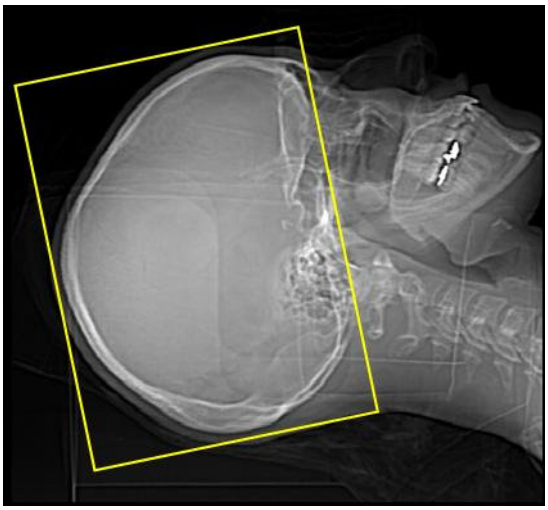
Chapter 19: Neurologic Protocols

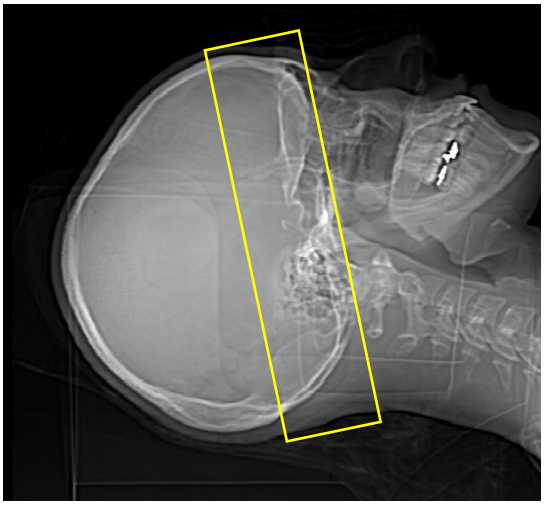
Routine Head



Examples of clinical indications: Without contrast: intracranial hemorrhage, early infarction, dementia, hydrocephalus, cerebral trauma Without and with contrast: Mass, lesion, arteriovenous malformation, metastasis, aneurysm; for symptoms of headache, seizure
Scouts: AP and lateral
Scan Type: Axial
Scan Plane: Transverse
Start Location: Just below skull base End Location: Just above vertex
IV Contrast: (if contrast is ordered) 100 mL at 1.0 mL/s. Scan delay = 5 minutes Oral Contrast: None
Reference Angle: Angle gantry parallel to supraorbital meatal line (avoid lens of eyes)
DFOV: ~23 cm

SFOV: Head		
Algorithm: Standard		
Window settings: 140 ww/40 wl posterior fossa 90 ww/35 wl vertex		
	16-Detector Protocol	64-Detector Protocol
Gantry Rotation Time	2.0 sec	1.0 sec
Acquisition (detector width x # detector rows = coverage)	0.625 mm x 16 =10 mm	0.625 mm x 32 = 20 mm
Reconstruction (Slice thickness/interval)	5.0 mm/5 mm (2 images per rotation)	5.0 mm/5 mm (4 images per rotation)
kVp/mA (posterior fossa)	140/150	140/330
kVp/mA (vertex)	120/150	120/330
Reconstruction 2:		
Algorithm: Bone		
Window Setting: 4000 ww/400 wl		
DFOV: ~23		
Slice Thickness/interval	2.5 mm/2.5 mm	2.5 mm/2.5 mm

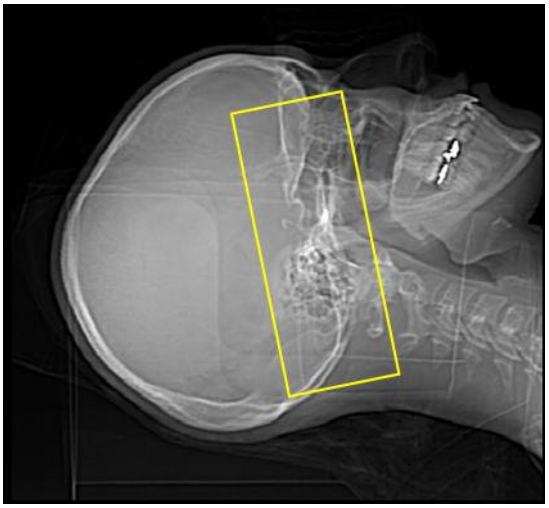
Skull Base (posterior fossa)



Examples of clinical indications: Posterior fossa and brainstem tumors, hemorrhages, AVM, dural sinus, thrombosis
Scouts: AP and lateral
Scan Type: Axial
Scan Plane: Transverse (coronal images may also be of benefit)
Start Location: Foramen magnum End Location: Through petrous ridges
IV Contrast: (if contrast is ordered) 100 mL at 1.0 mL/s. Scan delay = when all contrast is administered Oral Contrast: None
Reference Angle: Angle gantry parallel to infraorbital-meatal line
DFOV: ~23 cm
SFOV: Head
Algorithm: Standard

Window Settings: 140 ww/40 wl		
	16-Detector Protocol	64-Detector Protocol
Gantry Rotation Time	2.0 sec	1.0 sec
Acquisition (detector width x # detector rows = coverage)	0.625 mm x 16 =10 mm	0.625 mm x 32 = 20 mm
Reconstruction (Slice thickness/interval)	1.25 mm/1.25 mm (8 images per rotation)	1.25 mm/1.25 mm(16 images per rotation)
kVp/mA	140/170	140/340
Reconstruction 2:		
Algorithm: Bone		
DFOV: 18-20		
Window Settings: 4000 ww/400 wl		
Slice Thickness/interval	1.25 mm/1.25 mm	1.25 mm/1.25 mm

Temporal Bones



Group 1. Axial

Group 2. Coronal

Examples of clinical indications: Without contrast: cholesteatoma, inflammatory disease, fractures, evaluate implants With contrast: IAC tumor, hearing loss, acoustic neuroma, Schwannoma
Group 1.
Scouts: AP and lateral
Scan Type: Axial
Scan Plane: Transverse
Start Location: Just below the mastoid process End Location: Just above petrous ridge (include entire mastoid, internal auditory canal and external auditory canal)
IV Contrast: (if contrast is ordered) 100 mL at 1.0 mL/s. Scan delay = when all contrast is administered Oral Contrast: None
Reference Angle: Angle gantry parallel to infraorbital meatal line (be sure patient's head

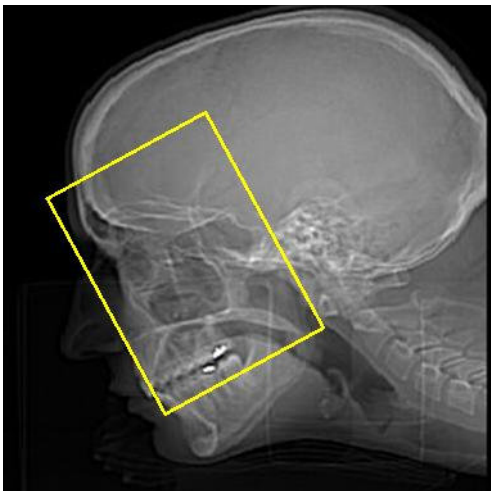
is straight and not rotated in the head holder)		
DFOV: ~9.6 cm (center RAS coordinates for right side ~R35)		
SFOV: Head		
Algorithm: Bone		
Window Settings: 4000 ww/ 400 wl		
	16-Detector Protocol	64-Detector Protocol
Gantry Rotation Time	1.0 sec	1.0 sec
Acquisition (detector width x # detector rows = coverage)	0.625 mm x 16 =10 mm	0.625 mm x 32 = 20 mm
Reconstruction (Slice thickness/interval)	0.625 mm/0.625 mm (16 images per rotation)	0.625 mm/0.625 mm (32 images per rotation)
kVp/mA	140/170	140/170
Reconstruction 2:		
Algorithm: Bone		
Window Setting: 4000 ww/400 wl		
DFOV: 9.6 cm (center RAS coordinates for left side ~L35)		
Slice Thickness	0.625 mm/0.625 mm	0.625 mm/0.625 mm
Reconstruction 3:		
Algorithm: Standard		
Window Setting: 140 ww/40 wl		
DFOV: ~18 (include both sides)		
Slice Thickness	2.5 mm/2.5 mm	2.5 mm/2.5 mm

Group 2.		
Scout: Lateral		
Scan Type: Axial		
Scan Plane: Coronal		
Start Location: Just anterior to the TMJ End Location: Just posterior to the mastoid (include entire mastoid, internal auditory canal and external auditory canal)		
Reference Angle: Angle gantry perpendicular to the infraorbital meatal line		
DFOV: ~9.6 cm (center RAS coordinates for right side ~R35)		
SFOV: Head		
Algorithm: Bone		
Window Settings: 4000 ww/ 400 wl		
	16-Detector Protocol	64-Detector Protocol
Gantry Rotation Time	1.0 sec	1.0 sec
Acquisition (detector width x # detector rows) = coverage	0.625 mm x 16 =10 mm	0.625 mm x 32 = 20 mm
Reconstruction (Slice thickness/interval)	1.25 mm/1.25 mm (8 images per rotation)	1.25 mm/1.25 mm (16 images per rotation)
kVp/mA	140/200	140/200
Reconstruction 2:		
Algorithm: Bone		
Window Setting: 4000 ww/400 wl		

DFOV: 9.6 cm (center RAS coordinates for left side ~L35)		
Slice Thickness/interval	1.25 mm/1.25 mm	1.25 mm/1.25 mm

Sinus Screen

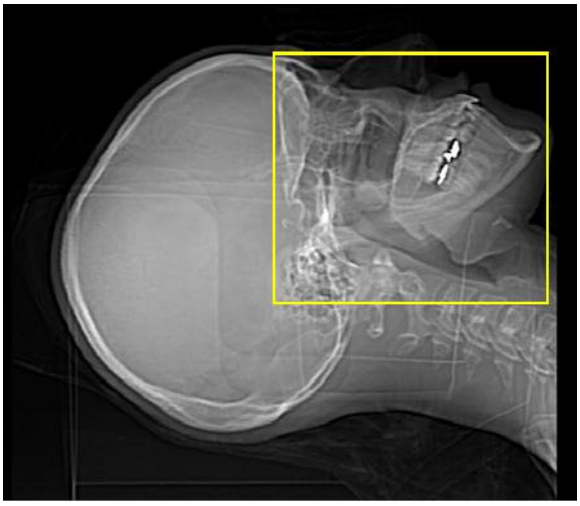
Sinus screening is intended as an inexpensive, accurate, and low radiation dose method for confirming the presence of inflammatory sinonasal disease. If confirmed and the patient will then have endoscopic sinus surgery, the coronal images provide a “roadmap” for the surgeon.



Examples of clinical indications: Recurrent or chronic sinusitis
Scout: Lateral
Scan Type: Axial
Scan Plane: Coronal
Start Location: Mid sella End Location: Through frontal sinus
IV Contrast: None Oral Contrast: None
Reference Angle: Angle gantry perpendicular to the orbital meatal line
DFOV: 16 cm
SFOV: Head

Algorithm: Standard		
Window Settings: 350 ww/50 wl		
	16-Detector Protocol	64-Detector Protocol
Scan Type	Helical	Axial
Gantry Rotation Time	1.0 sec	1.0 sec
Acquisition (detector width x # detector rows) = coverage	0.625 mm x 16 =10 mm	0.625 mm x 32 = 20 mm
Reconstruction (Slice thickness/interval)	2.5 mm/2.5 mm (4 images per rotation)	2.5 mm/2.5 mm (8 images per rotation)
kVp/mA	120/150	120/150
Reconstruction 2:		
Algorithm: Bone		
Window Setting: 4000 ww/400 wl		
DFOV: ~23		
Slice Thickness/interval	2.5 mm/2.5 mm	2.5 mm/2.5 mm

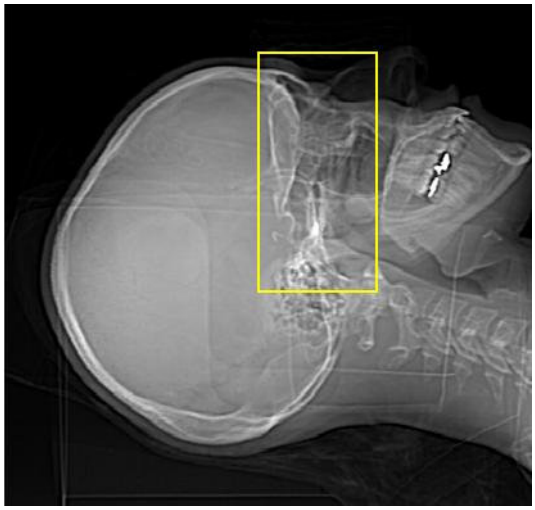
Trauma Facial Bones



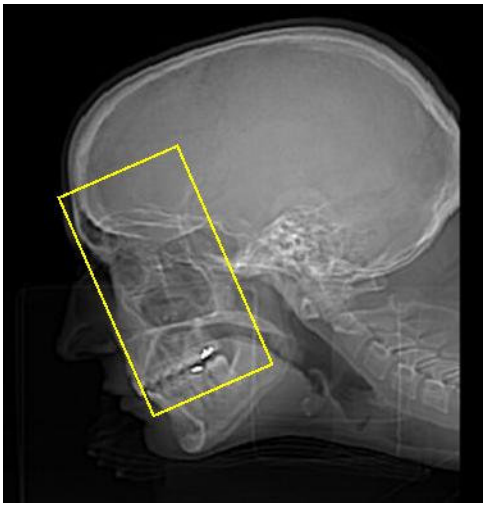
Examples of clinical indications: Characterization of facial fractures and soft tissue injury		
Scouts: AP and lateral		
Scan Type: Helical		
Scan Plane: Transverse		
Start Location: Just below mandible End Location: Just above frontal sinus		
IV Contrast: None Oral Contrast: None		
Reference Angle: Angle gantry parallel to infraorbital meatal line		
DFOV: 18 cm		
SFOV: Head		
Algorithm: Standard		
Window Settings: 350 ww/ 50 wl		
	16-Detector Protocol	64-Detector Protocol

Gantry Rotation Time	0.8 sec	0.8 sec
Acquisition (detector width x # detector rows = coverage	0.625 mm x 16 =10 mm	0.625 mm x 32 = 20 mm
Reconstruction (Slice thickness/interval)	1.25 mm/0.625	1.25 mm/0.625
Pitch	0.562	0.531
kVp/mA	120/250	140/250
Reconstruction 2:		
Algorithm: Bone		
Window Setting: 4000 ww/400 wl		
DFOV: 18		
Slice Thickness/interval	1.25 mm/0.625 mm	1.25 mm/0.625 mm
Reformations:		
Coronal reformats using both standard and bone algorithm image data		
Window Setting: 140 ww/40 wl (standard algorithm) 4000 ww/400 wl (bone algorithm)		
DFOV: ~18		
Thickness/Spacing: 1.2 mm/0.6 mm		

Orbits



Group 1. Axial



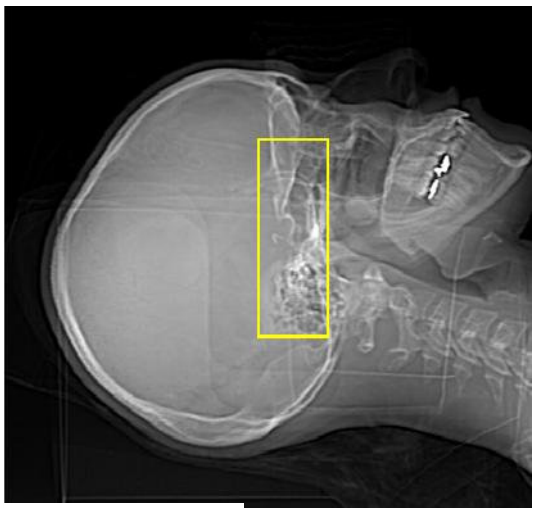
Group 2. Coronal

Examples of clinical indications: Without contrast: trauma, foreign body With contrast: intraorbital masses, thyroid, ophthalmopathy, inflammation, infection
Group 1.
Scouts: AP and lateral
Scan Type: Axial
Scan Plane: Transverse
Start Location: Just below orbital floor End Location: Just above orbital roof
IV Contrast (if contrast is ordered): 100 mL at 1.0 mL/s. Split bolus—two 50 mL injections. Two minute delay between injections; scans initiated once second injection is complete. Oral Contrast: None
Reference Angle: Angle gantry parallel to infraorbital meatal line

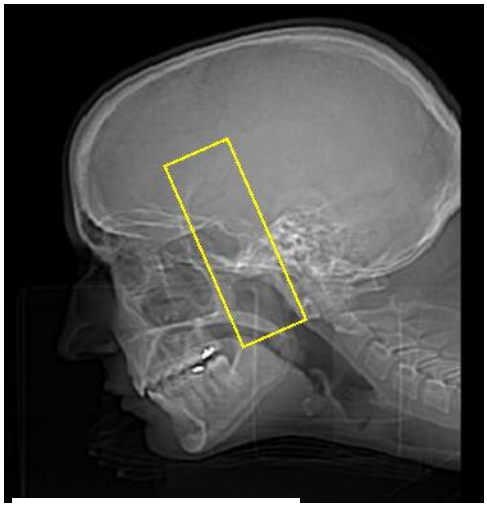
DFOV: 16 cm		
SFOV: Head		
Algorithm: Soft		
Window Settings: 350 ww/50 wl		
	16-Detector Protocol	64-Detector Protocol
Gantry Rotation Time	1.0	1.0 sec
Acquisition (detector width x # detector rows) = coverage	0.625 mm x 16 =10 mm	0.625 mm x 32 = 20 mm
Reconstruction (Slice thickness/interval)	2.5 mm/2.5 mm (4 images per rotation)	2.5 mm/2.5 mm (8 images per rotation)
kVp/mA	120/200	120/200
Reconstruction 2:		
Algorithm: Bone		
Window Setting: 4000 ww/400 wl		
DFOV: 16 cm		
Slice Thickness/interval	2.5 mm/2.5 mm	2.5 mm/2.5 mm
Group 2.		
Scout: Lateral		
Scan Type: Axial		
Scan Plane: Coronal		
Start Location: Mid sphenoid sinus End Location: Anterior frontal sinus		

Reference Angle: Angle gantry perpendicular to the infraorbital meatal line		
DFOV: 16		
SFOV: Head		
Algorithm: Soft		
Window Settings: 350 ww/50 wl		
	16-Detector Protocol	64-Detector Protocol
Gantry Rotation Time	1.0	1.0 sec
Acquisition (detector width x # detector rows) = coverage	0.625 mm x 16 =10 mm	0.625 mm x 32 = 20 mm
Reconstruction (Slice thickness/interval)	2.5 mm/2.5 mm (4 images per rotation)	2.5 mm/2.5 mm (8 images per rotation)
kVp/mA	140/200	140/200
Reconstruction 2:		
Algorithm: Bone		
Window Setting: 4000 ww/400 wl		
DFOV: 16		
Slice Thickness/interval	2.5 mm/2.5 mm	2.5 mm/2.5mm

Sella



Group 1. Axial



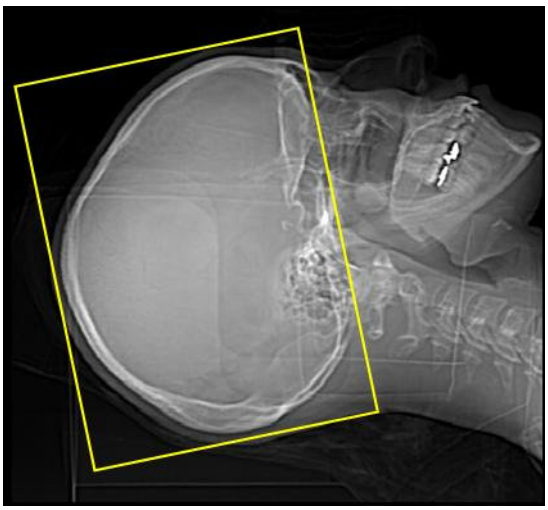
Group 2. Coronal

Examples of clinical indications: pituitary mass, microadenoma, and parasellar masses
Group 1.
Scouts: AP and lateral
Scan Type: Axial
Scan Plane: Transverse
Start Location: Just below sellar floor End Location: Through dorsum sellae
IV Contrast: 150 mL at 1.0 mL/s. Scan delay = 75 sec Oral Contrast: None
Reference Angle: Angle gantry parallel to infraorbital meatal line
DFOV: 14 cm
SFOV: Head
Algorithm: Soft

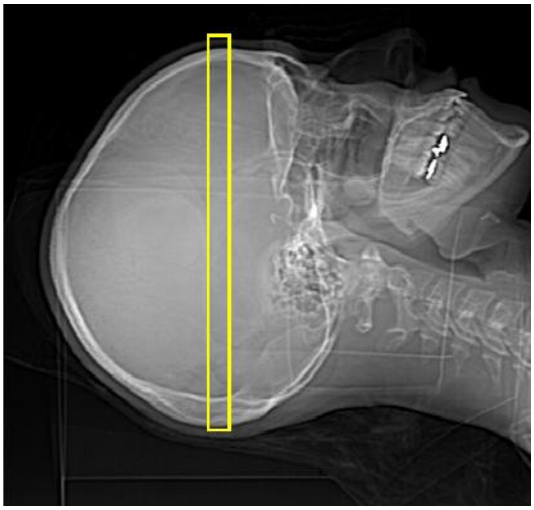
Window Settings: 350 ww/50 wl		
	16-Detector Protocol	64-Detector Protocol
Gantry Rotation Time	2.0 sec	1.0 sec
Acquisition (detector width x # detector rows) = coverage	0.625 mm x 16 =10 mm	0.625 mm x 32 = 20 mm
Reconstruction (Slice thickness/interval)	1.25 mm/1.25 (8 images per rotation)	1.25 mm/1.25 mm (16 images per rotation)
kVp/mA	140/140	140/280
Reconstruction 2:		
Algorithm: Bone		
Window Setting: 4000 ww/400 wl		
DFOV: 12 cm		
Slice Thickness/interval	1.25 mm/1.25 mm	1.25 mm/1.25 mm
Group 2.		
Scout: Lateral		
Scan Type: Axial		
Scan Plane: Coronal		
Start Location: Anterior clinoid End Location: Through dorsum sellae		
Reference Angle: Angle gantry perpendicular to the infraorbital meatal line		
DFOV: 12		
SFOV: Head		

Algorithm: soft		
Window Settings: 350 ww/50 wl		
	16-Detector Protocol	64-Detector Protocol
Gantry Rotation Time	2.0 sec	1.0 sec
Acquisition (detector width x # detector rows) = coverage	0.625 mm x 16 =10 mm	0.625 mm x 32 = 20 mm
Reconstruction (Slice thickness/interval)	1.25 mm/1.25 mm (8 images per rotation)	1.25 mm/1.25 mm (16 images per rotation)
kVp/mA	140/140	140/280
Reconstruction 2:		
Algorithm: Bone		
Window Setting: 4000 ww/400 wl		
DFOV: 12		
Slice Thickness/interval	1.25 mm/1.25 mm	1.25 mm/1.25 mm

Brain Perfusion



Group 1. Non-contrast Brain



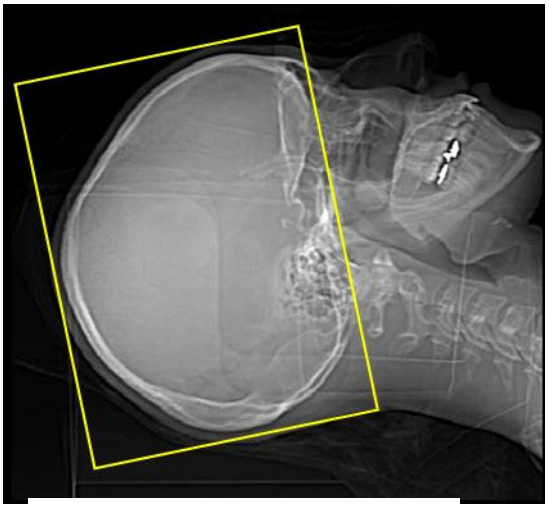
Group 2. Cine

Examples of clinical indications: acute stroke, vasospasm, to determine cerebrovascular reserve, in conjunction with temporary balloon occlusion
Group 1. Non-Contrast Head Refer to Table 14-2 (If a brain perfusion is ordered with a circle of Willis (CoW), or a CoW/carotid study, scan the CoW or CoW/carotid first, then perform the brain perfusion exam.)
Group 2. Contrast Scan
Scan Type: Cine (table increment = 0)
Scan Plane: Transverse
Slice Location: Center at the level of the basal ganglia
IV Contrast: 50 mL [370 concentration] at 4.0 mL/s. 20 mL saline flush at 4.0 mL/s Scan delay = 5 sec
Reference Angle: Same gantry tilt and RAS coordinates as the non-contrast portion

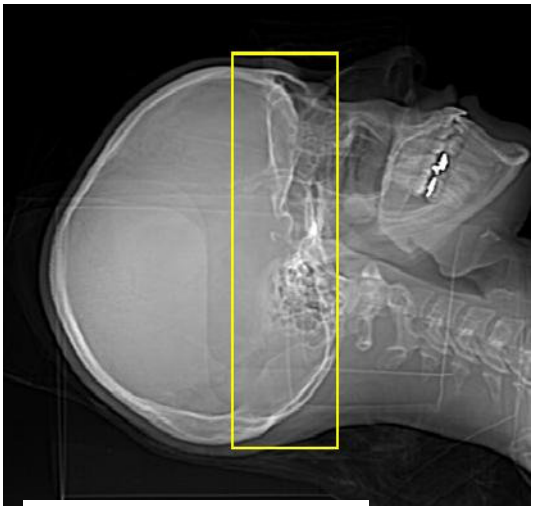
DFOV: 25		
SFOV: Head		
Algorithm: Standard		
Window Settings: 90 ww/35 wl		
	16-Detector Protocol	64-Detector Protocol
Gantry Rotation Time	1.0 sec	1.0 sec
Acquisition (detector width x # detector rows) = coverage	1.25 mm x 16 = 20 mm	0.625 mm x 64 = 40 mm
Scan Time (continuous scanning at the same table position)	50 seconds	50 seconds
Reconstruction (Slice thickness/interval/rotation) *image reconstructed for each 0.5 sec of tube travel	5.0 mm/5.0 mm/0.5 s (8 images per rotation)	5.0 mm/5.0 mm/0.5 s (16 images per rotation)
kVp/mA	80/200	80/200
Group 3. 2nd Contrast Scan with Diamox (when ordered)		
Diamox is administered by IV injection. 20 minutes after Diamox injection, scan is repeated. All parameters remain the same as group 2, including injection of another 50 mL of 370 concentration iodinated contrast media.		
After group 3 scans are complete, patient is escorted to the recovery area where he or she		

will be monitored for 30 minutes. Page the neuroradiologist if patient develops any unexpected signs or symptoms, especially those indicative of a stroke.

CTA – Circle of Willis



Group 1. Non-contrast Brain

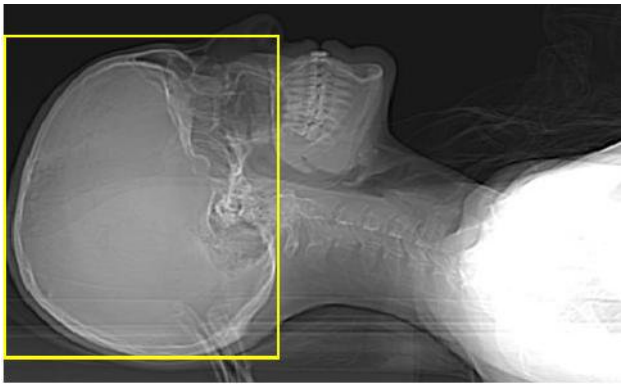


Group 2. Arterial Phase

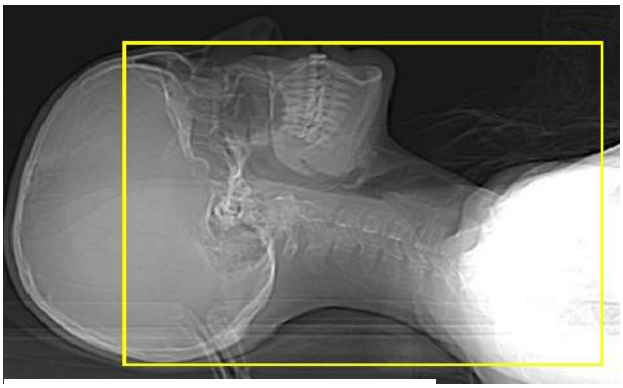
Examples of clinical indications: Locate cerebral aneurysm or AVM in patients with SAH/ICH
Group 1. Non-Contrast Head Refer to Table 14-2
Group 2. Arterial Phase Scan
Scan Type: Helical
Scan Plane: Transverse
Start Location: Just above the frontal sinuses End Location: Just below the skull base
IV Contrast: 60 mL [370 concentration] at 4.0 mL/s 20 mL saline at 4.0 mL/s Scan delay = from timing bolus (use carotid artery at ~ level of C-4 for ROI) Oral Contrast: None
Reference Angle: No gantry tilt

DFOV: 25 cm		
SFOV: Head		
Algorithm: Standard		
Window Settings: 140 ww/40 wl posterior fossa 90 ww/35 wl vertex		
	16-Detector Protocol	64-Detector Protocol
Gantry Rotation Time	0.5 sec	0.5 sec
Acquisition (detector width x # detector rows) = coverage	1.25 mm x 16 = 20 mm	0.625 mm x 64 = 40 mm
Reconstruction (Slice thickness/interval	1.25 mm/0.625	1.25 mm/0.625
Pitch	0.938	0.984
kVp/mA	120/500	120/500
Reformations:		
Coronal and Sagittal		
Window Setting: 140 ww/40 wl		
DFOV: ~18		
Slice Thickness/Spacing: 2.0 mm/2.0 mm		
Render Mode: MIP		

CTA – Circle of Willis/Carotid



Group 1. Non-contrast Brain



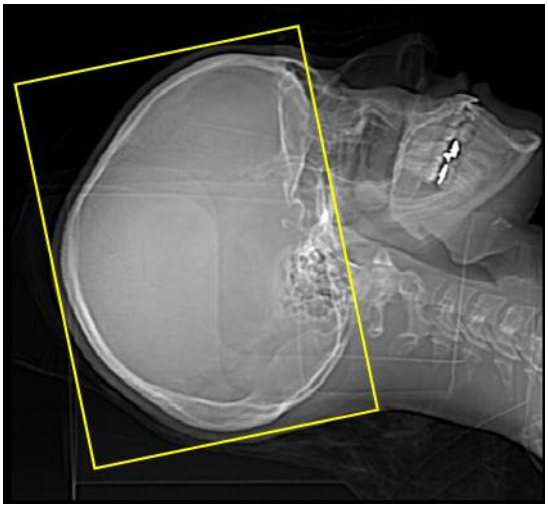
Group 1. Arterial Phase

Examples of clinical indications: Acute stroke, carotid atherostenosis, carotid dissections
Group 1. Non-Contrast Head Refer to Table 14-2
Group 2. Arterial Phase Scan
Scan Type: Helical
Scan Plane: Transverse
Start Location: Just below the aortic arch End Location: Just above the frontal sinus
IV Contrast:

80 mL [370 concentration] at 4.0 mL/s 40 mL Saline at 4.0 mL/s Scan delay = from timing bolus (use carotid artery at ~ level of C-4 for ROI) Oral Contrast: None		
Reference Angle: No gantry tilt		
DFOV: 25 cm		
SFOV: Large Body		
Algorithm: Standard		
Window Settings: 250 ww/30 wl – through foramen magnum 140 ww/40 wl – through base of skull 90 ww/35 wl – through vertex		
	16-Detector Protocol	64-Detector Protocol
Gantry Rotation Time	0.5 sec	0.5 sec
Acquisition (detector width x # detector rows) = coverage	1.25 mm x 16 = 20 mm	0.625 mm x 64 = 40 mm
Reconstruction (Slice thickness/interval)	1.25 mm/0.625 mm	1.25 mm/0.625
Pitch	0.938	0.984
kVp/mA	120/500	120/500
Reconstruction 2: For C-spine evaluation (only needed if history includes trauma)		
Algorithm: Bone		
Window Setting: 4000 ww/400 wl		

DFOV: ~13		
Slice Thickness/interval	2.5 mm/1.25 mm	2.5 mm/1.25 mm
Reformations:		
Coronal and Sagittal for both CoW and Carotids		
Window Setting: 800 ww/200 wl		
DFOV: ~20		
Slice Thickness/spacing: 2.0 mm/2.0 mm		
Render Mode: MIP		

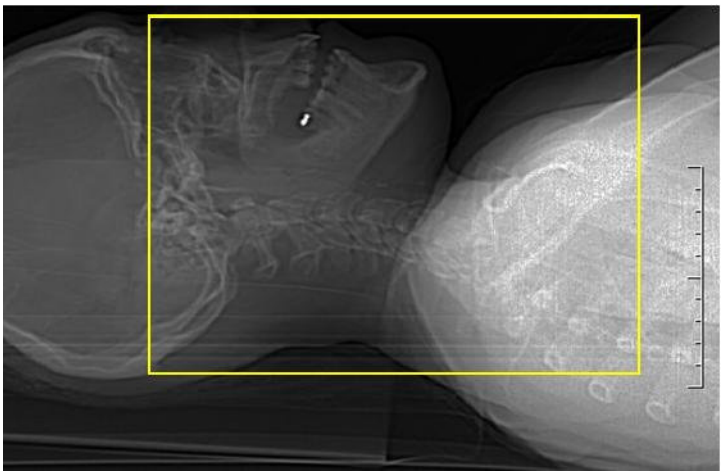
CTV (Cranial Venography)



Examples of clinical indications: Evaluation of cerebral venous disorders, dural sinus thrombosis
Scouts: AP and lateral
Scan Type: Helical
Scan Plane: Transverse
Start Location: Just below the skull base End Location: Just above the vertex
IV Contrast: 100 mL at 4.0 mL/s Scan delay = 30 sec (16-detector)/45 sec (64-detector) Oral Contrast: None
Reference Angle: No gantry tilt
DFOV: 25 cm
SFOV: Head

Algorithm: Standard		
Window Settings: 350 ww/40 wl		
	16-Detector Protocol	64-Detector Protocol
Gantry Rotation Time	0.5 sec	0.5 sec
Acquisition (detector width x # detector rows) = coverage	0.625 mm x 16 = 10 mm	0.625 mm x 64 = 40 mm
Reconstruction (Slice thickness/interval)	1.25 mm/0.625 mm	1.25 mm/0.625 mm
Pitch	0.562	0.531
kVp/mA	120/300	120/300
Reconstruction 2:		
Algorithm: Standard		
Window Setting: 350 ww/40 wl		
DFOV: 25		
Slice Thickness/interval	2.5 mm/1.25 mm	2.5 mm/1.25 mm
Reformations:		
Coronal and Sagittal		
Window Setting: 800 ww/200 wl		
DFOV: 25		
Slice Thickness/spacing: 2.0 mm/2.0 mm		
Render Mode: MIP		

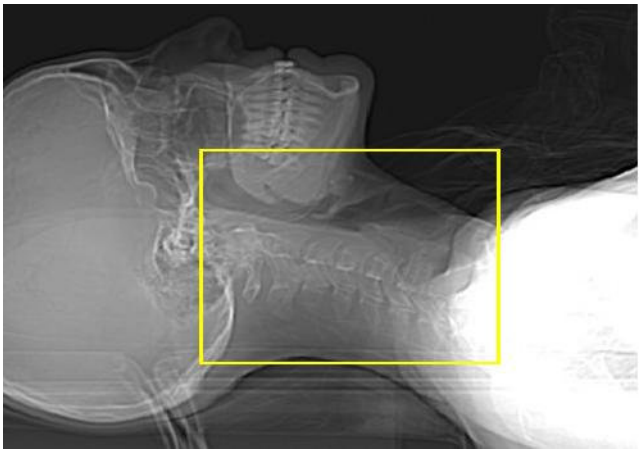
Neck (soft tissue)



Examples of clinical indications: neck mass, vascular abnormality
(If patient has metal dental work, split scan into two groups and angle to reduce artifact)
Scan Type: Helical
Scan Plane: Transverse
Scouts: AP and lateral
Start Location: Mid orbit End Location: Clavicular heads
IV Contrast: 125 mL at 1.5 mL/s. Split bolus— 1st injection 50 mL, 2-minute delay; 2nd injection 75 mL; scans initiated 25 seconds after the start of the second injection. Oral Contrast: None
Reference Angle: Angle gantry parallel to hard palate
DFOV: 18 cm
SFOV: Large body
Algorithm: Standard
Window Settings: 350 ww/50 wl

	16-Detector Protocol	64-Detector Protocol
Gantry Rotation Time	0.8 sec	0.8 sec
Acquisition (detector width x # detector rows) = coverage	0.625 mm x 16 =10 mm	0.625 mm x 32 = 20 mm
Reconstruction (Slice thickness/interval)	2.5 mm /1.25 mm	2.5 mm/1.25 mm
Pitch	0.562	0.531
kVp/auto mA	120/150-800	120/150-800
Reconstruction 2:		
Algorithm: Bone		
Window Setting: 4000 ww/400 wl		
DFOV: 18 cm		
Slice Thickness/interval	2.5 mm/1.25 mm	2.5 mm/1.25 mm
Reconstruction 3: From just below mandible to clavicular heads		
Algorithm: Bone		
Window Setting: 4000 ww/400 wl		
DFOV: 30		
Slice Thickness/interval	2.5 mm/1.25 mm	2.5 mm/1.25 mm

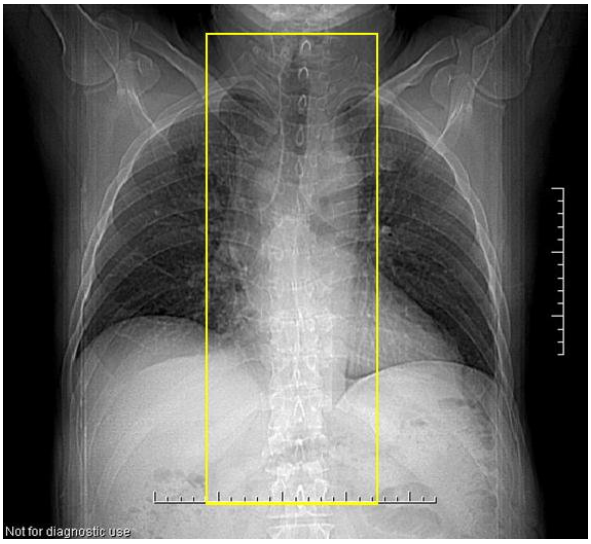
Cervical Spine



Examples of clinical indications: fracture, dislocation
Scan Type: Helical
Scan Plane: Transverse
Scouts: AP and lateral
Start Location: Just above skull base End Location: Mid T-1 (Include all cervical spine vertebrae, unless a level is specified)
IV Contrast: (only when requested by radiologist) 100 mL at 1.5 mL/s. Scan delay = when injection is complete Oral Contrast: None
Reference Angle: No gantry tilt
DFOV: ~13
SFOV: Large body
Algorithm: Standard
Window Settings: 350 ww/50 wl

	16-Detector Protocol	64-Detector Protocol
Gantry Rotation Time	0.8 sec	0.8 sec
Acquisition (detector width x # detector rows) = coverage	0.625 mm x 16 =10 mm	0.625 mm x 32 = 20 mm
Reconstruction (Slice thickness/interval)	2.50 mm/1.25 mm	2.50 mm/1.25 mm
Pitch	0.562	0.531
kVp/auto mA	140/125-325	140/125-325
Reconstruction 2:		
Algorithm: Bone		
Window Setting: 4000 ww/400 wl		
DFOV: ~13 cm		
Slice Thickness/interval	2.5 mm/1.25 mm	2.5 mm/1.25 mm
Reformats: Coronal and Sagittal		
Algorithm: Bone		
Window Setting: 4000 ww/400 wl		
DFOV: Full		
Slice Thickness/spacing	2.0 mm/2.0 mm	2.0 mm/2.0 mm
Render Mode	Average	Average

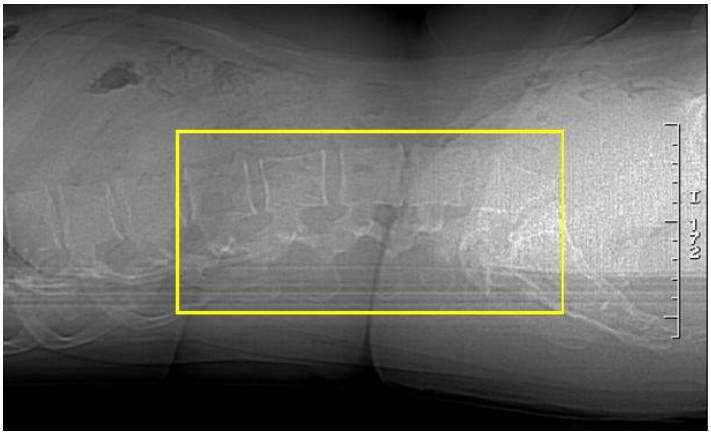
Thoracic Spine



Examples of clinical indications: fracture, dislocation
Scan Type: Helical
Scouts: AP and lateral
Scan Plane: Transverse
Start Location: Just above T1 End Location: Just below T12 (Include all thoracic spine vertebrae, unless a level is specified)
IV Contrast: (only when requested by radiologist) 100 mL at 1.5 mL/s. Scan delay = when injection is complete Oral Contrast: None
Reference Angle: No gantry tilt
DFOV: ~16
SFOV: Large body
Algorithm: Standard

Window Settings: 350 ww/50 wl		
	16-Detector Protocol	64-Detector Protocol
Gantry Rotation Time	0.8 sec	0.8 sec
Acquisition (detector width x # detector rows) = coverage	0.625 mm x 16 =10 mm	0.625 mm x 32 = 20 mm
Slice Thickness	2.50 mm/1.25 mm	2.50 mm/1.25 mm
Pitch	0.562	0.531
kVp/auto mA	140/100-350	140/100-350
Reconstruction 2:		
Algorithm: Bone		
Window Setting: 4000 ww/400 wl		
DFOV: ~13 cm		
Slice Thickness/interval	2.5 mm/1.25 mm	2.5 mm/1.25 mm
Reformats: Coronal and Sagittal		
Algorithm: Bone		
Window Setting: 4000 ww/400 wl		
DFOV: Full		
Slice Thickness/spacing	2.0 mm/2.0 mm	2.0 mm/2.0 mm
Render Mode	Average	Average

Lumbar Spine



Examples of clinical indications: fracture, dislocation
Scouts: AP and lateral
Scan Type: Helical
Scan Plane: Transverse
Start Location: Just above L1 End Location: Just below S1 (Unless a level is specified by radiologist)
IV Contrast: (only when requested by radiologist) 100 mL at 1.5 mL/s. Scan delay = when injection is complete Oral Contrast: None
Reference Angle: No gantry tilt
DFOV: 14-16
SFOV: Large body
Algorithm: Standard
Window Settings: 350 ww/50 wl

	16-Detector Protocol	64-Detector Protocol
Gantry Rotation Time	0.8 sec	0.8 sec
Acquisition (detector width x # detector rows) = coverage	0.625 mm x 16 = 10 mm	0.625 mm x 32 = 20 mm
Slice Thickness	2.50 mm/1.25 mm	2.50 mm/1.25 mm
Pitch	0.562	0.531
kVp/auto mA	140/150-380	140/150-380
Reconstruction 2:		
Algorithm: Bone		
Window Setting: 4000 ww/400 wl		
DFOV: ~13 cm		
Slice Thickness/interval	2.5 mm/1.25 mm	2.5 mm/1.25 mm
Reformats: Coronal and Sagittal		
Algorithm: Bone		
Window Setting: 4000 ww/400 wl		
DFOV: Full		
Slice Thickness/spacing	2.0 mm/2.0 mm	2.0 mm/2.0 mm
Render Mode	Average	Average

CTA Spine

Examples of clinical indications: localization of the shunt of spinal dural arteriovenous fistulas, spinal arteriovenous malformation, blunt trauma (suspected vascular injury)		
Scouts: AP and lateral		
Scan Plane: Transverse		
Scan Type: Helical		
Group 1. Arterial Phase		
Start Location: Skull base End Location: Sacrum (or levels specified by radiologist)		
IV Contrast: 120 mL [370 concentration] at 6 mL/s. Scan delay = Bolus tracking; place ROI in the aorta just below diaphragm; manually trigger when enhancement value approaches 125 HU Oral Contrast: None		
Reference Angle: No gantry tilt		
DFOV: 20		
SFOV: Large body		
Algorithm: Standard		
Window Settings: 350 ww/50 wl		
	16-Detector Protocol	64-Detector Protocol
Gantry Rotation Time	0.5 sec	0.4 sec
Detector Coverage	1.25 mm x 16 = 20 mm	0.625 x 64 mm = 40
Slice Thickness	1.25 mm/0.625	1.25 mm/0.625

Pitch		0.984
Pitch	0.938	0.984
kVp/auto mA	140/100-750	140/100-750
Group 2. Delayed Scans		
Repeat parameters from group 1. Begin group 2 immediately after 1st group is complete.		
Reformats: Coronal and Sagittal		
Algorithm: Standard		
Window Setting: 350 ww/50 wl		
DFOV: Full		
Slice Thickness/spacing	2.0 mm/2.0 mm	2.0 mm/2.0 mm
Render Mode	Average	Average