# RIH - PARATHYROID 4D NECK
## GE LIGHTSPEED VCT PROTOCOL

**Indication:** For localization of parathyroid adenoma

| Position/Landmark | Head first or feet first-Supine  
<table>
<thead>
<tr>
<th></th>
<th>Sternal Notch</th>
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</thead>
<tbody>
<tr>
<td>Topogram Direction</td>
<td>Craniocaudal</td>
</tr>
<tr>
<td>Respiratory Phase</td>
<td>Inspiration</td>
</tr>
<tr>
<td>Scan Type</td>
<td>Helical</td>
</tr>
</tbody>
</table>

**KV / mA / Rotation time (sec)**  
120kv / smart mA (100-450) / 0.5 sec  
**Pitch / Speed (mm/rotation)**  
1.375:1 , 55.00mm  
**Noise Index / ASiR / Dose Reduction**  
18.0 / 20 / 20%  
**Detector width x Rows = Beam Collimation**  
0.625mm x 64 = 40mm  
**Average Tube Output**  
ctdi – 10.7mGy  
dlp – 915.6 mGy.cm  
**First – Third Helical Sets**  
Slice Thickness/ Spacing  
.6mm x .6mm  
Algorithm  
Standard  
Recon Destination  
for dmpr  
**Scan Start / End Locations**  
DFOV  
external auditory meatus  
mid heart  
18cm  
decrease appropriately  
**IV Contrast Volume / Type / Rate**  
100mL Iohexol (Omnipaque 350) , 3mL/sec  
**Scan Delay**  
45 seconds  
**2D/3D Technique Used**  
DMPR of 3mm x 3mm axial and coronal of each phase of recon 1 auto transferred to PACS. Auto-batch is on for all 6 sets of reformats.  
**Comments:** Recon 1 is three helical groups of the neck for direct mpr. Direct mpr will create axial and coronal images of each series and send them to PACS. This protocol repeats the same scan of the neck at 0 seconds, 45 seconds(late arterial), 75 seconds(perfusion), after iv contrast injection.  
**Start the iv contrast after the non-contrast series (0 seconds) is completed.** Place the angiocath for the iv injection in the arm opposite of the patient’s symptoms. The patient usually has had a nuclear med study that indicates the area of possible adenoma.  
The multiple phases are used to determine the peak enhancement of a parathyroid adenoma.  
**Images required in PACS**  
Scouts, 3mm x 3mm axial and coronal 0 seconds, 3mm x 3mm axial and coronal 45 seconds, 3mm x 3mm axial and coronal 75 seconds, Dose Report

*updated Jan 23, 2017*