

RIH – CAROTID AND BRAIN CTA GE LIGHTSPEED 16 / OPTIMA CT580 PROTOCOL

Indications: carotid/cerebral artery stenosis or aneurysm; non-trauma

Position/Landmark	Supine head first or feet first Zero at sternal notch.			
Topogram Direction	Craniocaudal			
Respiratory Phase	Any			
Scan Type	Helical			
KV / mA / Rotation time (sec)	120kv / smart mA (50-210) / 0.5 sec		120kv / smart mA (100-400) / 0.5 sec	
Pitch / Speed (mm/rotation)	.562:1 , 5.62mm		938:1 , 9.37mm	
Noise Index / ASiR / Dose Reduction	10 / 20 / 20%		7 / 20 / 20%	
Detector width x Rows = Beam Collimation	0.625mm x 16 = 10mm			
Average Tube Output	nc brain ctdi – 46.1 mGy dlp – 742 mGy.cm		cta neck brain ctdi – 11.1 mGy dlp – 252 mGy.cm	
First Helical Set	body	thickness/	recon	
Slice Thickness/ Spacing	recon part	spacing	algorithm	destination .
Algorithm	1 thin brain	.6mm x .6mm	standard	for dmpr
Recon Destination				
Second Helical Set	body	thickness/	recon	
Slice Thickness/ Spacing	recon part	spacing	algorithm	destination .
Algorithm	1 cta carotid/brain	.6mm x .6mm	soft	for dmpr
Recon Destination	2 carotid cta	1.25mm x 1.25mm	standard	pacs
	3 brain cta	.6mm x .6mm	soft	pacs
Scan Start / End Locations	nc brain 1cm inferior to skull base skull vertex 23cm		cta neck brain 1cm inferior to aortic arch skull vertex 23cm	
DFOV	decrease appropriately			
IV Contrast Volume / Type / Rate	80cc omni 350 / 4cc per second			
Scan Delay	Smart Prep at Aortic Arch			
2D/3D Technique Used	Non Con: 5mm x 5mm axial brain reformats in the glabello-meatal plane (auto-batch off), average mode, auto transferred to PACS CTA: Axial reformats, 10.0mm x 3.0mm, mip mode (auto-batch off) Sagittal and coronal reformats 1mm x 1mm, mip mode (auto-batch off) Right and left sagittal/oblique reformats, 1.0mm x 1.0mm, average mode (auto-batch off), average mode, auto-transferred to PACS			
Comments:	A non-contrast brain is done first. Recon 1 is a thin soft algorithm for reformats. Axial reformats 10.0mm thick x 3.0mm, mip mode, and sagittal and coronal 1mm thick x 1mm, mip mode, right and left sagittal/oblique reformats, 1mm x 1mm, average mode using DMPR are routine for this protocol. Recon 2 is from the aortic arch to the circle of willis only. Recon 3 is from C2 through the skull vertex only.			
Images required in PACS	Scouts, 5mm x 5mm axial nc brain, .6mm x .6mm axial brain cta, 10mm x 3mm axial brain cta mip, 1mm x 1mm sagittal brain cta mip, 1mm x 1mm coronal brain cta mip, 1.25mm x 1.25mm axial carotid cta, 1mm x 1mm right sagittal oblique carotid, 1mm x 1mm left sagittal oblique carotid, Dose Report			