

**RIH – BRAIN CTA  
SIEMENS DEFINITION AS20 PROTOCOL**

**Application: Cerebral artery aneurysm or stenosis**

<b>Position/Landmark</b>	Supine head first or feet first 1cm superior to skull vertex			
<b>Topogram Direction</b>	Craniocaudal / Craniocaudal			
<b>Respiratory Phase</b>	Any			
<b>Scan Type</b>	Helical			
<b>Ref kV/Ref mAs/Rotation time (sec)</b>	nc brain Care kV 120/Care Dose4D 250/ 0.5 sec		brain cta Care kV 100/Care Dose4D 175/0.5 sec	
<b>Pitch / Speed (mm/rotation)</b>	.7:1 , 8.75mm		1.4:1 , 17.50mm	
<b>Safire Strength / Dose Optimization</b>	1 / 3		3 / 11	
<b>Detector width x Rows = Beam Collimation</b>	nc brain 0.625mm x 20 = 12.5mm		cta brain 0.625mm x 20 = 12.5mm	
<b>Average Tube Output</b>	nc brain ctdi – 35.0 mGy dlp – 600 mGy.cm		cta brain ctdi – 11.1 mGy dlp – 252 mGy.cm	
<b>First Helical Set</b> Slice Thickness/ Spacing Algorithm Recon Destination	recon	body part	thickness/ spacing	recon destination .
	1	thick helical brain	5mm x 5mm	J40f medium
	2	<b>axial brain reformat</b>	5mm x 5mm	J40f medium
	3	<b>axial skull reformat</b>	5mm x 5mm	H60f sharp
	4	<b>coronal brain reformat</b>	5mm x 5mm	J40f medium
	5	thin brain	.75mm x .7mm	J40f medium
				terarecon
<b>Second Helical Set</b> Slice Thickness/ Spacing Algorithm Recon Destination	recon	body part	thickness/ spacing	recon destination .
	1	<b>thin axial brain cta</b>	.75mm x .7mm	J30f smooth
	2	<b>thin coronal brain cta</b>	.75mm x .7mm	J30f smooth
	3	<b>thin sagittal brain cta</b>	.75mm x .7mm	J30f smooth
	4	<b>thick axial brain cta mip</b>	10mm x 3mm	J30f smooth
				pac
				pac
				pac
				pac
<b>Scan Start / End Locations</b>	nc brain 1cm inferior to skull base skull vertex 25cm		cta brain level of C3 skull vertex 18cm	
<b>DFOV</b>	decrease appropriately			
<b>IV Contrast Volume / Type / Rate</b>	80mL Iohexol (Omnipaque 350) / 4mL per second			
<b>Scan Delay</b>	Bolus Tracking at Aortic Arch			
<b>2D/3D Technique Used</b>	Workstream 4d mpr 5mm x 5mm <b>non con axial brain reformats, axial skull reformats, coronal brain reformats</b> , auto transferred to PACS			
	Workstream 4d mpr <b>axial, sagittal and coronal cta reformats</b> .75 mm x .7mm, <b>thick axial reformats</b> , 10.0mm x 3.0mm, mip mode, auto transferred to PACS			
<b>Images required in PACS</b>	Topograms , 5mm x 5mm axial brain, 5mm x 5mm coronal brain, 5mm x 5mm axial skull, .75mm x .7mm axial brain cta, 10mm x 3mm axial cta mip, .75mm x 7mm sagittal cta, .75mm x .7mm coronal cta, Patient Protocol			