**RIH – HELICAL PEDI BRAIN**  
**SIEMENS DEFINITION AS20 PROTOCOL**

**Indications:**  
Non contrast: cva, intracranial bleed, mental status change, trauma, hydrocephalus.  
Contrast: suspicion of mass, known primary brain lesion, metastases

| Position/Landmark | Supine head first or feet first  
1cm superior to skull vertex |
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Topogram Direction</td>
<td>Craniocaudal / Craniocaudal</td>
</tr>
<tr>
<td>Respiratory Phase</td>
<td>Any</td>
</tr>
<tr>
<td>Scan Type</td>
<td>Helical</td>
</tr>
</tbody>
</table>
| Ref kV/Ref mAs/Rotation time (sec) Pitch / Speed (mm/rotation) | Care kV 120 / Care Dose4D 220 / 0.5 sec  
.6:1 , 7.5mm |
| Safire Strength / Dose Optimization | 1 / non contrast 3  
iv contrast 6 |
| Ref kV/Ref mAs/Rotation time (sec) Pitch / Speed (mm/rotation) | Care kV 120 / Care Dose4D 220 / 0.5 sec  
.6:1 , 7.5mm |
| Safire Strength / Dose Optimization | 1 / non contrast 3  
iv contrast 6 |
| Detector width x Rows = Beam Collimation | 0.625mm x 20 = 12.5mm |
| Average Tube Output | ctdi – 25.0 mGy  
dlp – 400 mGy.cm |
| Helical Set | body  
recon part thickness/spacing algorithm recon destination |
| Slice Thickness/ Spacing Algorithm Recon Destination | 1 thick helical brain 5mm x 5mm J40f medium pacs  
2 axial brain reformat 5mm x 5mm J40f medium pacs  
3 axial skull reformat 5mm x 5mm H60f sharp pacs  
4 coronal brain reformat 5mm x 5mm J40f medium pacs  
5 thin brain .75mm x .7mm J40f medium terarecon  
6 thin skull .75mm x .7mm H60f sharp terarecon |
| Scan Start / End Locations | 1cm inferior to skull base  
1cm superior to skull vertex  
25cm  
decrease appropriately |
| DFOV | Contrast volume is 1cc per pound of body weight  
Omnipaque300 / 1.5cc per second  
or hand injection if necessary |
| IV Contrast Volume / Type / Rate | minimum of 2 minutes |
| Scan Delay | Workstream 4d mpr 5mm x 5mm axial brain reformats in the glabella-meatal plane, auto transferred to PACS  
Workstream 4d mpr 5mm x 5mm axial skull reformats in the glabella-meatal plane, auto transferred to PACS  
Workstream 4d mpr 5mm x 5mm coronal brain reformats perpendicular to the glabella-meatal plane, auto transferred to PACS |
| 2D/3D Technique Used | Images required in PACS |
| Comments: Since this study is comprised of all mpr’s, Recon 1 is used only to acquire data. Recons 2-4 are workstream 4d reformats for pacs. Recon 5 and 6 are thin image data to terarecon. | Topograms , 5mm x 5mm axial brain, 5mm x 5mm coronal brain, 5mm x 5mm axial skull, Patient Protocol |

updated Jan 23, 2017