

## RIH - STEREOTACTIC GAMMA KNIFE GE LIGHTSPEED VCT PROTOCOL

**Indications:** A gamma knife is a neurosurgical device used to treat brain tumors with radiation therapy.

<b>Position/Landmark</b>	Supine head first, in stereotactic headholder. Neuro team will position.																				
<b>Topogram Direction</b>	Craniocaudal																				
<b>Respiratory Phase</b>	Any																				
<b>Scan Type</b>	Helical																				
<b>KV / mA / Rotation time (sec)</b> <b>Pitch / Speed (mm/rotation)</b> <b>Noise Index / ASiR / Dose Reduction</b>	120kv / smart mA (100-700) / 0.8 sec 938:1 , 9.37mm 5.00																				
<b>Detector width x Rows = Beam Collimation</b>	0.625mm x 32 = 20mm																				
<b>Average Tube Output</b>	ctdi – 51.1 mGy dlp – 872 mGy.cm																				
<b>Helical Set</b> Slice Thickness/ Spacing Algorithm Recon Destination	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>body part</th> <th>thickness/ spacing</th> <th>algorithm</th> <th>recon destination .</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>thin gamma knife</td> <td>0.6mm x 0.6mm</td> <td>bone</td> <td>gamma knife</td> </tr> <tr> <td>2</td> <td><b>brain</b></td> <td>5mm x 5mm</td> <td>standard</td> <td>pac</td> </tr> <tr> <td>3</td> <td><b>skull</b></td> <td>5mm x 5mm</td> <td>bone</td> <td>pac</td> </tr> </tbody> </table>		body part	thickness/ spacing	algorithm	recon destination .	1	thin gamma knife	0.6mm x 0.6mm	bone	gamma knife	2	<b>brain</b>	5mm x 5mm	standard	pac	3	<b>skull</b>	5mm x 5mm	bone	pac
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<b>Scan Start / End Locations</b>	Prescribed by gamma knife.																				
<b>DFOV</b>	25cm decrease appropriately																				
<b>IV Contrast Volume / Type / Rate</b>	The gamma knife team will prescribe iv contrast only if necessary. Typical iv contrast dosage for this protocol is 200mL Iohexol (Omnipaque 350), hand injected.																				
<b>Scan Delay</b>	Prescribed by gamma knife.																				
<b>2D/3D Technique Used</b>																					
<b>Comments:</b> Recon 1 is a bone algorithm, thin data set sent to gamma knife. Recon 2 is a standard algorithm brain, Recon 3 is for the skull.																					
<b>Images required in PACS</b>	Scouts, 5mmx 5mm standard brain, 5mm x 5mm skull, Dose Report																				