

# RIH – NECK CTA, CHEST ABDOMEN PELVIS GE LIGHTSPEED 16 / OPTIMA CT580 PROTOCOL

**Indications: Multiple trauma work-up or follow-up**

<b>Position/Landmark</b>	Head first or feet first-Supine Sternal Notch			
<b>Topogram Direction</b>	Craniocaudal			
<b>Respiratory Phase</b>	Inspiration			
<b>Scan Type</b>	Helical			
<b>KV / mA / Rotation time (sec)</b>	neck		chest abdomen pelvis	
<b>Pitch / Speed (mm/rotation)</b>	120kv / smart mA (100-440) / 0.5sec		120kv / smart mA (100-440) / 0.5sec	
<b>Noise Index / ASiR / Dose Reduction</b>	1.375:1 , 27.5mm		1.375:1 , 27.5mm	
	19.00(neck) / 20 / 20 %		24.00(chest abd pelvis) / 30 / 30 %	
<b>Detector width x Rows = Beam Collimation</b>	1.25mm x 16 = 20mm			
<b>Average Tube Output</b>	First Helical: ctdi – 9.7mGy dlp – 295.6 mGy.cm		Second Helical: ctdi – 13.0mGy dlp – 897 mGy.cm	
<b>First Helical Set</b>	body thickness/ recon			
Slice Thickness/ Spacing	recon	part	spacing	algorithm destination .
Algorithm	1	thin carotids	1.2mm x .6mm	soft for dmpr
Recon Destination	2	<b>carotid cta</b>	2.5mm x 2.5mm	standard pacs
<b>Second Helical Set</b>	body thickness/ recon			
Slice Thickness/ Spacing	recon	part	spacing	algorithm destination .
Algorithm	1	thin chest abd pelvis	1.25mm x .6mm	standard for dmpr
Recon Destination	2	<b>chest abd pelvis</b>	5mm x 5mm	standard pacs
	3	<b>lung</b>	5mm x 5mm	lung pacs
<b>Scan Start / End Locations</b>	neck aortic arch through circle of willis 18cm		chest abdomen pelvis 1cm superior to lung apices lesser trochanters 38cm	
<b>DFOV</b>	decrease appropriately			
<b>IV Contrast Volume / Type / Rate</b>	Pre-scan contrast: 30cc omni 350 2cc/sec Wait a minimum of 5 minutes Helical scan contrast: 100cc omni 350 4cc/sec			
<b>Scan Delay</b>	smart prep at aortic arch, the trigger is +80 HU			
<b>2D/3D Technique Used</b>	<b>Sagittal/oblique and coronal carotid</b> reformats, 2.0mm x 2.0mm, average mode using DMPR. (auto-batch off), average mode, auto-transferred to PACS DMPR of 5mm x 5mm coronal <b>chest, abdomen, pelvis</b> series (auto-batch on), average mode, auto-transferred to PACS.			
<b>Comments:</b>	The recon 1 in each helical group is thin of the neck and chest abdomen, pelvis for direct mpr. The second recons are 2.5mm x 2.5mm carotid cta and 5mm x 5mm chest, abdomen, pelvis, standard algorithm, going to PACS. Recon 3 is the 5mm x 5mm lung algorithm going to PACS.			
<b>Images required in PACS</b>	Scouts, 2.5mm x 2.5mm axial carotid cta, 2mm x 2mm left sagittal/oblique carotid, 2mm x 2mm right sagittal/oblique carotid, 2mm x 2mm coronal carotids, 5mm x 5mm axial chest abdomen pelvis, 5mm x 5mm coronal chest abdomen pelvis, 5mm x 5mm axial lungs, Dose Report			