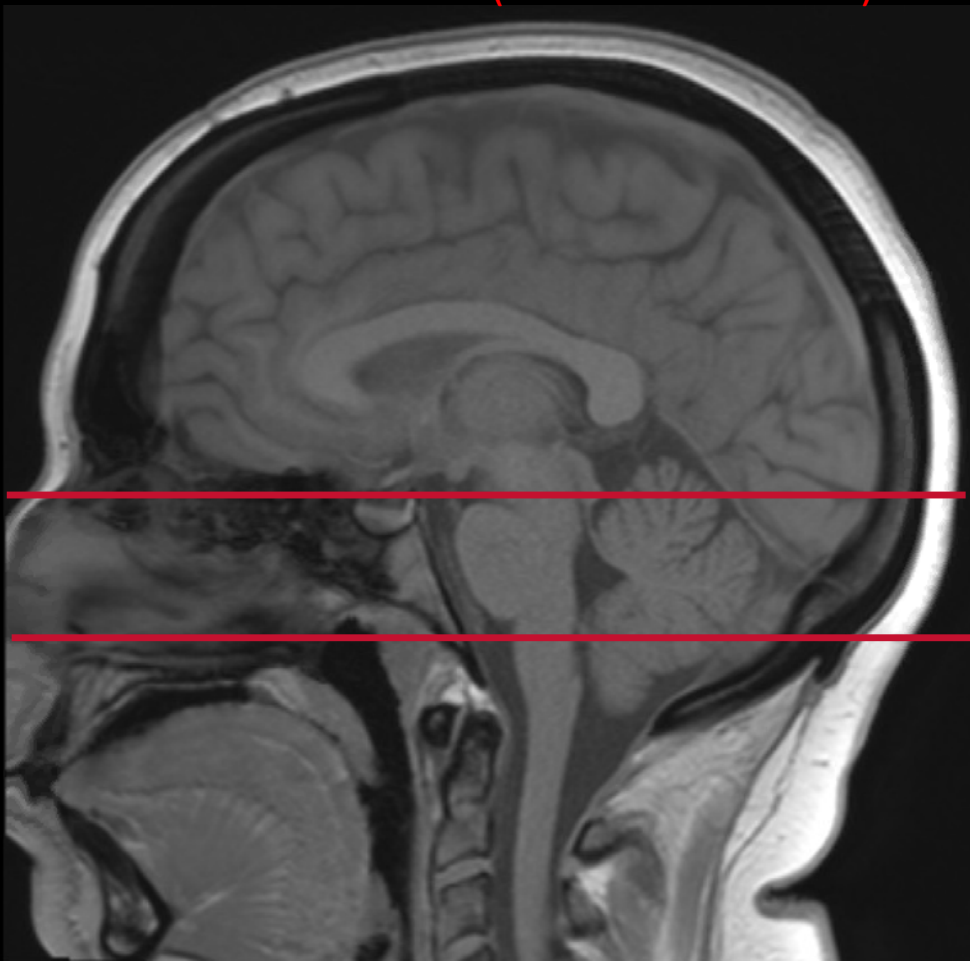
- Ax T2 BLADE (whole brain) 4mm skip 0mm high res
- Ax DWI (whole brain) 4mm skip 1mm
- Ax T1 (IAC/labyrinth) 2mm high res

Contrast

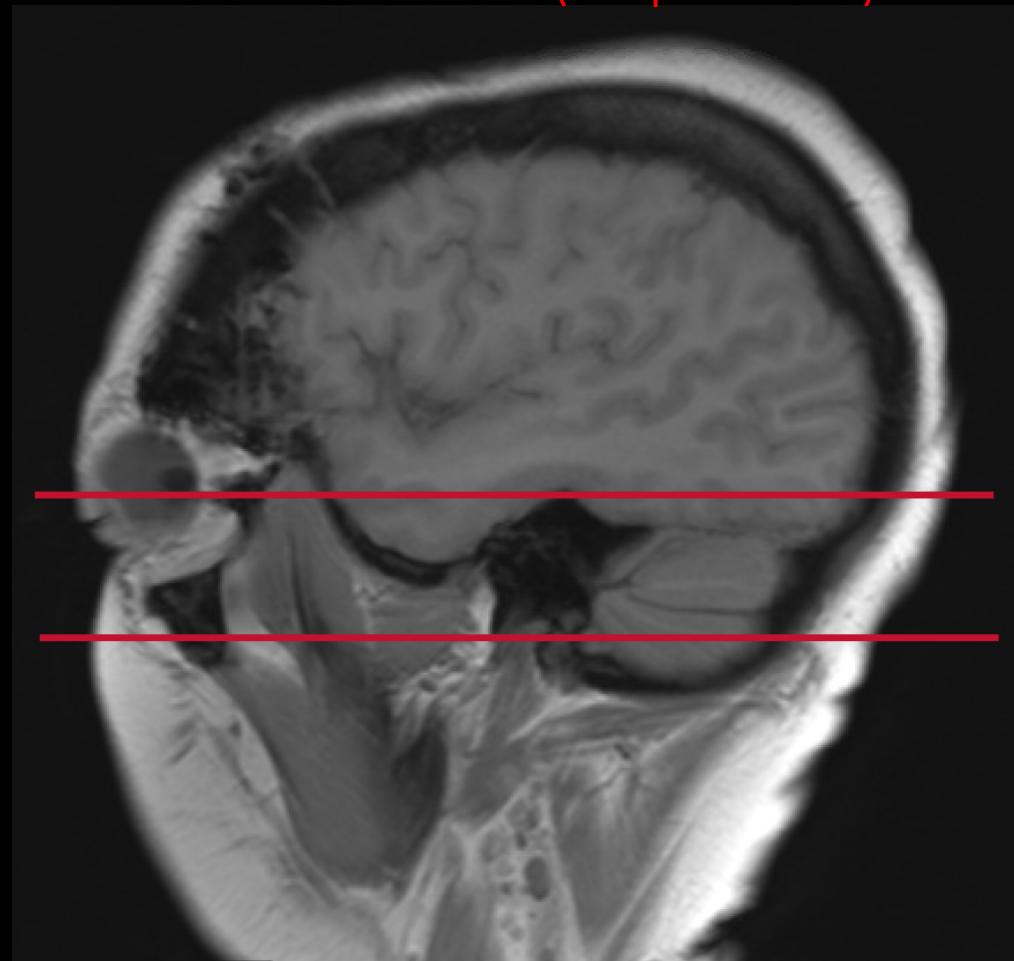
- CISS (IAC/labyrinth) 0.5mm isotropic with sag/cor reformats
- Ax T1 (IAC/labyrinth) 2mm high res
- Ax 3D T1 VIBE (whole brain) 1mm isotropic with sag/cor reformats

Brain – IAC

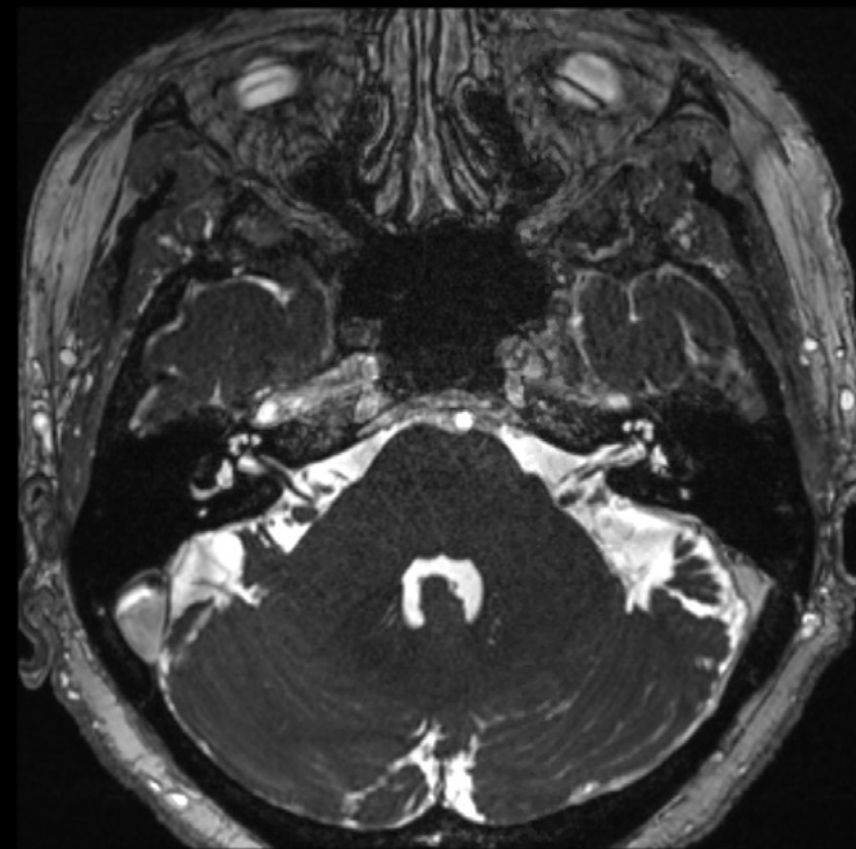
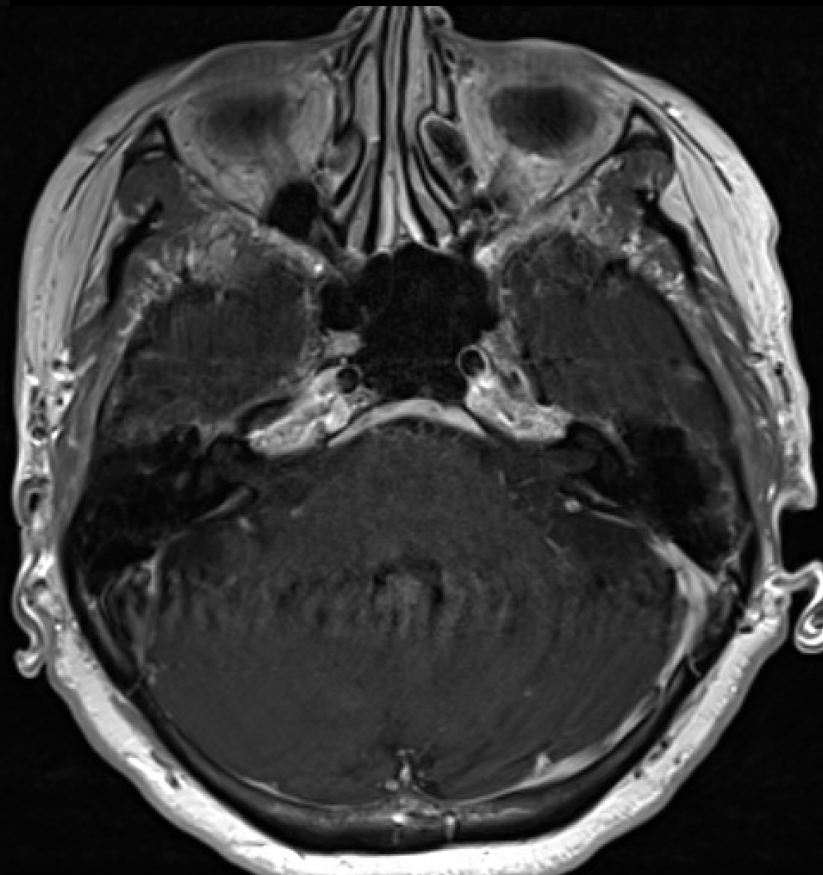
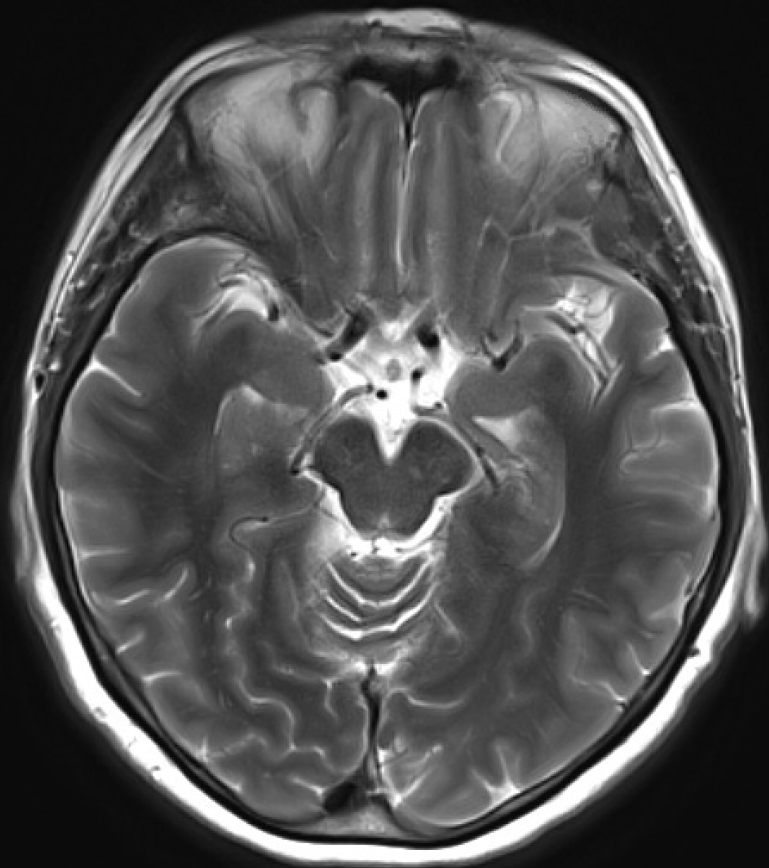
Axial Slice Selection (Midline Reference)



Axial Slice Selection (Temporal Bone)



Brain – IAC



Brain – Skull Base

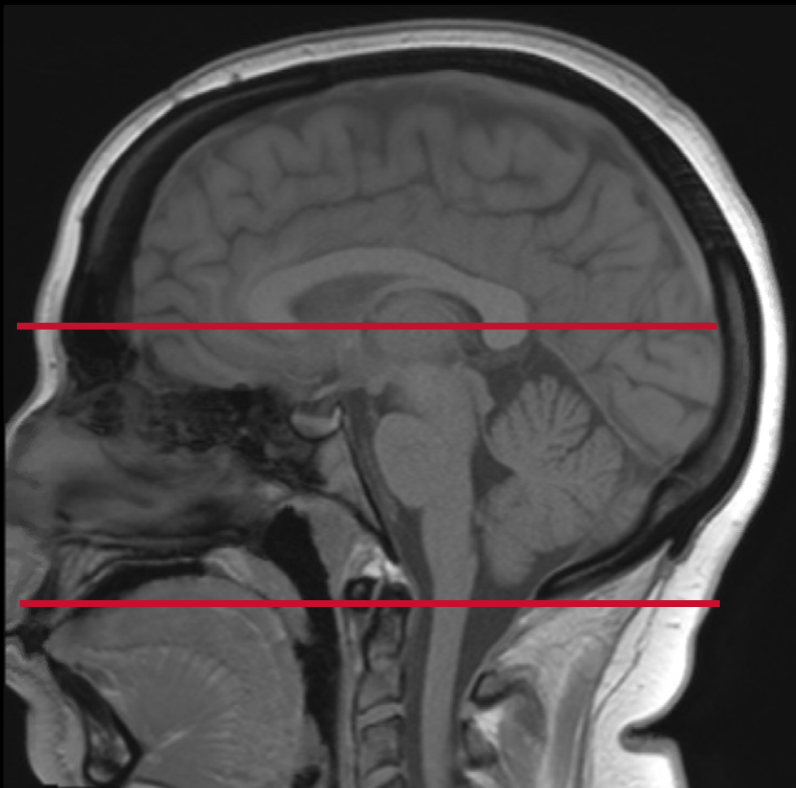
- Ax T2 BLADE (whole brain) 4mm skip 0mm high res
- Ax DWI (whole brain) 4mm skip 1mm
- Ax T1 (skull base cover tumor) 3mm high res

Contrast

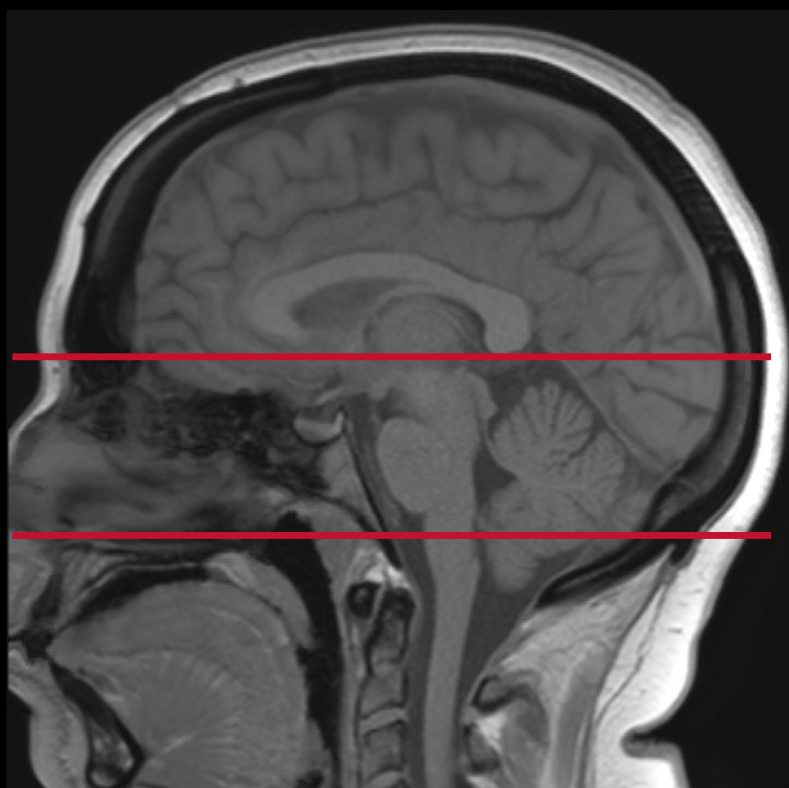
- CISS (skull base cranial nerves) 0.8mm isotropic
- Ax T1 (skull base cover tumor) 3mm high res
- Cor T1 (skull base cover tumor) 3mm high res
- Ax 3D T1 VIBE Fat Suppressed (whole brain) 1mm isotropic with sag/cor reformats

Brain – Skull Base

Axial T1 Slice Selection
(Adjust to Cover Tumor)



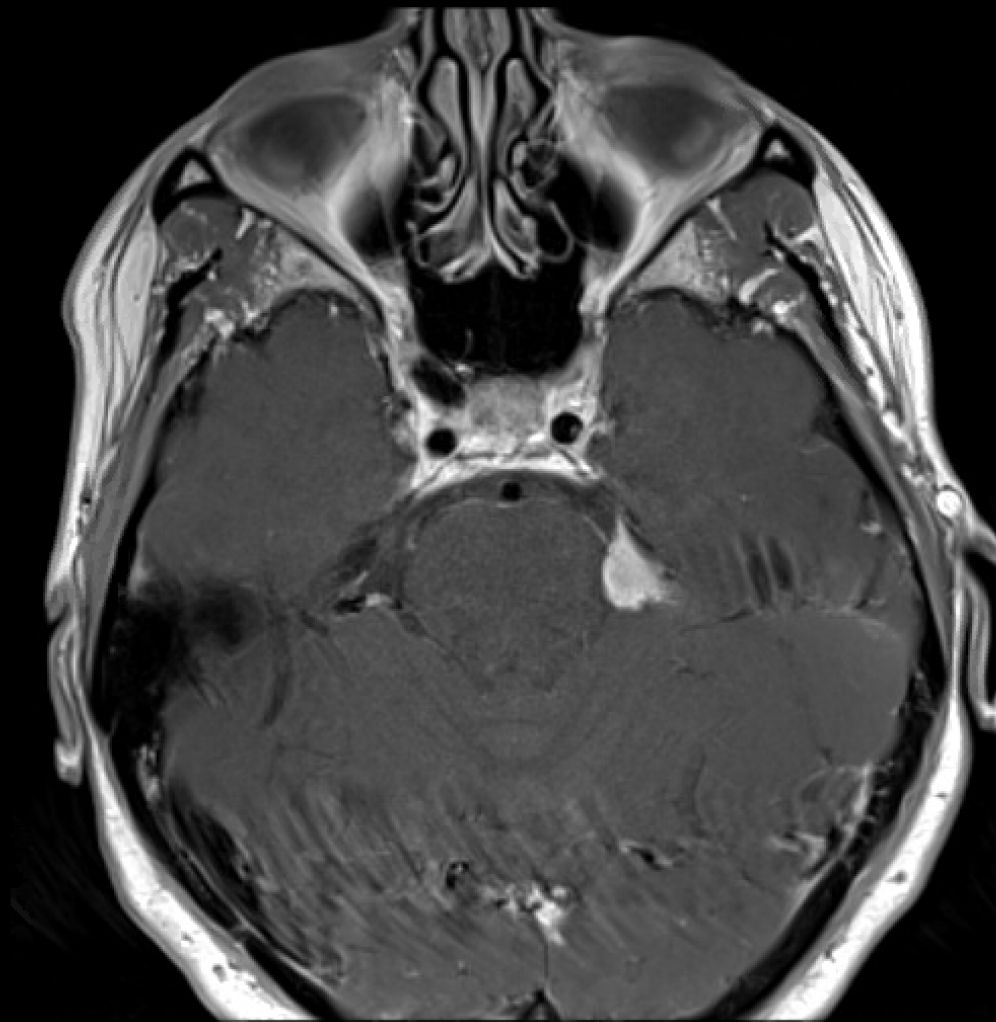
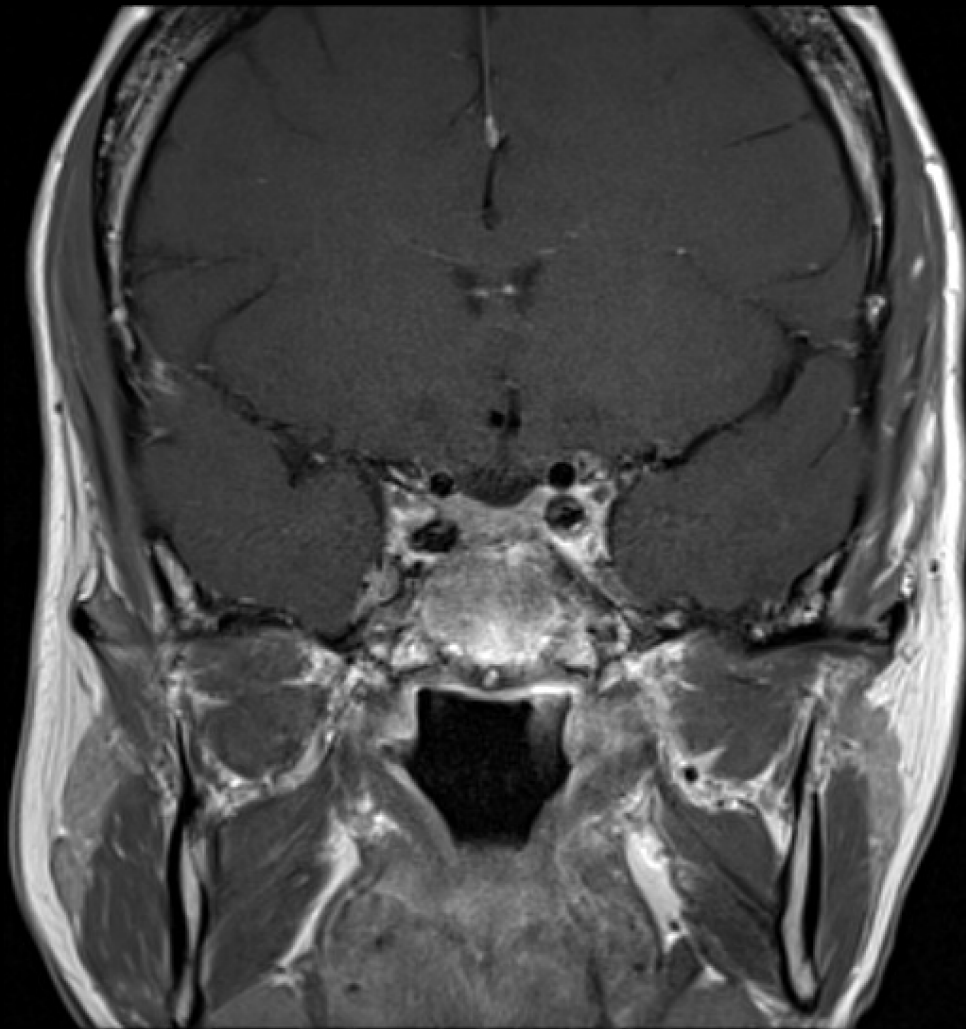
CISS Slice Selection
(DO NOT ADJUST)



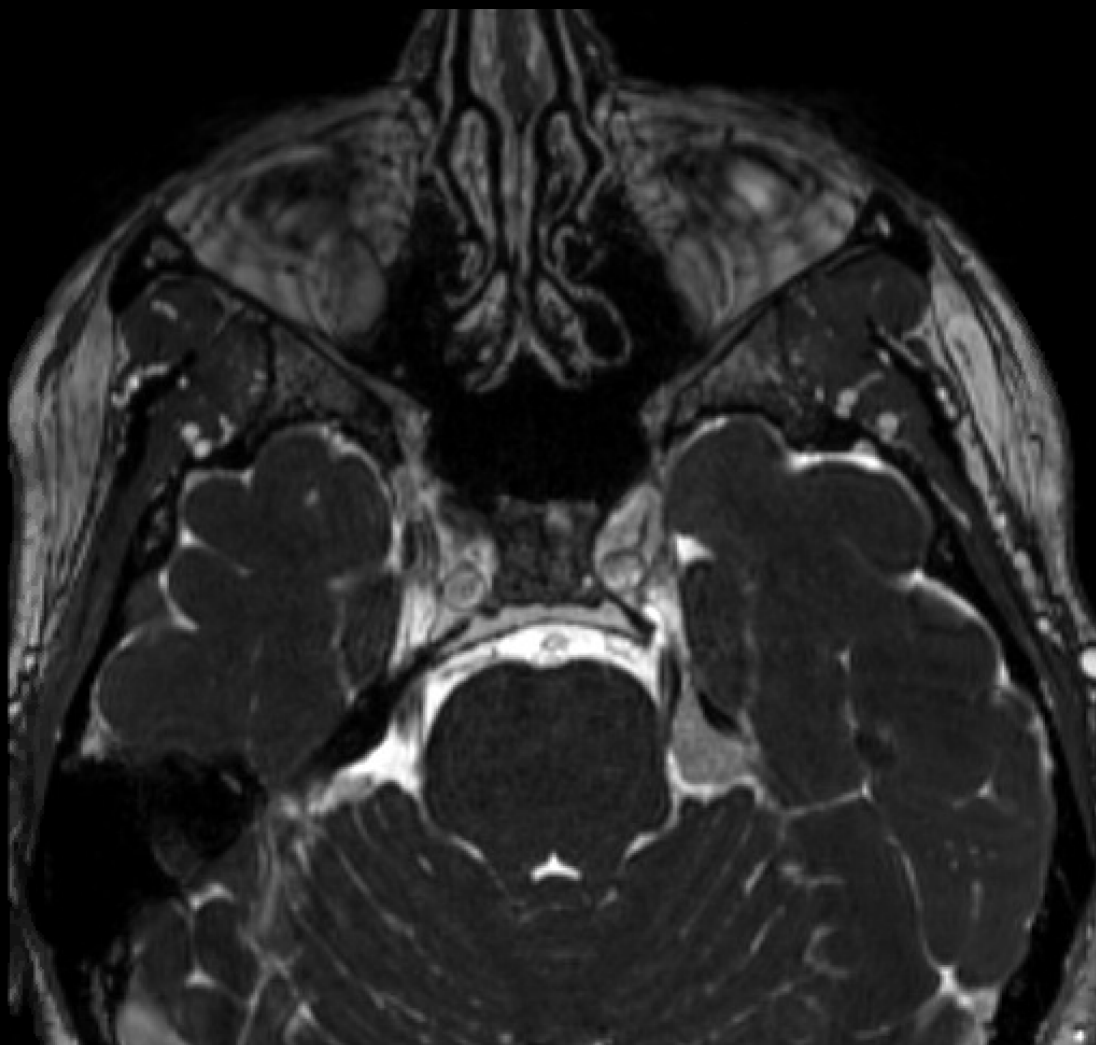
Coronal Slice Selection
(Adjust to Cover Tumor)



Brain – Skull Base



Brain – Skull Base



Brain – Pituitary

- Sag T1 (sella) 3mm
- Ax DWI (whole brain) 4mm skip 1mm
- Ax T2 (whole brain) 4mm skip 1mm
- Ax T2 FLAIR (whole brain) 4mm skip 1mm
- Cor T1 (sella) 3mm
- Sag 3D T2 (sella) 0.6mm

Contrast

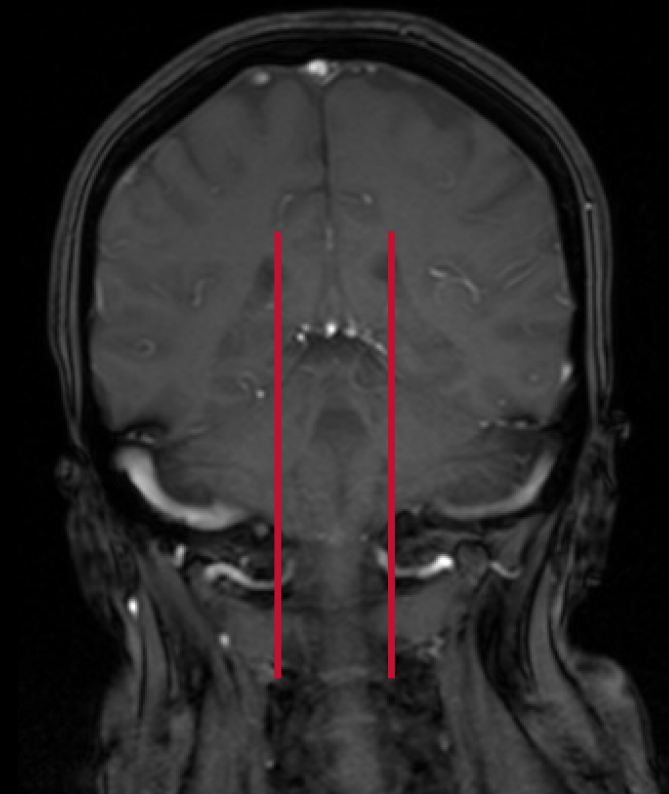
- Cor T1 (sella) 3mm
- Sag T1(sella) 3mm
- Ax 3D T1 (whole brain) 1mm with sag/cor reformats

Brain – Pituitary

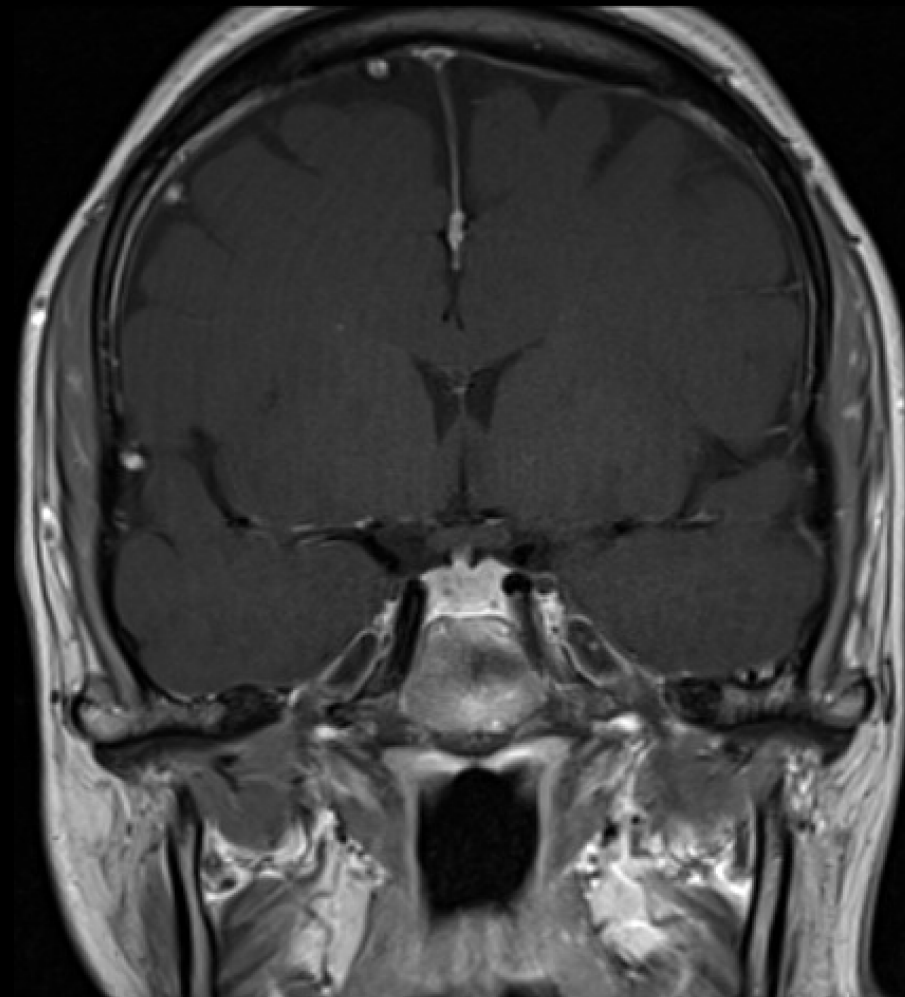
Coronal Slice Selection



Sagittal Slice Selection



Brain – Pituitary



Cranial Nerves 2 – Palsy Neuralgia (No Tumor)

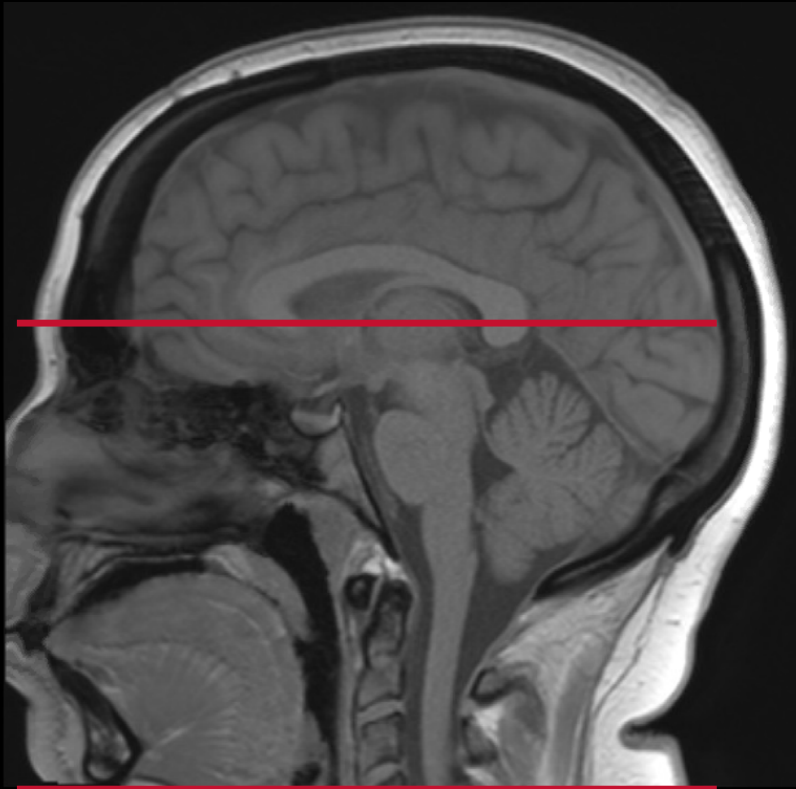
- Ax FLAIR (brain)
- Ax DWI (brain)
- CISS (skull base cranial nerves)
- Ax T1 (top orbits through mandible) 3mm high res
- Cor T1 (lips to spinal cord, face only FOV) 3mm high res

Contrast

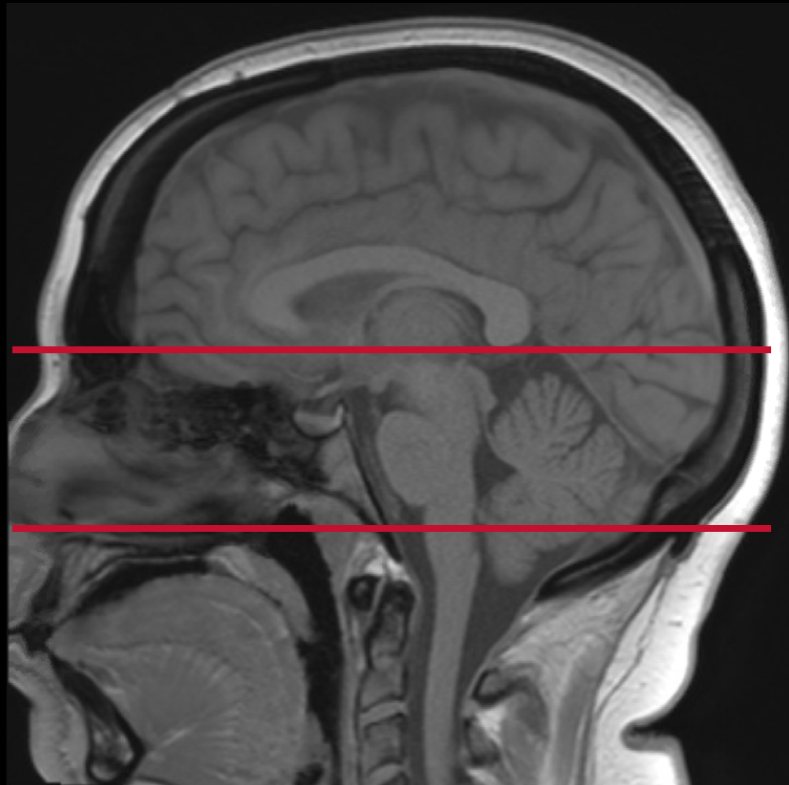
- Ax T1FS (top orbits through mandible) 3mm high res
- Cor T1 (lips to spinal cord, face only FOV) 3mm high res

Cranial Nerves 2 – Palsy Neuralgia (No Tumor)

Axial T1 Slice Selection



CISS Slice Selection



Coronal Slice Selection



Brachial Plexus

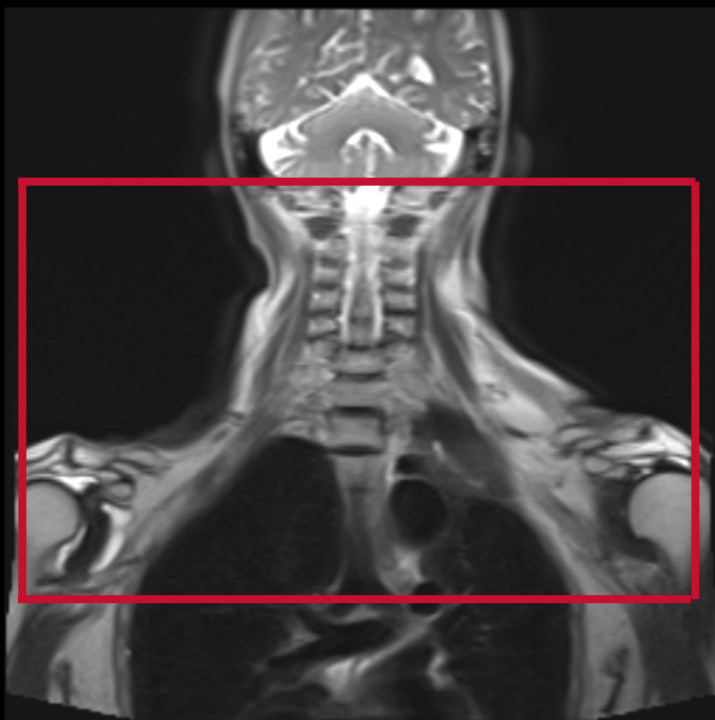
- Cor STIR SPACE (angled to C5-C7) 1.3mm bilateral
- Sag T1 4mm side of interest only
- Cor T2 (angled to C5-C7) 4mm bilateral
- Ax T1 4mm bilateral
- Ax T2 4mm bilateral
- Cor T1 VIBE (angled to C5-C7) 1.3mm bilateral

Contrast

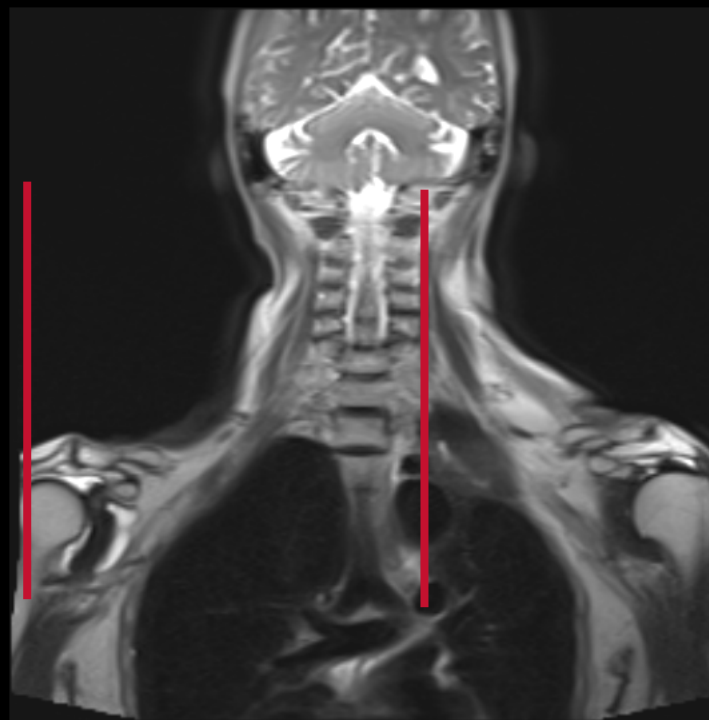
- Cor T1 VIBE (angled to C5-C7) 1.3mm bilateral
- Ax T1 4mm bilateral

Brachial Plexus

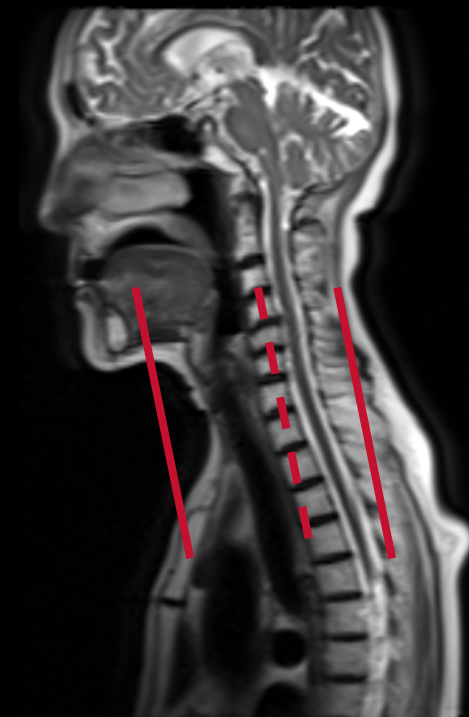
Coronal FOV
Axial Slice Selection



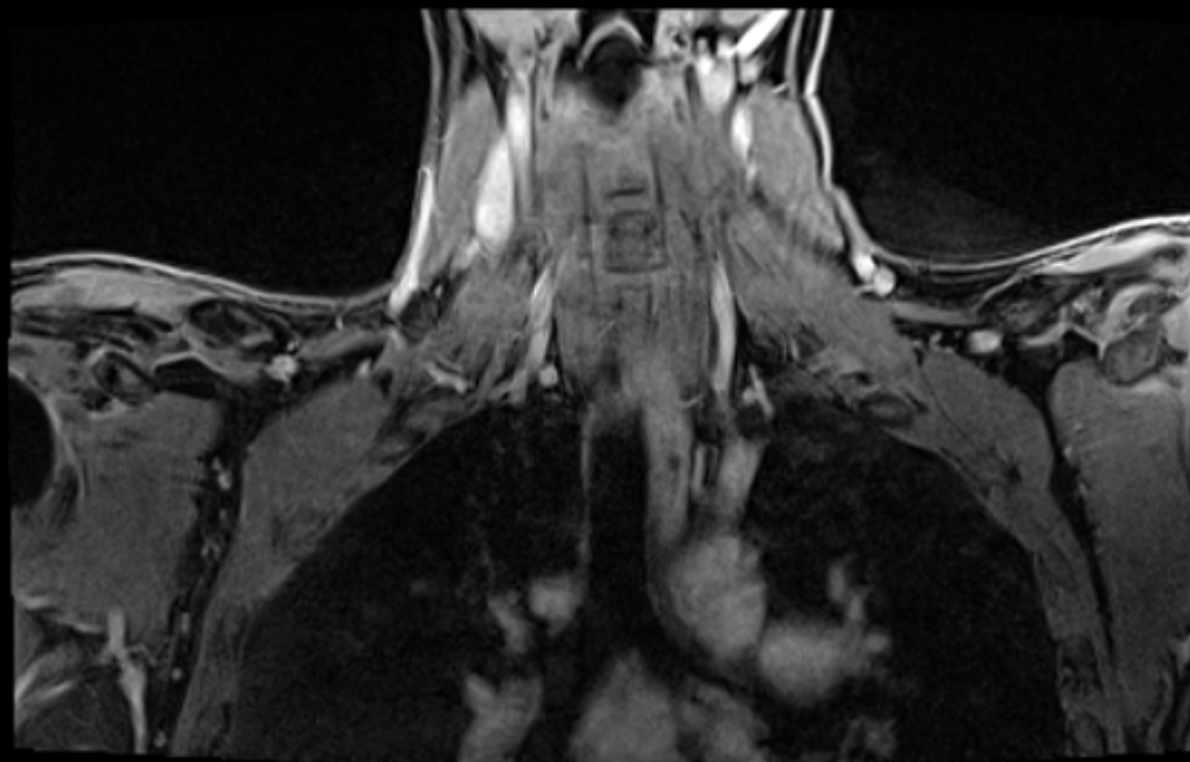
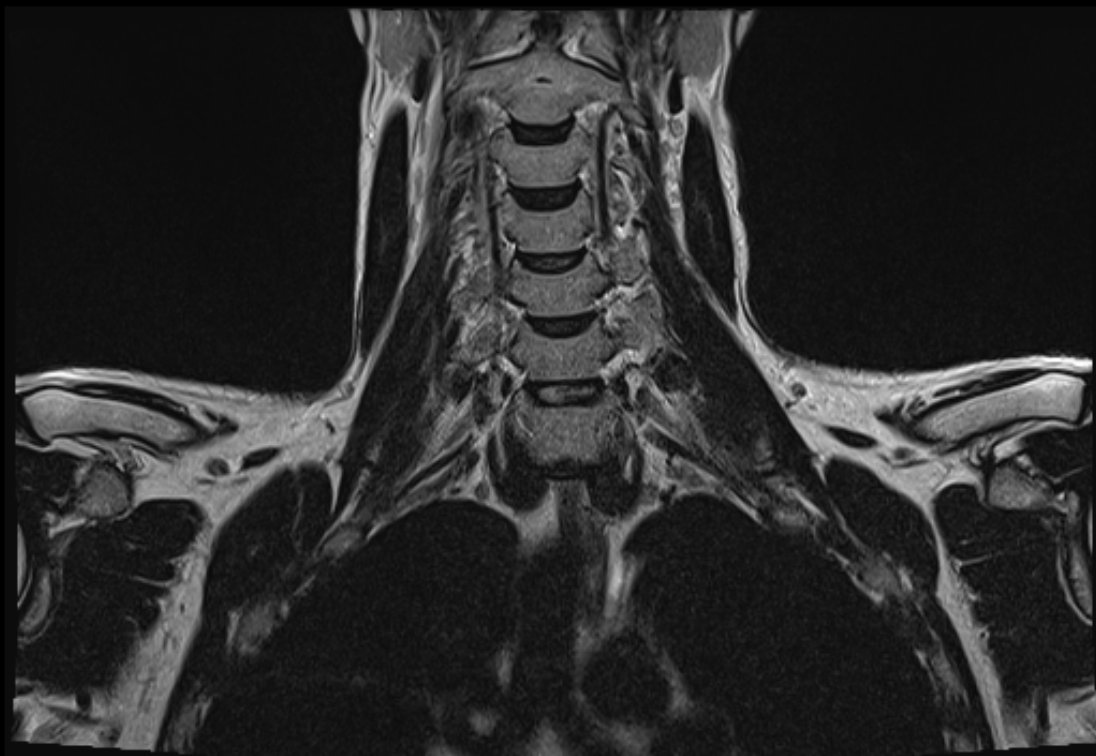
Sagittal Slice Selection



Coronal Slice Selection
(angled to C5-C7)



Brachial Plexus





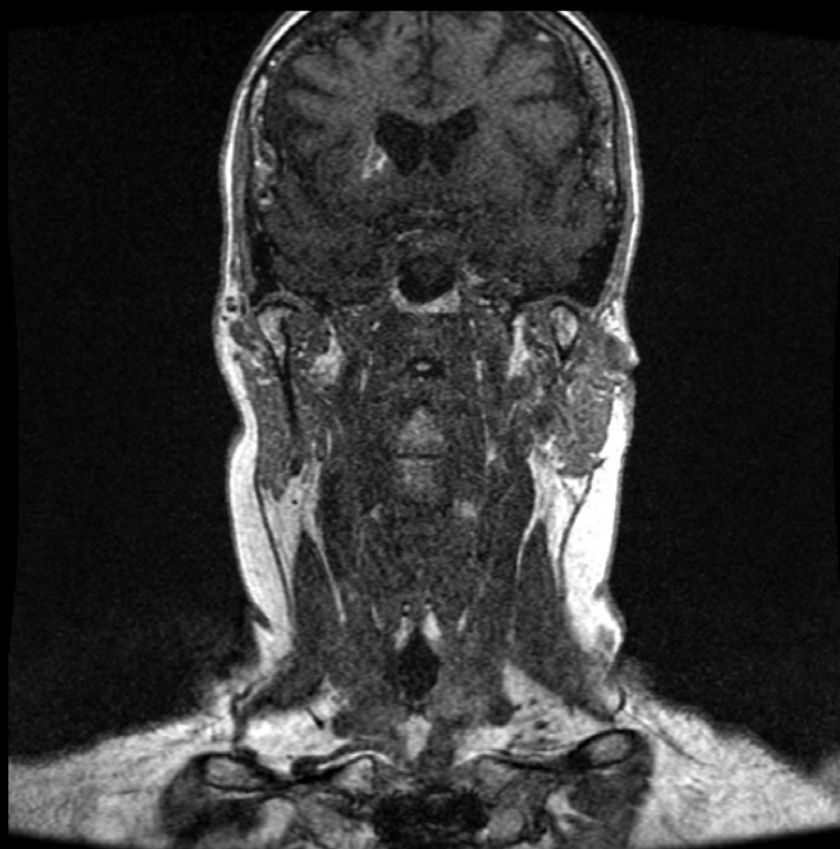
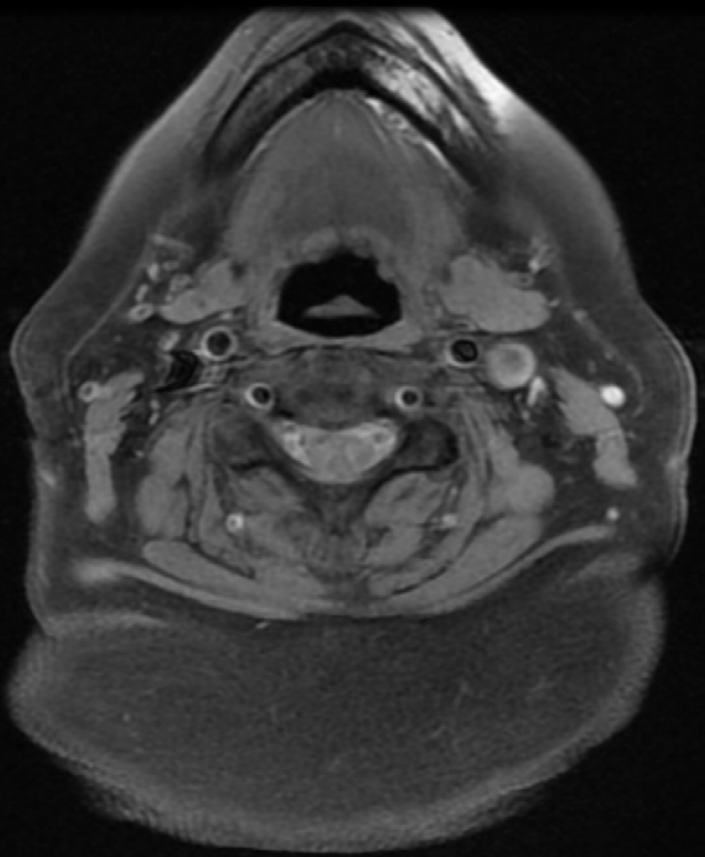
Cervical MRA C+

- Cor T1 GRE mask
- Ax T1 Fat Suppression (if requested for dissection)

Contrast

- Cor T1 GRE
 - Spin MIP reformat bilateral
 - Spin MIP reformat right
 - Spin MIP reformat left

Cervical MRA C+



Cervical MRA C-

- 2D TOF cervical arteries
 - Spin MIP reformat bilateral
- 3D TOF carotid bifurcations
 - Spin MIP reformat bilateral
 - Spin MIP reformat right
 - Spin MIP reformat left
- Ax T1 Fat Suppression (if requested for dissection)

Cervical MRA C-

