Austin Radiological Association

# CT Pediatric Neuro Protocols

Questions?

Last Update: 11/7/2024 3:44 PM

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

# PEDIATRIC NEURO PROTOCOLS



**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

ARA DIAGNOSTIC IMAGING

# IV GUIDELINES

*IV Contrast at the discretion of the Radiologist

| Catheter | Injection Rate | PSI |
|---|---|---|
| | | |
| BD Nexiva Diffusics | | |
| 24g | Less than or equal to 2cc/sec | 325 |
| 22g | Less than 4cc/sec | 325 |
| 20g | Greater than 4cc/sec | 325 |
| | | |
| B Braun Safety Introcan | | |
| 24g | HAND INJECTION ONLY | |
| 22g | Less than or equal to 2cc/sec | 300 |
| 20g | Less than or equal to 4cc/sec | 300 |
| 18g | Less than or equal to 6cc/sec | 300 |
| | | |
| B Braun Safety 3 Introcan | | |
| 24g | Less than or equal to 2.5cc/sec | 300 |
| 22g | Less than or equal to 3.5cc/sec | 300 |
| 20g | Less than or equal to 6cc/sec | 300 |
| | | |

| Set Injection Rate on Power injector based on patient's weight in Kilograms | |
|---|---|
| <16 kg/<35LBS | 20ml @ 1.5 ml/sec |
| 16-25 kg/35-55LBS | 40ml @ 1.5 ml/ sec |
| 26-34kg/56-75LBS | 60ml @ 1.5 ml/sec |
| >35kg/>76LBS | 80ml @ 2.0 ml/sec |

FOR PEDI BRAINS, 5 MINUTE DELAY

St. David's Facilities for contrast protocol please refer to the: St. David's Health Care- Imaging Medication Dose Protocol- Adult and Pediatric.

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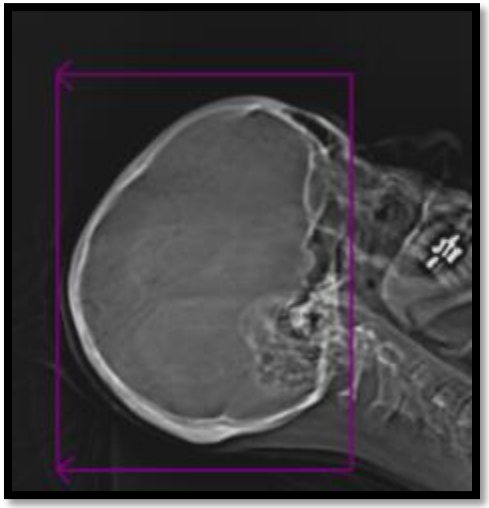
# PEDIATRIC BRAIN-Revised-9/18/2018

## SIEMENS PERSPECTIVE

**Setup:**

1. Supine lateral scout
2. Patient Positioning: Tilt the patients head so that a line connecting the lateral canthus of the eye and the EAC is perpendicular to the tabletop.
3. In order to reduce radiation exposure to the lens of the eye, angle the gantry if you cannot place the patient's head within 15 degrees of the proper setup angle
4. Start scan at the bottom of the skull base and scan through the top of the head
5. *SHIELD PT WITH APRON*

**DFOV:** Appropriate for body habitus (Range 15-22)



**PACS Series:**

- Scout/Topogram
- Brain S
- Bone
- Bone Coronals (Only performed on 0-6yrs)
- ST Coronals for trauma less than 30 days
- Dose Report/Protocol Page

| Set Injection Rate on Power injector based on patient's weight in Kilograms | |
|---|---|
| <16 kg/<35LBS | 20ml @ 1.5 ml/sec |
| 16-25 kg/35-55LBS | 40ml @ 1.5 ml/ sec |
| 26-34kg/56-75LBS | 60ml @ 1.5 ml/sec |
| >35kg/>76LBS | 80ml @ 2.0 ml/sec |

***** 5 Minute Delay*****

*St. David's Facilities for contrast protocol please refer to St.David's Health Care- Imaging Medication Dose Protocol*

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ARA DIAGNOSTIC IMAGING

## Acquisition Parameters

**Pedi 0-6 years**

| | |
|---|---|
| Scan Type | Spiral |
| Pitch | 1.0 |
| Detector Configuration | 32 x 1.2 |
| Slice Thickness | 3.0 |
| Rotation Time | 1.0 |
| Care Dose | on |
| Quality Ref mAs | 190 |
| kVp | 110 |

**Pedi 7-14 years**

| | |
|---|---|
| Scan Type | Spiral |
| Pitch | 0.8 |
| Detector Configuration | 32 x 1.2 |
| Slice Thickness | 3.0 |
| Rotation Time | 1.0 |
| Care Dose | on |
| Quality Ref mAs | 190 |
| kVp | 130 |

### Reconstruction Parameters

| | |
|---|---|
| **Recon 1 Soft Tissue** | |
| Kernel | J37s Medium |
| SAFIRE | 2 |
| Window | Cerebrum |
| Slice Thickness | 3.0 x 3.0 |
| **Recon 2 Bone** | |
| Kernel | H80s Very Sharp |
| SAFIRE | none |
| Window | Cranial Bone |
| Slice Thickness | 3.0 x 3.0 |

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| **Recon 3 Coronal Bone** | ****Coronal Bone on pedi 0-6 years only** |
|---|---|
| Kernel | H80s Very Sharp |
| SAFIRE | None |
| Window | Cranial Bone |
| Slice Thickness | 3.0 x 3.0 |
| **Recon 3 Coronal ST** | ****Coronal ST on trauma <30days** |
| Kernel | J37s Medium |
| SAFIRE | 2 |
| Window | Cerebrum |
| Slice Thickness | 3.0 x 3.0 |

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# PEDI CAROTIDS-Revised-9/14/2018

## SIEMENS PERSPECTIVE

**Setup:**

1. Supine, Lateral scout, no gantry angle
2. Scout should extend through the aortic arch for smart prep/bolus tracking
3. Patient Positioning:
    - Tilt the patients head so that a line connecting the lateral canthus of the eye and the EAC is perpendicular to the CT tabletop
    - Retract shoulders as much as possible.
4. Scan from the bottom half of the orbits through the level of the arch (Includes great vessel origins and most of the arch)
5. *SHIELD PT WITH APRON*

**DFOV:** Preferred 15 cm

**Scan Parameters:**

1. Contrast:
    - At the discretion of the Radiologist

      Rate of IV -SEE IV GUIDELINES

      Type of IV contrast used: 350 mg/ml

      Volume of Contrast is based on the patient's weight

      A good rule of thumb is to use ~1 ml/lb. up to 75ml
2. Smart Prep/Bolus Tracking – start scanning upon entry of contrast at the level of the aortic arch or trigger at 60 HU

**PACS Series:**

- ST Axial
- Coronal MIP
- Sagittal MIP
- RT Carotid CPR
- LT Carotid CPR
- RT Vertebral CPR
- LT Vertebral CPR
- 3D VRT
- Patient Protocol/ Dose Report

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DIAGNOSTIC IMAGING

## Acquisition Parameters **15 and up use adult protocol

| | |
|---|---|
| Scan Type | Spiral |
| Pitch | 1.2 |
| Detector Configuration | 32 x 0.6 |
| Slice Thickness | 1.0 |
| Rotation Time | 0.6 |
| Care Dose | on |
| Quality Ref mAs | 40 |
| kVp should be set based on patient weight | |
| kVp | <20 lbs 80<br>>20 lbs 110 |
| FOV | 150 |
| Trigger | 60 |

## Reconstruction Parameters

| | |
|---|---|
| **Recon 1 Soft Tissue** | |
| Kernel | I31f Medium Smooth |
| SAFIRE | 2 |
| Window | Baby neck |
| Slice Thickness | 1.0 x 1.0 |
| **Recon 2 Reformat for 3D** | |
| Kernel | I30f Medium Smooth ASA |
| SAFIRE | 2 |
| Window | CT Angio |
| Slice Thickness | 0.6 x 0.4 |

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| | |
|---|---|
| **Recon 3 Coronal MIP** | |
| Kernel | I31f Medium Smooth |
| SAFIRE | 2 |
| Window | CT Angio |
| Slice Thickness | 1.0 x 1.0 |
| **Recon 4 Sagittal MIP** | |
| Kernel | I31f Medium Smooth |
| SAFIRE | 2 |
| Window | CT Angio |
| Slice Thickness | 1.0 x 1.0 |

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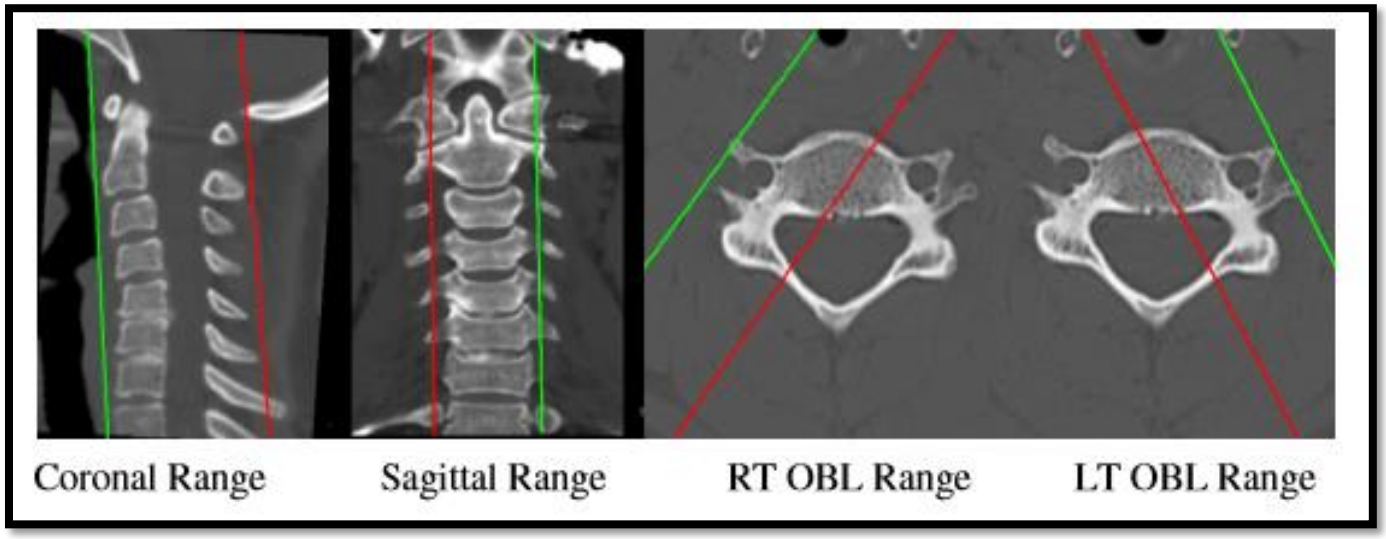
# PEDI CERVICAL-Revised-9/18/2018

## SIEMENS PERSPECTIVE

Setup: 1. Supine, Lateral scout, no gantry angle
2. Scout from T3 through the Sella
3. Patient Positioning:
   - If no recent trauma, tilt the patients head so that a line connecting the lateral canthus of the eye and the EAC is perpendicular to the CT tabletop
   - Do not flex or extend the neck if there has been recent spine trauma or if the patient is in a cervical collar.
   - Retract shoulders as much as possible.
4. Start scan just below T1 Through the entire cervical spine
5. *SHIELD PT WITH APRON*




**PACS Series:**
1. Cervical ST
2. Cervical Bone
3. 1x1 Sag Cervical Spine
4. 1x1 Coronal Cervical Spine
5. 1x1 RT Oblique (not needed for hospital patients)
6. 1x1 LT Oblique (not needed for hospital patients)

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DIAGNOSTIC IMAGING

## Acquisition Parameters

****15 and up use adult protocol**

| | |
|---|---|
| Scan Type | Spiral |
| Pitch | 1.2 |
| Detector Configuration | 32 x 0.6 |
| Slice Thickness | 1.0 |
| Rotation Time | 0.6 |
| Care Dose | on |
| Quality Ref mAs | 100 |
| kVp | 110 |
| FOV | 120 |

## Reconstruction Parameters

| | |
|---|---|
| **Recon 1 Bone** | |
| Kernel | B70s Very Sharp |
| SAFIRE | none |
| Window | Baby Spine |
| Slice Thickness | 1.0 x 1.0 |
| **Recon 2 Axial ST** | |
| Kernel | I41f Medium |
| SAFIRE | 2 |
| Window | Baby Spine |
| Slice Thickness | 1.0 x 1.0 |
| **Recon 3 Coronal** | |
| Kernel | I50f Medium Sharp ASA |
| SAFIRE | None |
| Window | Cranial Bone |
| Slice Thickness | 1.0 x 1.0 |

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| | |
|---|---|
| **Recon 4 Sagittal** | |
| Kernel | I50f Medium Sharp ASA |
| SAFIRE | None |
| Window | Cranial bone |
| Slice Thickness | 1.0 x 1.0 |
| **Recon 5 RT Oblique** | |
| Kernel | I50f Medium Sharp ASA |
| SAFIRE | none |
| Window | Cranial bone |
| Slice Thickness | 1.0 x 1.0 |
| **Recon 6 LT Oblique** | |
| Kernel | I50f Medium Sharp ASA |
| SAFIRE | 0 |
| Window | Cranial bone |
| Slice Thickness | 1.0 x 1.0 |

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# PEDI FACIAL BONES/ORBITS-Revised-8/21/2019

## SIEMENS PERSPECTIVE

**Setup:** Lateral scout from below the mandible through the frontal sinuses

**Position:** Supine

**DFOV:** Appropriate for patients body habitus

**Scan Parameters:**
Patient is scanned helical in the supine position through the entire area of concern
BB marker placed on patient's right cheek
*SHIELD PT WITH APRON*

**PACS Series:**

- Topogram
- Axial ST
- Axial Bone
- Coronal ST
- Coronal Bone
- Sagittal ST
- Sagittal Bone
- Patient Protocol/Dose Report

ARA DIAGNOSTIC IMAGING

## Acquisition Parameters**15 and up use adult protocol

| | |
|---|---|
| Scan Type | Spiral |
| Pitch | 1.0 |
| Detector Configuration | 32 x 0.6 |
| Slice Thickness | 1.5 |
| Rotation Time | 0.6 |
| Care Dose | on |
| Quality Ref mAs | 35 |
| kVp | 110 |
| FOV | 150 |

## Reconstruction Parameters

| | |
|---|---|
| **Recon 1 Soft Tissue** | |
| Kernel | J37f Medium Smooth |
| SAFIRE | 2 |
| Window | Sinuses |
| Slice Thickness | 1.5 x 1.5 |
| **Recon 2 Axial Bone** | |
| Kernel | H60f Sharp FR |
| SAFIRE | none |
| Window | Inner Ear |
| Slice Thickness | 1.5 x 1.5 |
| **Recon 3 Coronal ST** | |
| Kernel | J37f Medium Smooth |

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| | |
|---|---|
| SAFIRE | 2 |
| Window | Sinuses |
| Slice Thickness | 1.5 x 1.5 |
| **Recon 4 Coronal Bone** | |
| Kernel | H60f Sharp FR |
| SAFIRE | none |
| Window | Inner Ear |
| Slice Thickness | 1.5 x 1.5 |
| **Recon 5 Sagittal ST** | |
| Kernel | J37f Medium Smooth |
| SAFIRE | 2 |
| Window | Sinuses |
| Slice Thickness | 1.5 x 1.5 |
| **Recon 6 Sagittal Bone** | |
| Kernel | H60f Sharp FR |
| SAFIRE | None |
| Window | Inner Ear |
| Slice Thickness | 1.5 x 1.5 |

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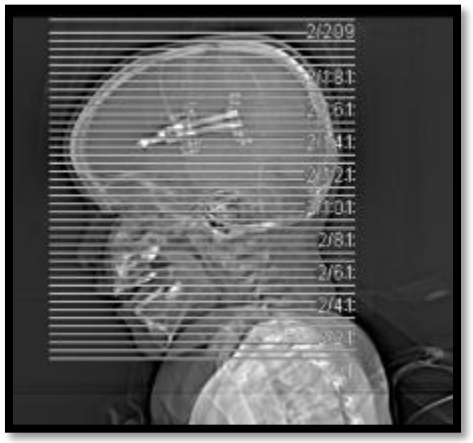
# PEDI LOW DOSE CRANIOFACIAL-Revised-8/21/2019

## SIEMENS PERSPECTIVE

This is to be performed on all pediatric patients under the age of 14

**Setup**: Lateral scout from below the mandible through the top of the skull
**Scan Range**: From below the mandible through the top of the skull
**DFOV**: Appropriate for patients body habitus
*SHIELD PT WITH APRON*



PACS Series:

- Topogram
- 1x1 Axial ST
- 1x1 Axial Bone
- 3x3 Oblique Axial ST (Brain)
- 1x1 Bone Coronals
- 1x1 Bone Sagittal
- VRT Rotation
- VRT Tumble
- Patient Protocol/Dose Report

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ARA DIAGNOSTIC IMAGING

| | |
|---|---|
| Scan Type | Spiral |
| Pitch | 1.0 |
| Detector Configuration | 32 x 0.6 |
| Slice Thickness | 1.0 |
| Rotation Time | 0.6 |
| Care Dose | on |
| Quality Ref mAs | 30 |
| kVp | 110 |
| FOV | 220 |

## Reconstruction Parameters

| | |
|---|---|
| **Recon 1 Soft Tissue** | |
| Kernel | J37f Medium Smooth |
| SAFIRE | 2 |
| Window | Cerebrum |
| Slice Thickness | 1.0 x 1.0 |
| **Recon 2 Axial Bone** | |
| Kernel | H60f Sharp FR |
| SAFIRE | none |
| Window | Cranial Bone |
| Slice Thickness | 1.0 x 1.0 |
| **Recon 3 Coronal Bone** | |
| Kernel | H60f Sharp FR |
| SAFIRE | none |
| Window | Coronal Bone |

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| | |
|---|---|
| Slice Thickness | 1.0 x 1.0 |
| **Recon 4 Sagittal Bone** | |
| Kernel | H60f Sharp FR |
| SAFIRE | none |
| Window | Cranial Bone |
| Slice Thickness | 1.0 x 1.0 |
| **Recon 5 Axial Oblique Brain** | |
| Kernel | J30f Medium Smooth |
| SAFIRE | 2 |
| Window | Cerebrum |
| Slice Thickness | 3.0 x 3.0 |
| **Recon 6 Reformat for 3D** | |
| Kernel | J30f Medium Smooth |
| SAFIRE | 3 |
| Window | Cerebrum |
| Slice Thickness | 0.6 x 0.3 |

| | |
|---|---|
| **Recon 4 Sagittal** | |
| Kernel | I50s Medium Sharp |
| SAFIRE | 3 |
| Window | Lung |
| Slice Thickness | 1.0 x 5.0 |
| **Recon 5 Reformat** | |
| Kernel | I31s Medium Smooth + |
| SAFIRE | 3 |
| Window | Mediastinum |
| Slice Thickness | 2.0 x 1.0 |

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# PEDI LIMITED SINUS-Revised-09/17/2014

## SIEMENS PERSPECTIVE

Setup: Lateral scout anterior to the tip of the nose through the adenoids

Position: Prone with marker on the RT cheek

DFOV: Appropriate for patients body habitus

Scan Parameters:

Patient is scanned helical in the prone position. If the patient is unable to lay prone a supine scan with coronal reformations is acceptable.

*SHIELD PT WITH APRON*

PACS Series: Topogram, ST Coronals 3x3, Bone Coronals 3x3

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ARA DIAGNOSTIC IMAGING

| Scanner | Perspective 64 |
|---|---|
| Scan Type | Spiral |
| Rotation Time (sec) | 0.6 |
| Detector Configuration | 32 x 1.2 |
| Pitch | 1.0 |

| Age | kVp | Quality ref mAs | Dose Modulation |
|---|---|---|---|
| **0-14yr** | **130** | **35** | **Y** |
| **15 and up use adult protocol** | | | |

| | |
|---|---|
| **Recon 1 Soft Tissue** | |
| Kernel | H41 |
| Slice thickness (mm) | 3 |
| Slice Increment (mm) | 3 |
| **Recon 2 for Bone** | |
| Kernel | H70 sharp |
| Slice thickness (mm) | 3 |
| Slice Increment (mm) | 3 |

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# PEDI LUMBAR-Revised-11/7/2017

## SIEMENS PERSPECTIVE

CTDIvol: ~5-10 mGy

**Setup:**

1. Supine, AP and Lateral scouts, no gantry angle
2. Extend scout from S2 through T12
3. Patient Positioning:
    - Post Myelography patients must be rolled 360 degrees before scanning; this will help to evenly distribute spinal contrast.
4. Start scan just below S2 through T12
5. Contrast at the discretion of the Radiologist

**For Patients with extensive hardware**: Use 130 kVp and perform the soft tissue reconstruction with the smoothest possible Kernel/Algorithm possible, and the Bone reformat reconstruction with a standard Kernel/Algorithm: this technique will help to reduce streaking artifact.
(If you are unsure if the amount of implanted hardware is considered extensive please consult with a Radiologist)

**PACS Series:**

- Lumbar ST
- Lumbar Bone
- Sag Lumbar Spine
- Coronal Lumbar Spine
- Axial Oblique 1
- Patient Protocol/Dose Report

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| | |
|---|---|
| **Soft Tissue Axial** | |
| Kernel | I41s |
| SAFIRE | 2 |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |
| **Bone Axial** | |
| Algorithm/ Kernel | B70 |
| SAFIRE | 2 |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |
| **Coronal** | |
| Kernel | B50 |
| SAFIRE | 2 |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |
| **Sagittal** | |
| Algorithm/ Kernel | B50 |
| SAFIRE | 2 |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |
| **Obl Axial** | |
| Kernel | I41s |
| SAFIRE | 2 |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |

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# PEDI ST NECK-Revised-12/7/2015

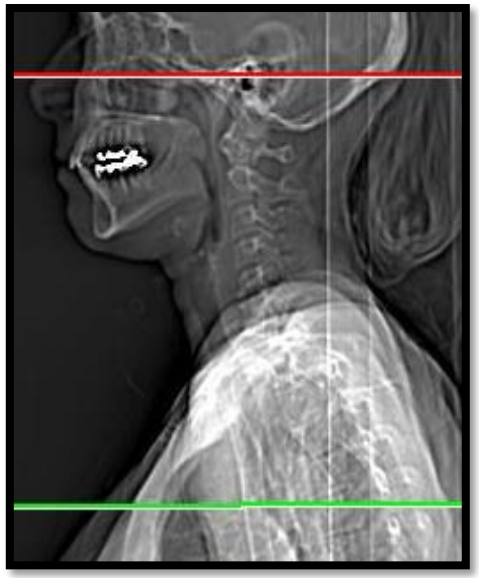
## SIEMENS PERSPECTIVE

CTDI: ~15-20mGy

- When performing CT Soft Tissue Neck scans on pediatric patients please avoid scanning the orbits unless the anatomy is of concern for the examination. If you are unsure as to include the orbits or not, please seek the advice of a radiologist

Setup:

1. Supine lateral scout
2. Scout should extend through the aortic arch
3. Start scan just below the orbits and scan through the aortic arch
4. DFOV Appropriate for patients body habitus



Scan Parameters:

IV Contrast administered according to chart at the discretion of the Radiologist

| Set injection Rate on Power injector based on patient's weight | | |
|---|---|---|
| <16kg/<35lbs | 1ml per lb @1.5 ml/ sec | 34 sec delay |
| 16-25kg/35-55lbs | 40ml @ 1.5/sec | 45 sec delay |
| 26/34kg/55-75lbs | 50ml @ 1.5 ml/sec | 50 sec delay |
| >35kg/>76lbs | 75ml @ 2.0 ml/sec | 60 sec delay |

PACS Series:

- Scout/Topogram
- 1.5 x 1.5 ST Neck
- 1.5 x 1.5 Bone
- 1.5 x 1.5 Coronal
- 1.5 x 1.5 Sagittal
- Dose Report/Protocol Page

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ARA DIAGNOSTIC IMAGING

| | |
|---|---|
| **Soft Tissue Axial** | |
| Kernel | I41s |
| SAFIRE | 2 |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |
| **Bone Axial** | |
| Algorithm/ Kernel | B70 |
| SAFIRE | 2 |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |
| **Coronal** | |
| Kernel | B50 |
| SAFIRE | 2 |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |
| **Sagittal** | |
| Algorithm/ Kernel | B50 |
| SAFIRE | 2 |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |
| **Obl Axial** | |
| Kernel | I41s |
| SAFIRE | 2 |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |

# PEDI TEMPORAL BONES-Revised-9/17/2014

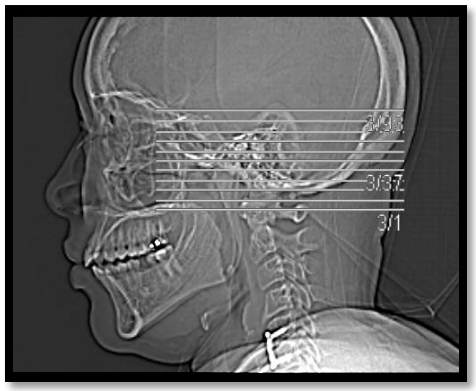
## SIEMENS PERSPECTIVE

**Setup:**

1. Supine, AP and lateral scouts, no gantry angle
2. Patient Positioning: Tilt the patients head so that a line connecting the lateral canthus of the eye and the EAC is perpendicular to the CT tabletop
3. Start scan just inferior to the skull base and scan through the entire IAC's
4. Shield PT with apron

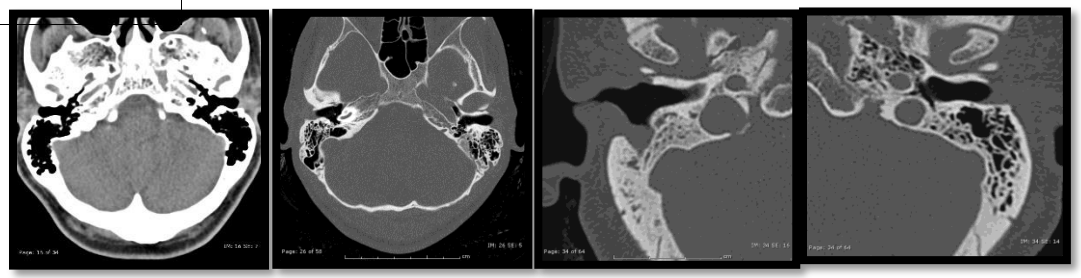
**DFOV:** Preferred 15cm (Range 14-20) *contrast at RAD discretion*

| Scanner | Perspective 64 | |
|---|---|---|
| Scan Type | Spiral | |
| Rotation Time (sec) | 0.6 | |
| Detector Configuration | 4 x 0.6 | |
| Pitch | 1.0 | |
| Age | 0-14 | 15 and older use adult protocol |
| kVp | 110 | |
| Quality ref mAs | 90 | |
| Care Dose 4D | Y | |



**Series Order:**

- Supine Topogram
- Axial ST
- Axial Bone
- RT Axial Bone
- LT Axial Bone



- Coronal Bone
- Coronal ST
- RT Coronal Bone
- LT Coronal Bone
-
- RT Obl Coronal
- RT Obl Sag
- LT Obl Coronal
- LT Obl Sag


**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

| | |
|---|---|
| **Soft Tissue Axial** | |
| Algorithm/ Kernel | J37s |
| SAFIRE | 2 |
| Slice thickness (mm) | 0.6 |
| Slice Increment (mm) | 0.6 |
| **Bone Axial** | |
| Algorithm/ Kernel | U90 |
| SAFIRE | 2 |
| Slice thickness (mm) | 0.6 |
| Slice Increment (mm) | 0.6 |
| **RT Axial Bone 10cm DFOV** | |
| Algorithm/ Kernel | U90 |
| SAFIRE | 2 |
| Slice thickness (mm) | 0.6 |
| Slice Increment (mm) | 0.6 |
| **LT Axial Bone 10cm DFOV** | |
| Algorithm/ Kernel | U90 |
| SAFIRE | 2 |
| Slice thickness (mm) | 0.6 |
| Slice Increment (mm) | 0.6 |
| **RT Axial Bone Reformat 10cm DFOV** | |
| Algorithm/ Kernel | U90 |
| SAFIRE | 2 |
| Slice thickness (mm) | 0.6 |
| Slice Increment (mm) | 0.3 |
| **LT Axial Bone Reformat 10cm DFOV** | |
| Algorithm/ Kernel | U90 |
| SAFIRE | 2 |
| Slice thickness (mm) | 0.6 |
| Slice Increment (mm) | 0.3 |

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# PEDI THORACIC SPINE-Revised-12/7/2015

## SIEMENS PERSPECTIVE

**Setup**:

In order to evenly distribute spinal contrast, post myelography patients must be rolled 360 degrees before scanning

- Supine patient position
  a. AP scout from S2 through C7
  b. Lateral scout from S2 through C7
- Bismuth shield used after scout
- Scan from below L1 through C7


PACS Series:

- Scout/Topogram
- 1.5 x 1.5 Axial Soft Tissue
- 1.5 x 1.5 Axial Bone
- 1.5 x 1.5 Sagittal
- 1.5 x 1.5 Coronal
- Dose Report/ Protocol Page

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

| | |
|---|---|
| **Soft Tissue Axial** | |
| Kernel | I41s |
| SAFIRE | 2 |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |
| **Bone Axial** | |
| Algorithm/ Kernel | B70 |
| SAFIRE | 2 |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |
| **Coronal** | |
| Kernel | B50 |
| SAFIRE | 2 |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |
| **Sagittal** | |
| Algorithm/ Kernel | B50 |
| SAFIRE | 2 |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |
| **Obl Axial** | |
| Kernel | I41s |
| SAFIRE | 2 |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |

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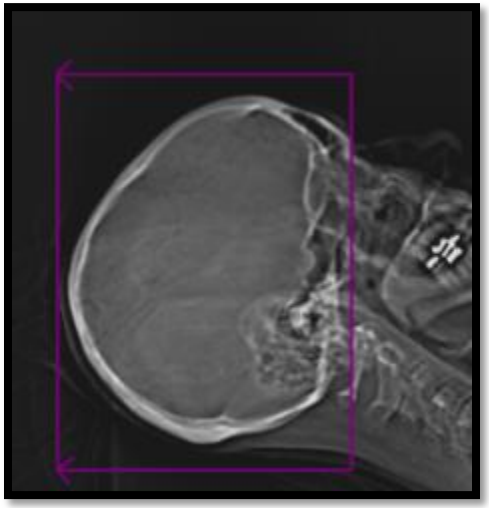
# PEDIATRIC BRAIN-Revised-9/18/2018

## SIEMENS DEFINITION 64

**Setup:**

1. Supine lateral scout
2. Patient Positioning: Tilt the patients head so that a line connecting the lateral canthus of the eye and the EAC is perpendicular to the tabletop.
3. In order to reduce radiation exposure to the lens of the eye, angle the gantry if you cannot place the patient's head within 15 degrees of the proper setup angle
4. Start scan at the bottom of the skull base and scan through the top of the head
5. *SHIELD PT WITH APRON*

**DFOV:** Appropriate for body habitus (Range 15-22)



**PACS Series:**

- Scout/Topogram
- Brain S
- Bone
- Bone Coronals (Only performed on 0-6yrs)
- ST Coronals for trauma less than 30 days
- Dose Report/Protocol Page

| Set Injection Rate on Power injector based on patient's weight in Kilograms | |
|---|---|
| <16 kg/<35LBS | 20ml @ 1.5 ml/sec |
| 16-25 kg/35-55LBS | 40ml @ 1.5 ml/ sec |
| 26-34kg/56-75LBS | 60ml @ 1.5 ml/sec |
| >35kg/>76LBS | 80ml @ 2.0 ml/sec |

***** 5 Minute Delay*****

*St. David's Facilities for contrast protocol please refer to St.David's Health Care- Imaging Medication Dose Protocol*

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

ARA DIAGNOSTIC IMAGING

## Acquisition Parameters

**Pedi 0-6 years**

| | |
|---|---|
| Scan Type | Spiral |
| Pitch | 0.8 |
| Detector Configuration | 64 x 0.6 |
| Slice Thickness | 3.0 |
| Rotation Time | 1.0 |
| Care Dose | on |
| Quality Ref mAs | 190 |
| kVp | 120 |

**Pedi 7-14 years**

| | |
|---|---|
| Scan Type | Spiral |
| Pitch | 0.55 |
| Detector Configuration | 64 x 0.6 |
| Slice Thickness | 3.0 |
| Rotation Time | 1.0 |
| Care Dose | on |
| Quality Ref mAs | 225 |
| kVp | 120 |

### Reconstruction Parameters

| | |
|---|---|
| **Recon 1 Soft Tissue** | |
| Kernel | J40s Medium |
| SAFIRE | 2 |
| Window | Cerebrum |
| Slice Thickness | 3.0 x 3.0 |
| **Recon 2 Bone** | |
| Kernel | H70h Very Sharp |
| SAFIRE | 0 |
| Window | Cranial Bone |
| Slice Thickness | 3.0 x 3.0 |

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

| **Recon 3 Coronal Bone** | ****Coronal Bone on pedi 0-6 years only** |
|---|---|
| Kernel | H70h Very Sharp |
| SAFIRE | 0 |
| Window | Cranial Bone |
| Slice Thickness | 3.0 x 3.0 |
| **Recon 3 Coronal ST** | ****Coronal ST on trauma <30days** |
| Kernel | J40s Medium |
| SAFIRE | 2 |
| Window | Cerebrum |
| Slice Thickness | 3.0 x 3.0 |

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# PEDI CAROTIDS-Revised-9/14/2018

## SIEMENS DEFINITION 64

1. Supine, Lateral scout, no gantry angle
2. Scout should extend through the aortic arch for smart prep/bolus tracking
3. Patient Positioning:
    - Tilt the patients head so that a line connecting the lateral canthus of the eye and the EAC is perpendicular to the CT tabl etop
    - Retract shoulders as much as possible.
4. Scan from the bottom half of the orbits through the level of the arch (Includes great vessel origins and most of the arch)
5. *SHIELD PT WITH APRON*

**DFOV:** Preferred 15 cm

**Scan Parameters:**

1. Contrast:
    - At the discretion of the Radiologist

      Rate of IV -SEE IV GUIDELINES
      Type of IV contrast used: 350 mg/ml
      Volume of Contrast is based on the patient's weight
      A good rule of thumb is to use ~1 ml/lb. up to 75ml
2. Smart Prep/Bolus Tracking – start scanning upon entry of contrast at the level of the aortic arch or trigger at 60 HU

**PACS Series:**

- ST Axial
- Coronal MIP
- Sagittal MIP
- RT Carotid CPR
- LT Carotid CPR
- RT Vertebral CPR
- LT Vertebral CPR
- 3D VRT
- Patient Protocol/ Dose Report

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DIAGNOSTIC IMAGING

## Acquisition Parameters **15 and up use adult protocol

| | |
|---|---|
| Scan Type | Spiral |
| Pitch | 1.0 |
| Detector Configuration | 64 x 0.6 |
| Slice Thickness | 1.0 |
| Rotation Time | 0.5 |
| Care Dose | on |
| Quality Ref mAs | 40 |
| kVp should be set based on patient weight | |
| kVp | <20 lbs 80<br>>20 lbs 110 |
| FOV | 150 |
| Trigger | 60 |

## Reconstruction Parameters

| | |
|---|---|
| **Recon 1 Soft Tissue** | |
| Kernel | I30f Medium Smooth |
| SAFIRE | 2 |
| Window | CT Angio |
| Slice Thickness | 1.0 x 1.0 |
| **Recon 2 Reformat for 3D** | |
| Kernel | I26f Medium Smooth ASA |
| SAFIRE | 2 |
| Window | CT Angio |
| Slice Thickness | 0.6 x 0.4 |

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

| | |
|---|---|
| **Recon 3 Coronal MIP** | |
| Kernel | I30f Medium Smooth |
| SAFIRE | 2 |
| Window | CT Angio |
| Slice Thickness | 1.0 x 1.0 |
| **Recon 4 Sagittal MIP** | |
| Kernel | I30f Medium Smooth |
| SAFIRE | 2 |
| Window | CT Angio |
| Slice Thickness | 1.0 x 1.0 |

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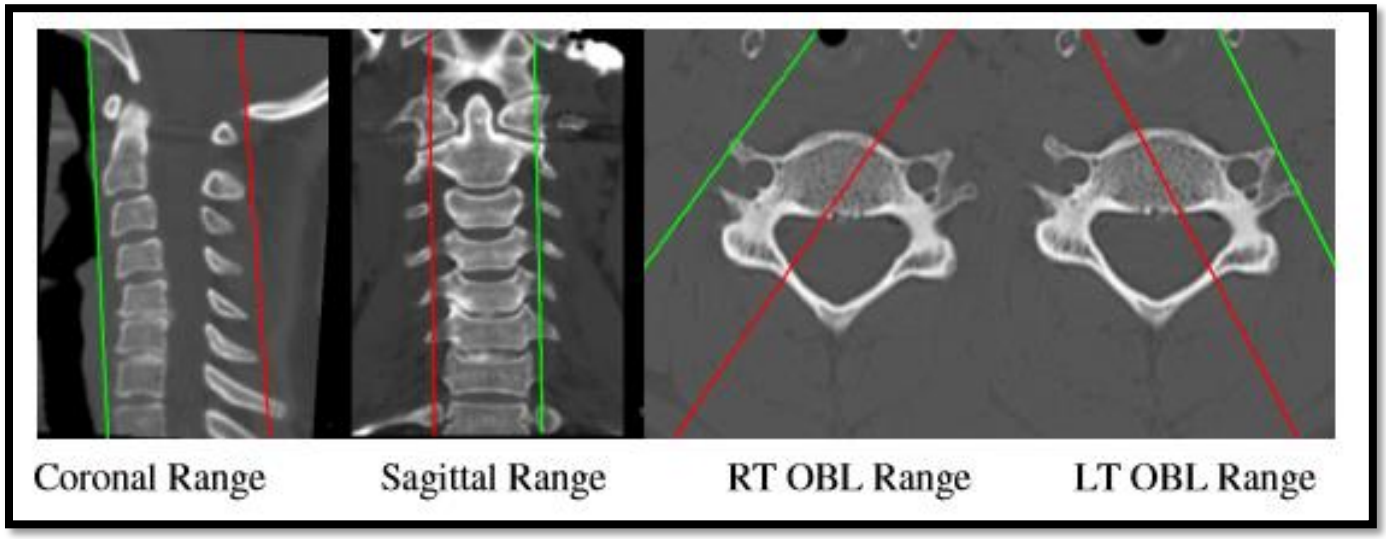
# PEDI CERVICAL-Revised-9/18/2018

## SIEMENS DEFINITION 64

Setup: 1. Supine, Lateral scout, no gantry angle
2. Scout from T3 through the Sella
3. Patient Positioning:
   - If no recent trauma, tilt the patients head so that a line connecting the lateral canthus of the eye and the EAC is perpendicular to the CT tabletop
   - Do not flex or extend the neck if there has been recent spine trauma or if the patient is in a cervical collar.
   - Retract shoulders as much as possible.
4. Start scan just below T1 Through the entire cervical spine
5. *SHIELD PT WITH APRON*




**PACS Series:**
1. Cervical ST
2. Cervical Bone
3. 1x1 Sag Cervical Spine
4. 1x1 Coronal Cervical Spine
5. 1x1 RT Oblique (not needed for hospital patients)
6. 1x1 LT Oblique (not needed for hospital patients)

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DIAGNOSTIC IMAGING

## Acquisition Parameters

****15 and up use adult protocol**

| | |
|---|---|
| Scan Type | Spiral |
| Pitch | 1.2 |
| Detector Configuration | 64 x 0.6 |
| Slice Thickness | 1.0 |
| Rotation Time | 0.5 |
| Care Dose | on |
| Quality Ref mAs | 100 |
| kVp | 110 |
| FOV | 120 |

## Reconstruction Parameters

| | |
|---|---|
| **Recon 1 Bone** | |
| Kernel | B70f Very Sharp |
| SAFIRE | 0 |
| Window | Osteo |
| Slice Thickness | 1.0 x 1.0 |
| **Recon 2 Axial ST** | |
| Kernel | I40f Medium |
| SAFIRE | 2 |
| Window | Spine |
| Slice Thickness | 1.0 x 1.0 |
| **Recon 3 Coronal** | |
| Kernel | I50f Medium Sharp ASA |
| SAFIRE | 1 |
| Window | Osteo |
| Slice Thickness | 1.0 x 1.0 |

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

| | |
|---|---|
| **Recon 4 Sagittal** | |
| Kernel | I50f Medium Sharp ASA |
| SAFIRE | 1 |
| Window | Osteo |
| Slice Thickness | 1.0 x 1.0 |
| **Recon 5 RT Oblique** | |
| Kernel | I50f Medium Sharp ASA |
| SAFIRE | 1 |
| Window | Osteo |
| Slice Thickness | 1.0 x 1.0 |
| **Recon 6 LT Oblique** | |
| Kernel | I50f Medium Sharp ASA |
| SAFIRE | 1 |
| Window | Osteo |
| Slice Thickness | 1.0 x 1.0 |

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# PEDI FACIAL BONES/ORBITS-Revised-8/21/2019

## SIEMENS DEFINITION 64

**Setup:** Lateral scout from below the mandible through the frontal sinuses

**Position:** Supine

**DFOV:** Appropriate for patients body habitus

**Scan Parameters:**
Patient is scanned helical in the supine position through the entire area of concern
BB marker placed on patient's right cheek
*SHIELD PT WITH APRON*

**PACS Series:**

- Topogram
- Axial ST
- Axial Bone
- Coronal ST
- Coronal Bone
- Sagittal ST
- Sagittal Bone
- Patient Protocol/Dose Report

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

DIAGNOSTIC IMAGING

## Acquisition Parameters**15 and up use adult protocol

| | |
|---|---|
| Scan Type | Spiral |
| Pitch | 1.0 |
| Detector Configuration | 64 x 0.6 |
| Slice Thickness | 1.5 |
| Rotation Time | 0.5 |
| Care Dose | on |
| Quality Ref mAs | 35 |
| kVp | 110 |
| FOV | 150 |

## Reconstruction Parameters

| | |
|---|---|
| **Recon 1 Soft Tissue** | |
| Kernel | J37f Medium Smooth |
| SAFIRE | 2 |
| Window | Sinuses |
| Slice Thickness | 1.5 x 1.5 |
| **Recon 2 Axial Bone** | |
| Kernel | H60f Sharp FR |
| SAFIRE | 0 |
| Window | Inner Ear |
| Slice Thickness | 1.5 x 1.5 |
| **Recon 3 Coronal ST** | |
| Kernel | J37f Medium Smooth |

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

| | |
|---|---|
| SAFIRE | 2 |
| Window | Sinuses |
| Slice Thickness | 1.5 x 1.5 |
| **Recon 4 Coronal Bone** | |
| Kernel | H60f Sharp FR |
| SAFIRE | 0 |
| Window | Inner Ear |
| Slice Thickness | 1.5 x 1.5 |
| **Recon 5 Sagittal ST** | |
| Kernel | J37f Medium Smooth |
| SAFIRE | 2 |
| Window | Sinuses |
| Slice Thickness | 1.5 x 1.5 |
| **Recon 6 Sagittal Bone** | |
| Kernel | H60f Sharp FR |
| SAFIRE | 0 |
| Window | Inner Ear |
| Slice Thickness | 1.5 x 1.5 |

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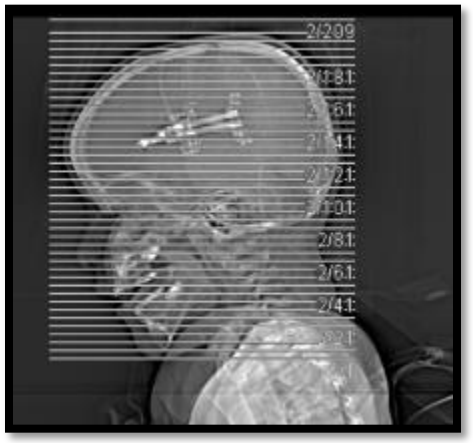
# PEDI LOW DOSE CRANIOFACIAL-Revised-8/21/2019

## SIEMENS DEFINITION 64

This is to be performed on all pediatric patients under the age of 14

**Setup**: Lateral scout from below the mandible through the top of the skull
**Scan Range**: From below the mandible through the top of the skull
**DFOV**: Appropriate for patients body habitus
*SHIELD PT WITH APRON*



PACS Series:

- Topogram
- 1x1 Axial ST
- 1x1 Axial Bone
- 3x3 Oblique Axial ST (Brain)
- 1x1 Bone Coronals
- 1x1 Bone Sagittal
- VRT Rotation
- VRT Tumble
- Patient Protocol/Dose Report

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ARA DIAGNOSTIC IMAGING

| | |
|---|---|
| Scan Type | Spiral |
| Pitch | 1.0 |
| Detector Configuration | 64 x 0.6 |
| Slice Thickness | 1.0 |
| Rotation Time | 0.5 |
| Care Dose | on |
| Quality Ref mAs | 30 |
| kVp | 120 |
| FOV | 200 |

## Reconstruction Parameters

| | |
|---|---|
| **Recon 1 Soft Tissue** | |
| Kernel | J37f Medium Smooth |
| SAFIRE | 2 |
| Window | Cerebrum |
| Slice Thickness | 1.0 x 1.0 |
| **Recon 2 Axial Bone** | |
| Kernel | H60f Sharp FR |
| SAFIRE | 0 |
| Window | Cranial Bone |
| Slice Thickness | 1.0 x 1.0 |
| **Recon 3 Coronal Bone** | |
| Kernel | H60f Sharp FR |
| SAFIRE | 0 |
| Window | Coronal Bone |

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

| | |
|---|---|
| Slice Thickness | 1.0 x 1.0 |
| **Recon 4 Sagittal Bone** | |
| Kernel | H60f Sharp FR |
| SAFIRE | 0 |
| Window | Cranial Bone |
| Slice Thickness | 1.0 x 1.0 |
| **Recon 5 Axial Oblique Brain** | |
| Kernel | J30f Medium Smooth |
| SAFIRE | 2 |
| Window | Cerebrum |
| Slice Thickness | 3.0 x 3.0 |
| **Recon 6 Reformat for 3D** | |
| Kernel | J30f Medium Smooth |
| SAFIRE | 3 |
| Window | Cerebrum |
| Slice Thickness | 0.6 x 0.3 |

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**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

# PEDI LIMITED SINUS-Revised-09/17/2014

## SIEMENS DEFINITION 64

Setup: Lateral scout anterior to the tip of the nose through the adenoids

Position: Prone with marker on the RT cheek

DFOV: Appropriate for patients body habitus

Scan Parameters:

Patient is scanned helical in the prone position. If the patient is unable to lay prone a supine scan with coronal reformations is acceptable.

*SHIELD PT WITH APRON*

PACS Series: Topogram, ST Coronals 3x3, Bone Coronals 3x3

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ARA DIAGNOSTIC IMAGING

**Pedi 7-14 years** **15+ use adult protocol**

| | |
|---|---|
| Scan Type | Spiral |
| Pitch | 1.0 |
| Detector Configuration | 64 x 0.6 |
| Slice Thickness | 3.0 |
| Rotation Time | 1.0 |
| Care Dose | on |
| Quality Ref mAs | 35 |
| kVp | 130 |
| FOV | 150 |

Reconstruction Parameters

| | |
|---|---|
| **Recon 1 Soft Tissue** | |
| Kernel | H37s Medium Smooth |
| SAFIRE | 0 |
| Window | Sinuses |
| Slice Thickness | 3.0 x 3.0 |
| **Recon 2 Axial Bone** | |
| Kernel | H70h Very Sharp |
| SAFIRE | 0 |
| Window | Inner Ear |
| Slice Thickness | 3.0 x 3.0 |

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**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

# PEDI LUMBAR-Revised-11/7/2017

## SIEMENS DEFINITION 64

CTDIvol: ~5-10 mGy

**Setup:**

1. Supine, AP and Lateral scouts, no gantry angle
2. Extend scout from S2 through T12
3. Patient Positioning:
    - Post Myelography patients must be rolled 360 degrees before scanning; this will help to evenly distribute spinal contrast.
4. Start scan just below S2 through T12
5. Contrast at the discretion of the Radiologist

**For Patients with extensive hardware**: Use 130 kVp and perform the soft tissue reconstruction with the smoothest possible Kernel/Algorithm possible, and the Bone reformat reconstruction with a standard Kernel/Algorithm: this technique will help to reduce streaking artifact.
(If you are unsure if the amount of implanted hardware is considered extensive please consult with a Radiologist)

**PACS Series:**

- Lumbar ST
- Lumbar Bone
- Sag Lumbar Spine
- Coronal Lumbar Spine
- Axial Oblique 1
- Patient Protocol/Dose Report

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**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

| | |
|---|---|
| Scan Type | Spiral |
| Pitch | 1.0 |
| Detector Configuration | 16 x 1.2 |
| Slice Thickness | 1.5 |
| Rotation Time | 1.0 |
| Care Dose | on |
| Quality Ref mAs | 35 |
| kVp | 120 |

| **Soft Tissue Axial** | |
|---|---|
| Kernel | I40s Medium |
| SAFIRE | 0 |
| Window | Spine |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |
| **Bone Axial** | |
| Algorithm/ Kernel | B70s Very Sharp |
| SAFIRE | 0 |
| Window | Osteo |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |
| **Coronal** | |
| Kernel | I50s Medium Smooth |
| SAFIRE | 1 |
| Window | Osteo |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |
| **Sagittal** | |
| Kernel | I50s Medium Smooth |
| SAFIRE | 1 |
| Window | Osteo |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |
| **Obl Axial** | |
| Kernel | I50s Medium Smooth |
| SAFIRE | 1 |
| Window | Osteo |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |

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**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

# PEDI ST NECK-Revised-12/7/2015

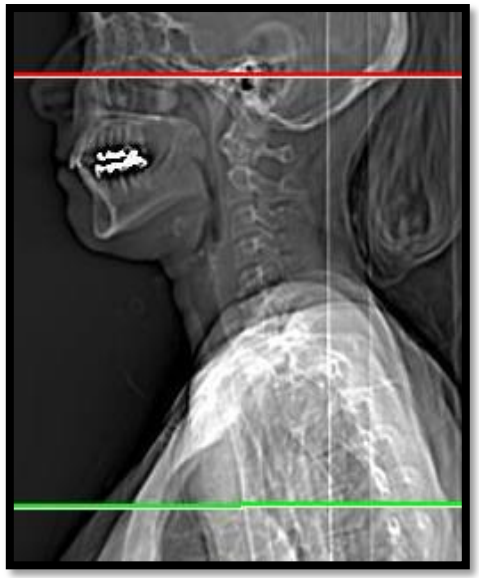
## SIEMENS DEFINITION 64

CTDI: ~15-20mGy

- When performing CT Soft Tissue Neck scans on pediatric patients please avoid scanning the orbits unless the anatomy is of concern for the examination. If you are unsure as to include the orbits or not, please seek the advice of a radiologist

Setup:

5. Supine lateral scout
6. Scout should extend through the aortic arch
7. Start scan just below the orbits and scan through the aortic arch
8. DFOV Appropriate for patients body habitus



Scan Parameters:

IV Contrast administered according to chart at the discretion of the Radiologist

| Set injection Rate on Power injector based on patient's weight | | |
|---|---|---|
| <16kg/<35lbs | 1ml per lb @1.5 ml/ sec | 34 sec delay |
| 16-25kg/35-55lbs | 40ml @ 1.5/sec | 45 sec delay |
| 26/34kg/55-75lbs | 50ml @ 1.5 ml/sec | 50 sec delay |
| >35kg/>76lbs | 75ml @ 2.0 ml/sec | 60 sec delay |

PACS Series:

- Scout/Topogram
- 1.5 x 1.5 ST Neck
- 1.5 x 1.5 Bone
- 1.5 x 1.5 Coronal
- 1.5 x 1.5 Sagittal
- Dose Report/Protocol Page

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*Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

| | |
|---|---|
| Scan Type | Spiral |
| Pitch | 1.0 |
| Detector Configuration | 16 x 1.2 |
| Slice Thickness | 1.5 |
| Rotation Time | 0.5 |
| Care Dose | on |
| Quality Ref mAs | 35 |
| kVp | 100 |

| **Soft Tissue Axial** | |
|---|---|
| Kernel | I31f Medium Smooth |
| SAFIRE | 2 |
| Window | Mediastinum |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |
| **Bone Axial** | |
| Algorithm/ Kernel | B70f Very Sharp |
| SAFIRE | 0 |
| Window | Bone |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |
| **Coronal** | |
| Kernel | I31f Medium Smooth |
| SAFIRE | 1 |
| Window | Mediastinum |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |
| **Sagittal** | |
| Kernel | I31f Medium Smooth |
| SAFIRE | 1 |
| Window | Mediastinum |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |

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**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

# PEDI TEMPORAL BONES-Revised-9/17/2014

## SIEMENS DEFINITION 64

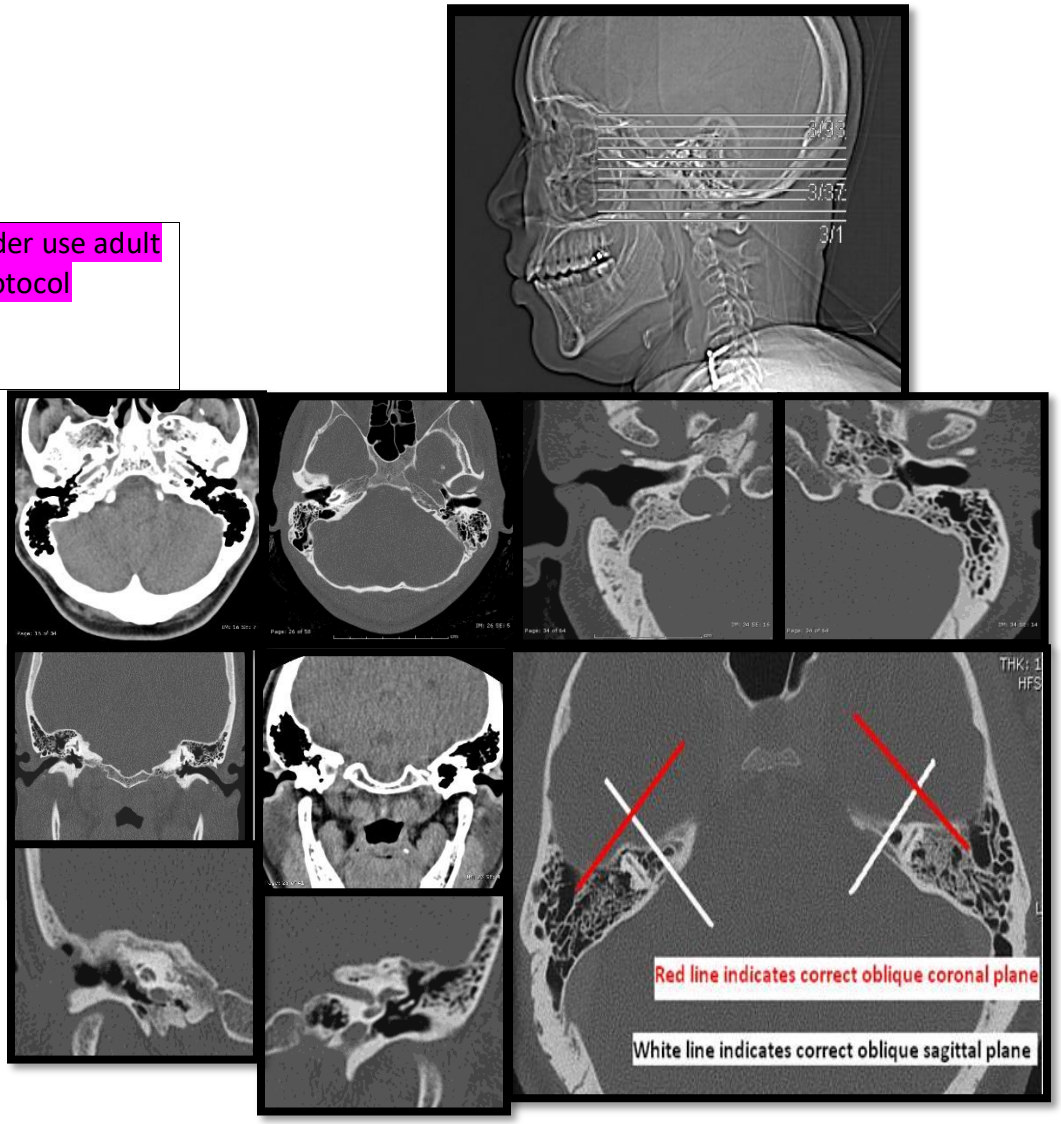
**Setup:**

5. Supine, AP and lateral scouts, no gantry angle
6. Patient Positioning: Tilt the patients head so that a line connecting the lateral canthus of the eye and the EAC is perpendicular to the CT tabletop
7. Start scan just inferior to the skull base and scan through the entire IAC's
8. Shield PT with apron

**DFOV:** Preferred 15cm (Range 14-20) *contrast at RAD discretion*

| Scanner | Perspective 64 |
|---|---|
| Scan Type | Spiral |
| Rotation Time (sec) | 1.0 |
| Detector Configuration | 16 x 0.6 |
| Pitch | 1.0 |
| Age | 0-14 |
| kVp | 120 |
| Quality ref mAs | 90 |
| Care Dose 4D | Y |

15 and older use adult protocol




**Series Order:**

- Supine Topogram
- Axial ST
- Axial Bone
- RT Axial Bone
- LT Axial Bone

- Coronal Bone
- Coronal ST
- RT Coronal Bone
- LT Coronal Bone
- RT Obl Coronal
- RT Obl Sag
- LT Obl Coronal
- LT Obl Sag

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

| **Soft Tissue Axial** | |
|---|---|
| Kernel | U30u Medium Smooth |
| SAFIRE | 0 |
| Window | Sinus |
| Slice thickness (mm) | 0.6 |
| Slice Increment (mm) | 0.6 |
| **Bone Axial** | |
| Algorithm/ Kernel | V80u Very Sharp |
| SAFIRE | 2 |
| Window | Inner Ear |
| Slice thickness (mm) | 0.6 |
| Slice Increment (mm) | 0.6 |
| **RT Axial Bone 10cm DFOV** | |
| Kernel | V80u Very Sharp |
| SAFIRE | 2 |
| Window | Inner Ear |
| Slice thickness (mm) | 0.6 |
| Slice Increment (mm) | 0.6 |
| **LT Axial Bone 10cm DFOV** | |
| Kernel | V80u Very Sharp |
| SAFIRE | 2 |
| Window | Inner Ear |
| Slice thickness (mm) | 0.6 |
| Slice Increment (mm) | 0.6 |
| **Reformat Set** | |
| Kernel | V80u Very Sharp |
| SAFIRE | 2 |
| Window | Inner Ear |
| Slice thickness (mm) | 0.6 |
| Slice Increment (mm) | 0.3 |

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ARA DIAGNOSTIC IMAGING

# PEDI THORACIC SPINE-Revised-12/7/2015

## SIEMENS DEFINITION 64

**Setup**:

In order to evenly distribute spinal contrast, post myelography patients must be rolled 360 degrees before scanning

- Supine patient position
  a. AP scout from S2 through C7
  b. Lateral scout from S2 through C7
- Bismuth shield used after scout
- Scan from below L1 through C7


PACS Series:

- Scout/Topogram
- 1.5 x 1.5 Axial Soft Tissue
- 1.5 x 1.5 Axial Bone
- 1.5 x 1.5 Sagittal
- 1.5 x 1.5 Coronal
- Dose Report/ Protocol Page

ARA DIAGNOSTIC IMAGING

| | |
|---|---|
| Scan Type | Spiral |
| Pitch | 1.0 |
| Detector Configuration | 16 x 1.2 |
| Slice Thickness | 1.5 |
| Rotation Time | 1.0 |
| Care Dose | on |
| Quality Ref mAs | 35 |
| kVp | 120 |

| **Soft Tissue Axial** | |
|---|---|
| Kernel | I40s Medium |
| SAFIRE | 2 |
| Window | Mediastinum |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |
| **Bone Axial** | |
| Algorithm/ Kernel | B70s Very Sharp |
| SAFIRE | 0 |
| Window | Osteo |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |
| **Coronal** | |
| Kernel | I50s Medium Sharp |
| SAFIRE | 1 |
| Window | Osteo |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |
| **Sagittal** | |
| Kernel | I50s Medium Sharp |
| SAFIRE | 1 |
| Window | Osteo |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |

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**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

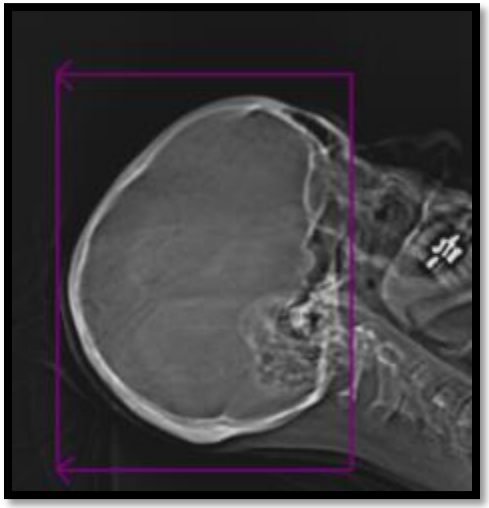
# PEDIATRIC BRAIN-Revised-9/18/2018

## GE OPTIMA

**Setup:**

1. Supine lateral scout
2. Patient Positioning: Tilt the patients head so that a line connecting the lateral canthus of the eye and the EAC is perpendicular to the tabletop.
3. In order to reduce radiation exposure to the lens of the eye, angle the gantry if you cannot place the patient's head within 15 degrees of the proper setup angle
4. Start scan at the bottom of the skull base and scan through the top of the head
5. *SHIELD PT WITH APRON*

**DFOV:** Appropriate for body habitus (Range 15-22)



**PACS Series:**

- Scout/Topogram
- Brain S
- Bone
- Bone Coronals (Only performed on 0-6yrs)
- ST Coronals for trauma less than 30 days
- Dose Report/Protocol Page

| Set Injection Rate on Power injector based on patient's weight in Kilograms | |
|---|---|
| <16 kg/<35LBS | 20ml @ 1.5 ml/sec |
| 16-25 kg/35-55LBS | 40ml @ 1.5 ml/ sec |
| 26-34kg/56-75LBS | 60ml @ 1.5 ml/sec |
| >35kg/>76LBS | 80ml @ 2.0 ml/sec |

***** 5 Minute Delay*****

*St. David's Facilities for contrast protocol please refer to St.David's Health Care- Imaging Medication Dose Protocol*

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## Protocol used for all pediatric patients ≤6 years of age

PACS Series:

- Topogram
- 2.5 x 2.5 Axial ST
- 1.25 x 1.25 Axial Bone
- 1.25 x 1.25 Soft Tissue Coronal
- 1.25 x 1.25 Soft Tissue Sagittal
- MIP Rotation of the Skull
- MIP Tumble of the Skull
- Patient Protocol/Dose Report

## Acquisition Parameters

| Head 0-6 YRS | |
|---|---|
| Scan Type | Helical |
| Scan FOV | Pedi Head |
| Noise Index | 15 |
| Auto mA | 150-200 |
| kVp | 120 |
| Rotation Time | 1 |
| Pitch and Speed | 0.984:1 (39.36) |
| Detector Coverage | 40 mm |

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**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

## Reconstruction Parameters

| | |
|---|---|
| **Recon 1 Soft Tissue** | |
| Algorithm | Standard |
| ASIR | 40 |
| Recon Type | Full |
| Slice thickness | 2.5 |
| Increment | 2.5 |
| **Recon 2 Bone** | |
| Algorithm | Bone |
| ASIR | none |
| Recon Type | Full |
| Slice thickness | 2.5 |
| Increment | 2.5 |
| **Recon 3 (thins) used to create 1mm x 1mm Coronal bone** | |
| Algorithm | Bone+ |
| ASIR | 10 |
| Recon Type | Full |
| Slice thickness | 1.25 |
| Increment | 0.625 |
| **Recon 4 (thins) used to create 1mm x 1mm Coronal Soft Tissue**<br><br>***This data set is also used to create the MIP images of the skull** | |
| Algorithm | Standard |
| ASIR | 40 |
| Recon Type | Full |
| Slice thickness | 0.625 |
| Increment | 0.625 |

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

## Acquisition Parameters

| | Head 7-14 YRS | Head 14-18 YRS |
|---|---|---|
| Scan Type | Axial | Axial |
| Scan FOV | Head | Head |
| Noise Index | | |
| Auto mA | | |
| Manual mA | 175 | 200 |
| kVp | 120 | 120 |
| Rotation Time | 1 | 1 |
| Pitch and Speed | | |
| Axial thickness and # of images per rotation | 2.5 4i | 2.5 2i |
| Detector Coverage | 10 mm | 5mm |

## Reconstruction Parameters

| | |
|---|---|
| **Recon 1 Soft Tissue** | |
| Algorithm | Standard |
| ASIR | 40 |
| Recon Type | Full |
| Slice thickness | 2.5 |
| Increment | 2.5 |
| **Recon 2 Bone** | |
| Algorithm | Bone Plus |
| ASIR | none |
| Recon Type | Full |
| Slice thickness | 2.5 |
| Increment | 2.5 |
| **Recon 3 (thins) for reformats**<br>**ST Coronals for trauma >30days** | |
| Algorithm | Standard |
| ASIR | 30 |
| Recon Type | Full |
| Slice thickness | 1.25 |
| Increment | 1.25 |

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

# PEDI CAROTIDS-Revised-9/14/2018

## GE OPTIMA

**Setup:**

1. Supine, Lateral scout, no gantry angle
2. Scout should extend through the aortic arch for smart prep/bolus tracking
3. Patient Positioning:
    - Tilt the patients head so that a line connecting the lateral canthus of the eye and the EAC is perpendicular to the CT tabl etop
    - Retract shoulders as much as possible.
4. Scan from the bottom half of the orbits through the level of the arch (Includes great vessel origins and most of the arch)
5. *SHIELD PT WITH APRON*

**DFOV:** Preferred 15 cm

**Scan Parameters:**

1. Contrast:
    - At the discretion of the Radiologist

      Rate of IV -SEE IV GUIDELINES

      Type of IV contrast used: 350 mg/ml

      Volume of Contrast is based on the patient's weight

      A good rule of thumb is to use ~1 ml/lb. up to 75ml
2. Smart Prep/Bolus Tracking – start scanning upon entry of contrast at the level of the aortic arch or trigger at 60 HU

**PACS Series:**

- ST Axial
- Coronal MIP
- Sagittal MIP
- RT Carotid CPR
- LT Carotid CPR
- RT Vertebral CPR
- LT Vertebral CPR
- 3D VRT
- Patient Protocol/ Dose Report

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DIAGNOSTIC IMAGING

## Acquisition Parameters

| | |
|---|---|
| Scan Type | Helical |
| Pitch and Speed (mm/rot) | 1.375:1 (27.5) |
| Detector Coverage | 20 mm |
| Thick | 1.25 |
| Rotation Time | 0.5 |
| Noise index | 15 |
| Scan FOV | Small Body |

| PT body size | <20 lbs | 20-49 lbs | 50-89 lbs | >90 lbs |
|---|---|---|---|---|
| Smart mA Range | 40-120 | 60-120 | 90-120 | 100-200 |
| kVp | 80 | 100 | 120 | 120 |

## Reconstruction Parameters

| | |
|---|---|
| **Recon 1** | |
| Algorithm | Standard |
| ASIR | none |
| Recon Type | Full |
| Slice Thickness | 1.25 |
| Increment | 1.25 |
| **Recon 2 (thins) for Reformats** | |
| Algorithm | Standard |
| ASIR | none |
| Recon Type | Plus |
| Slice Thickness | 0.625 |
| Increment | 0.625 |

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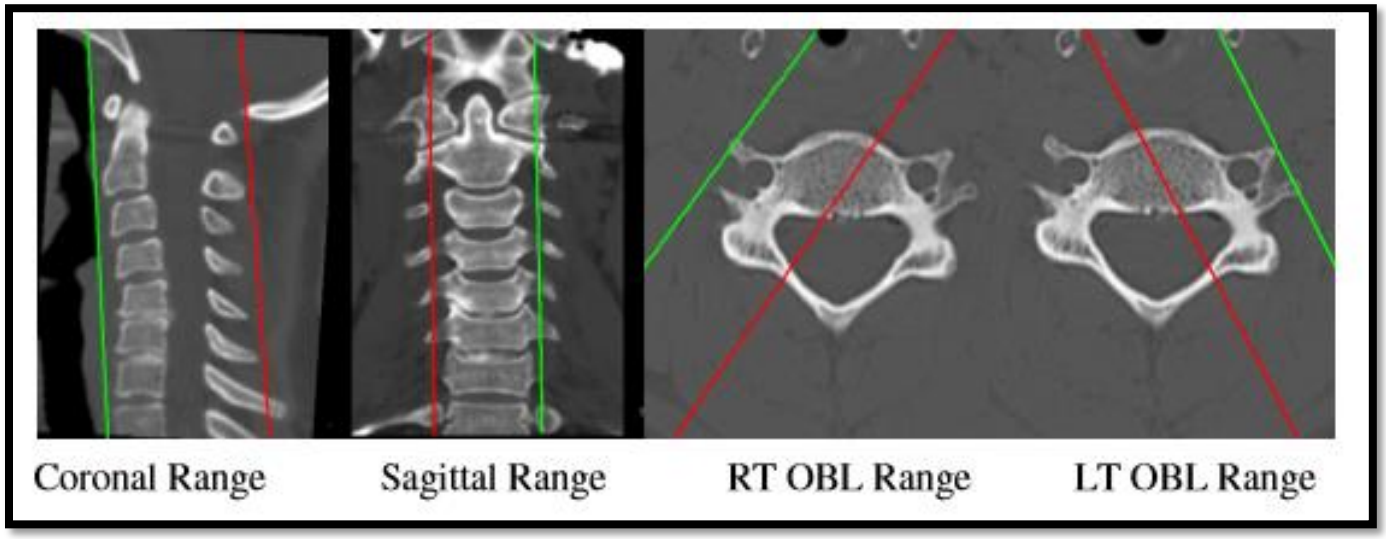
**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

ARA DIAGNOSTIC IMAGING

# PEDI CERVICAL-Revised-9/18/2018

## GE OPTIMA

Setup: 1. Supine, Lateral scout, no gantry angle
2. Scout from T3 through the Sella
3. Patient Positioning:
   - If no recent trauma, tilt the patients head so that a line connecting the lateral canthus of the eye and the EAC is perpendicular to the CT tabletop
   - Do not flex or extend the neck if there has been recent spine trauma or if the patient is in a cervical collar.
   - Retract shoulders as much as possible.
4. Start scan just below T1 Through the entire cervical spine
5. *SHIELD PT WITH APRON*




**PACS Series:**
1. Cervical ST
2. Cervical Bone
3. 1x1 Sag Cervical Spine
4. 1x1 Coronal Cervical Spine
5. 1x1 RT Oblique (not needed for hospital patients)
6. 1x1 LT Oblique (not needed for hospital patients)

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*Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

DIAGNOSTIC IMAGING

## Acquisition Parameters**15 and up use adult protocol

| | |
|---|---|
| Scan Type | Helical |
| Pitch and Speed (mm/rot) | 0.969:1 (19.38) |
| Detector Coverage | 20 mm |
| Thick | 1.25 |
| Rotation Time | 0.5 |

| PT body size | <20 lbs | 20-49 lbs | 50-89 lbs |
|---|---|---|---|
| Scan FOV | Small Body | Small Body | Small Body |
| Noise Index | 13.4 | 15.4 | 17.4 |
| Smart mA Range | 50-300 | 50-400 | 50-400 |
| kVp | 100 | 100 | 120 |

## Reconstruction Parameters

| **Recon 1 Bone** | |
|---|---|
| Algorithm | Bone Plus |
| ASIR | none |
| Recon Type | Full |
| Slice Thickness | 1.25 |
| Increment | 1.25 |
| **Recon 2 Soft Tissue** | |
| Algorithm | Standard |
| ASIR | 50 |
| Recon Type | Full |
| Slice Thickness | 1.25 |
| Increment | 1.25 |
| **Recon 3 (thins) for reformats** | |
| Algorithm | Bone Plus |
| ASIR | 40 |
| Recon Type | Full |
| Slice Thickness | 1.25 |
| Increment | 0.625 |

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*Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

# PEDI FACIAL BONES/ORBITS-Revised-8/21/2019

## GE OPTIMA

**Setup:** Lateral scout from below the mandible through the frontal sinuses

**Position:** Supine

**DFOV:** Appropriate for patients body habitus

**Scan Parameters:**
Patient is scanned helical in the supine position through the entire area of concern
BB marker placed on patient's right cheek
*SHIELD PT WITH APRON*

**PACS Series:**

- Topogram
- Axial ST
- Axial Bone
- Coronal ST
- Coronal Bone
- Sagittal ST
- Sagittal Bone
- Patient Protocol/Dose Report

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

ARA DIAGNOSTIC IMAGING

## Acquisition Parameters

****15 and up use adult protocol**

| | |
|---|---|
| Scan Type | Helical |
| Pitch and Speed (mm/rot) | 0.531:1 (10.62) |
| Detector Coverage | 20 mm |
| Thick | 1.25 |
| Rotation Time | 0.5 |
| Noise index | 25.46 |
| Scan FOV | Head |
| kVp | 100 |
| Smart mA | On |
| Auto mA | On |
| mA Range | 60-75 |
| Dose Reduction | 0% |

## Reconstruction Parameters

| | |
|---|---|
| **Recon 1 Soft Tissue** | |
| Algorithm | Standard |
| ASIR | 20 |
| Recon Type | Full |
| Slice Thickness | 1.25 |
| Increment | 1.25 |
| **Recon 2 Bone** | |
| Algorithm | Bone Plus |
| ASIR | none |
| Recon Type | Full |
| Slice Thickness | 1.25 |
| Increment | 1.25 |
| **Recon 3 (thins) for reformats** | |
| Algorithm | Bone Plus |
| ASIR | None |
| Recon Type | Full |
| Slice Thickness | 0.625 |
| Increment | 0.625 |
| **Recon 4 (thins) for reformats** | |
| Algorithm | Standard |
| ASIR | 20 |
| Recon Type | Full-E |
| Slice Thickness | 0.625 |
| Increment | 0.625 |

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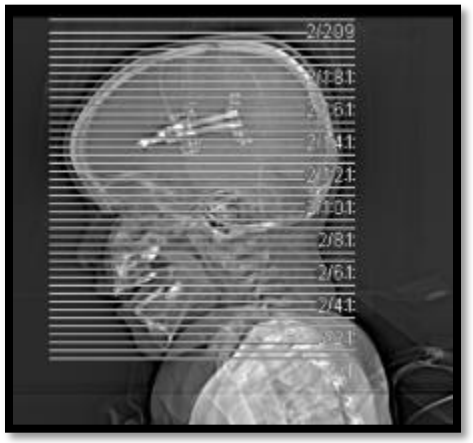
**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

# PEDI LOW DOSE CRANIOFACIAL-Revised-8/21/2019

## GE OPTIMA

This is to be performed on all pediatric patients under the age of 14

**Setup**: Lateral scout from below the mandible through the top of the skull
**Scan Range**: From below the mandible through the top of the skull
**DFOV**: Appropriate for patients body habitus
*SHIELD PT WITH APRON*



PACS Series:

- Topogram
- 1x1 Axial ST
- 1x1 Axial Bone
- 3x3 Oblique Axial ST (Brain)
- 1.25x1.25 Bone Coronals
- 1.25x1.25 Bone Sagittal
- VRT Rotation
- VRT Tumble
- Patient Protocol/Dose Report

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ARA DIAGNOSTIC IMAGING

## Acquisition Parameters CTDI 4.69

| | |
|---|---|
| Scan Type | Helical |
| Pitch and Speed (mm/rot) | 0.969:1 (19.37) |
| Detector Coverage | 20 mm |
| Thick | 1.25 |
| Rotation Time | 0.5 |
| Noise index | N/A |
| Scan FOV | Head |
| kVp | 100 |
| Smart mA | off |
| Auto mA | off |
| Manual mA | 80 |
| Dose Reduction | 0% |

## Reconstruction Parameters

| | |
|---|---|
| **Recon 1 Soft Tissue** | |
| Algorithm | Standard |
| ASIR | 20 |
| Recon Type | Full |
| Slice Thickness | 1.25 |
| Increment | 1.25 |
| **Recon 2 Bone** | |
| Algorithm | Bone Plus |
| ASIR | none |
| Recon Type | Full |
| Slice Thickness | 1.25 |
| Increment | 1.25 |
| **Recon 3 (thins) for 3D** | |
| Algorithm | Standard |
| ASIR | 20 |
| Recon Type | Plus |
| Slice Thickness | 0.625 |
| Increment | 0.625 |
| **Recon 4 (thins) for reformats** | |
| Algorithm | Bone |
| ASIR | none |
| Recon Type | Plus |
| Slice Thickness | 1.25 |
| Increment | 0.625 |

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# PEDI LIMITED SINUS-Revised-09/17/2014

## GE OPTIMA

Setup: Lateral scout anterior to the tip of the nose through the adenoids

Position: Prone with marker on the RT cheek

DFOV: Appropriate for patients body habitus

Scan Parameters:

Patient is scanned helical in the prone position. If the patient is unable to lay prone a supine scan with coronal reformations is acceptable.

*SHIELD PT WITH APRON*

PACS Series: Topogram, ST Coronals 3x3, Bone Coronals 3x3

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| Scanner | GE Optima 660 |
|---|---|
| Scan Type | Helical |
| Rotation Time (sec) | 0.9 |
| Detector Configuration | 40 x 1.25 |
| Pitch | 0.984:1 |
| Scan FOV | head |
| Speed | 39.37 |

| Age | kVp | mA | Dose Modulation |
|---|---|---|---|
| **0-1yr** | **100** | **40** | **N** |
| **2-5yr** | **100** | **50** | **N** |
| **6-9 year** | **100** | **70** | **N** |
| **10-13** | **100** | **90** | **N** |

| ***Recon 1 Bone*** | |
|---|---|
| Kernal | Bone Plus |
| Slice thickness (mm) | 1.25 |
| Slice increment (mm) | 0.625 |
| ***Recon 2 ST*** | |
| Kernal | STND |
| Slice thickness (mm) | 1.25 |
| Slice increment (mm) | 0.625 |

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**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

# PEDI LUMBAR-Revised-11/7/2017

## GE OPTIMA

CTDIvol: ~5-10 mGy

**Setup:**

1. Supine, AP and Lateral scouts, no gantry angle
2. Extend scout from S2 through T12
3. Patient Positioning:
    - Post Myelography patients must be rolled 360 degrees before scanning; this will help to evenly distribute spinal contrast.
4. Start scan just below S2 through T12
5. Contrast at the discretion of the Radiologist

**For Patients with extensive hardware**: Use 130 kVp and perform the soft tissue reconstruction with the smoothest possible Kernel/Algorithm possible, and the Bone reformat reconstruction with a standard Kernel/Algorithm: this technique will help to reduce streaking artifact.
(If you are unsure if the amount of implanted hardware is considered extensive please consult with a Radiologist)

**PACS Series:**

- Lumbar ST
- Lumbar Bone
- Sag Lumbar Spine
- Coronal Lumbar Spine
- Axial Oblique 1
- Patient Protocol/Dose Report

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**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

DIAGNOSTIC IMAGING

## Acquisition Parameters **15 and up use adult protocol

| | |
|---|---|
| Scan Type | Helical |
| Pitch and Speed (mm/rot) | 0.969:1 (19.38) |
| Detector Coverage | 20 mm |
| Thick | 1.25 |
| Rotation Time | 0.5 |

| PT body size | <20 lbs | 20-49 lbs | 50-89 lbs |
|---|---|---|---|
| Scan FOV | Small Body | Small Body | Large Body |
| Noise Index | 13.4 | 15.4 | 17.4 |
| Smart mA Range | 50-300 | 50-350 | 50-400 |
| kVp | 100 | 100 | 120 |

## Reconstruction Parameters

| **Recon 1 Bone** | |
|---|---|
| Algorithm | Bone Plus |
| ASIR | none |
| Recon Type | Full |
| Slice Thickness | 1.25 |
| Increment | 1.25 |
| **Recon 2 Soft Tissue** | |
| Algorithm | Standard |
| ASIR | 50 |
| Recon Type | Full |
| Slice Thickness | 1.25 |
| Increment | 1.25 |
| **Recon 3 (thins) for reformats** | |
| Algorithm | Standard |
| ASIR | 40 |
| Recon Type | Full |
| Slice Thickness | 1.25 |
| Increment | 0.625 |

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*Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

# PEDI ST NECK-Revised-12/7/2015

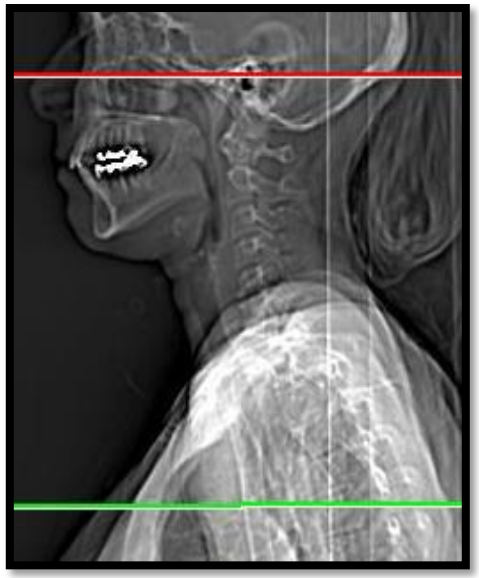
## GE OPTIMA

CTDI: ~15-20mGy

- When performing CT Soft Tissue Neck scans on pediatric patients please avoid scanning the orbits unless the anatomy is of concern for the examination. If you are unsure as to include the orbits or not, please seek the advice of a radiologist

Setup:

9. Supine lateral scout
10. Scout should extend through the aortic arch
11. Start scan just below the orbits and scan through the aortic arch
12. DFOV Appropriate for patients body habitus



Scan Parameters:

IV Contrast administered according to chart at the discretion of the Radiologist

| Set injection Rate on Power injector based on patient's weight | | |
|---|---|---|
| <16kg/<35lbs | 1ml per lb @1.5 ml/ sec | 34 sec delay |
| 16-25kg/35-55lbs | 40ml @ 1.5/sec | 45 sec delay |
| 26/34kg/55-75lbs | 50ml @ 1.5 ml/sec | 50 sec delay |
| >35kg/>76lbs | 75ml @ 2.0 ml/sec | 60 sec delay |

PACS Series:

- Scout/Topogram
- 1.5 x 1.5 ST Neck
- 1.5 x 1.5 Bone
- 1.5 x 1.5 Coronal
- 1.5 x 1.5 Sagittal
- Dose Report/Protocol Page

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## Acquisition Parameters

| | |
|---|---|
| Scan Type | Helical |
| Pitch and Speed (mm/rot) | 0.969:1 (19.38) |
| Detector Coverage | 20 mm |
| Thick | 1.25 |
| Rotation Time | 0.5 |
| Noise index | 15 |
| Scan FOV | Small Body |

| PT body size | <20 lbs | 20-49 lbs | 50-89 lbs | >90 lbs |
|---|---|---|---|---|
| Smart mA Range | 40-120 | 60-280 | 90-280 | 90-280 |
| kVp | 80 | 100 | 120 | 120 |

## Reconstruction Parameters

| **Recon 1 Soft Tissue** | |
|---|---|
| Algorithm | Standard |
| ASIR | none |
| Recon Type | Full |
| Slice Thickness | 1.25 |
| Increment | 1.25 |

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

| **Recon 2 Bone** | |
|---|---|
| Algorithm | Bone Plus |
| ASIR | none |
| Recon Type | Full |
| Slice Thickness | 1.25 |
| Increment | 1.25 |
| **Recon 3 (thins) for reformats** | |
| Algorithm | Standard |
| ASIR | 40 |
| Recon Type | Full |
| Slice Thickness | 1.25 |
| Increment | 0.625 |

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

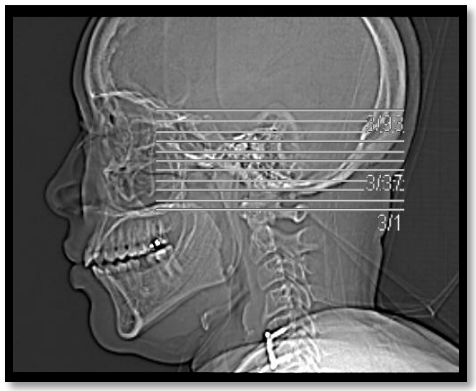
# PEDI TEMPORAL BONES-Revised-9/17/2014

## GE OPTIMA

**Setup:**

9. Supine, AP and lateral scouts, no gantry angle
10. Patient Positioning: Tilt the patients head so that a line connecting the lateral canthus of the eye and the EAC is perpendicular to the CT tabletop
11. Start scan just inferior to the skull base and scan through the entire IAC's
12. Shield PT with apron

**DFOV:** Preferred 15cm (Range 14-20) *contrast at RAD discretion*

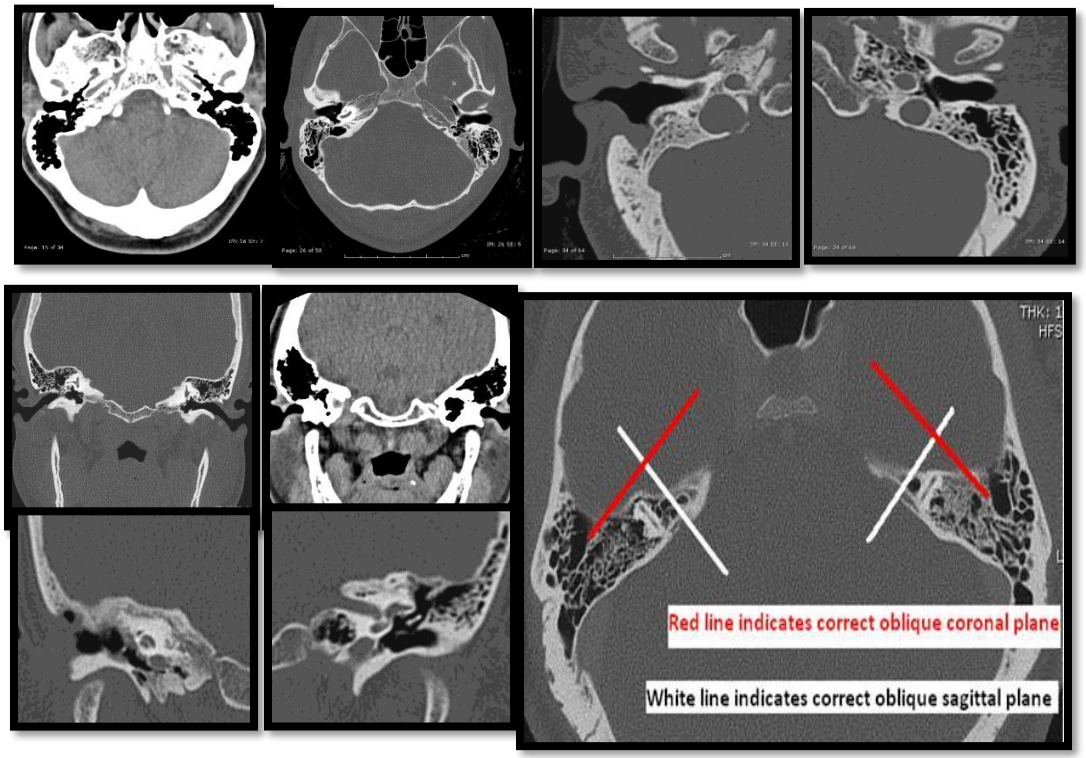


**15 and older use adult protocol**

**Series Order:**

- Supine Topogram
- Axial ST
- Axial Bone
- RT Axial Bone
- LT Axial Bone

- Coronal Bone
- Coronal ST
- RT Coronal Bone
- LT Coronal Bone
-
- RT Obl Coronal
- RT Obl Sag
- LT Obl Coronal
- LT Obl Sag




*Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

ARA DIAGNOSTIC IMAGING

## Acquisition Parameters

| | |
|---|---|
| Scan Type | Helical |
| Pitch and Speed (mm/rot) | 0.969:1 (19.37) |
| Detector Coverage | 20 mm |
| Thick | 0.625 |
| Rotation Time | 0.5 |
| Noise index | 18 |
| Scan FOV | Head |
| kVp | 120 |
| Smart mA | On |
| Auto mA | On |
| mA Range | 30-100 |
| Dose Reduction | 30% |

## Reconstruction Parameters

| | |
|---|---|
| **Recon 1 Soft Tissue** | |
| Algorithm | Standard |
| ASIR | 20 |
| Recon Type | Plus-E |
| Slice Thickness | 0.625 |
| Increment | 0.625 |
| **Recon 2 Bone** | |
| Algorithm | Bone + |
| ASIR | none |
| Recon Type | Plus-E |
| Slice Thickness | 0.625 |
| Increment | 0.625 |
| **Recon 3 RT Axial (10cm FOV)** | |
| Algorithm | Bone + |
| ASIR | none |
| Recon Type | Plus-E |
| Slice Thickness | 0.625 |
| Increment | 0.625 |
| **Recon 4 LT Axial (10cm FOV)** | |
| Algorithm | Bone + |
| ASIR | none |
| Recon Type | Plus-E |
| Slice Thickness | 0.625 |
| Increment | 0.625 |

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**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

ARA DIAGNOSTIC IMAGING

# PEDI THORACIC SPINE-Revised-12/7/2015

## GE OPTIMA

**Setup**:

In order to evenly distribute spinal contrast, post myelography patients must be rolled 360 degrees before scanning

- Supine patient position
  a. AP scout from S2 through C7
  b. Lateral scout from S2 through C7
- Bismuth shield used after scout
- Scan from below L1 through C7


PACS Series:

- Scout/Topogram
- 1.5 x 1.5 Axial Soft Tissue
- 1.5 x 1.5 Axial Bone
- 1.5 x 1.5 Sagittal
- 1.5 x 1.5 Coronal
- Dose Report/ Protocol Page

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

## Acquisition Parameters ****15 and up use adult protocol**

| | |
|---|---|
| Scan Type | Helical |
| Pitch and Speed (mm/rot) | 0.969:1 (19.38) |
| Detector Coverage | 20 mm |
| Thick | 1.25 |
| Rotation Time | 0.5 |

| PT body size | <20 lbs | 20-49 lbs | 50-89 lbs |
|---|---|---|---|
| Scan FOV | Small Body | Small Body | Large Body |
| Noise Index | 13.4 | 15.4 | 17.4 |
| Smart mA Range | 50-300 | 50-400 | 50-400 |
| kVp | 100 | 100 | 120 |

## Reconstruction Parameters

| | |
|---|---|
| **Recon 1 Bone** | |
| Algorithm | Bone Plus |
| ASIR | none |
| Recon Type | Full |
| Slice Thickness | 1.25 |
| Increment | 1.25 |
| **Recon 2 Soft Tissue** | |
| Algorithm | Standard |
| ASIR | 50 |
| Recon Type | Full |
| Slice Thickness | 1.25 |
| Increment | 1.25 |
| **Recon 3 (thins) for reformats** | |
| Algorithm | Standard |
| ASIR | 40 |
| Recon Type | Full |
| Slice Thickness | 1.25 |
| Increment | 0.625 |

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**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

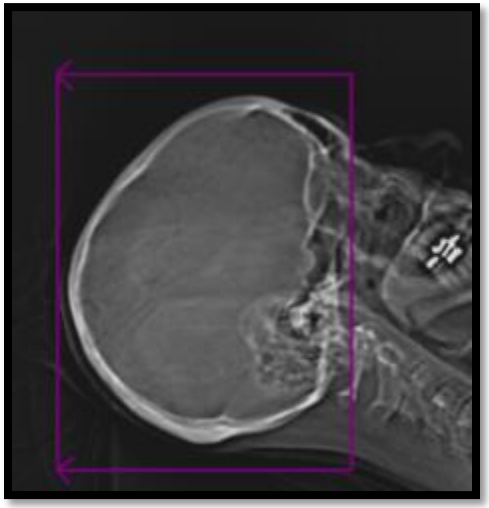
# PEDIATRIC BRAIN-Revised-9/18/2018

## SIEMENS DEFINITION 40

**Setup:**

1. Supine lateral scout
2. Patient Positioning: Tilt the patients head so that a line connecting the lateral canthus of the eye and the EAC is perpendicular to the tabletop.
3. In order to reduce radiation exposure to the lens of the eye, angle the gantry if you cannot place the patient's head within 15 degrees of the proper setup angle
4. Start scan at the bottom of the skull base and scan through the top of the head
5. *SHIELD PT WITH APRON*

**DFOV:** Appropriate for body habitus (Range 15-22)



**PACS Series:**

- Scout/Topogram
- Brain S
- Bone
- Bone Coronals (Only performed on 0-6yrs)
- ST Coronals for trauma less than 30 days
- Dose Report/Protocol Page

| Set Injection Rate on Power injector based on patient's weight in Kilograms | |
|---|---|
| <16 kg/<35LBS | 20ml @ 1.5 ml/sec |
| 16-25 kg/35-55LBS | 40ml @ 1.5 ml/ sec |
| 26-34kg/56-75LBS | 60ml @ 1.5 ml/sec |
| >35kg/>76LBS | 80ml @ 2.0 ml/sec |

***** 5 Minute Delay*****

*St. David's Facilities for contrast protocol please refer to St.David's Health Care- Imaging Medication Dose Protocol*

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

ARA DIAGNOSTIC IMAGING

## Acquisition Parameters

**Pedi 0-6 years**

| | |
|---|---|
| Scan Type | Spiral |
| Pitch | 1.0 |
| Detector Configuration | 32 x 1.2 |
| Slice Thickness | 3.0 |
| Rotation Time | 1.0 |
| Care Dose | on |
| Quality Ref mAs | 150 |
| kVp | 120 |

**Pedi 7-14 years**

| | |
|---|---|
| Scan Type | Spiral |
| Pitch | 0.8 |
| Detector Configuration | 32 x 1.2 |
| Slice Thickness | 3.0 |
| Rotation Time | 1.0 |
| Care Dose | on |
| Quality Ref mAs | 150 |
| kVp | 120 |

## Reconstruction Parameters

| | |
|---|---|
| **Recon 1 Soft Tissue** | |
| Kernel | J40s Medium |
| SAFIRE | 2 |
| Window | Cerebrum |
| Slice Thickness | 3.0 x 3.0 |
| **Recon 2 Bone** | |
| Kernel | H60h Sharp FF |
| SAFIRE | none |
| Window | Cranial Bone |
| Slice Thickness | 3.0 x 3.0 |

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

| **Recon 3 Coronal Bone** | ****Coronal Bone on pedi 0-6 years only** |
|---|---|
| Kernel | H60f Sharp FF |
| SAFIRE | None |
| Window | Cranial Bone |
| Slice Thickness | 2.0 x 2.0 |
| **Recon 3 Coronal ST** | ****Coronal ST on trauma <30days** |
| Kernel | J37s Medium |
| SAFIRE | 2 |
| Window | Cerebrum |
| Slice Thickness | 3.0 x 3.0 |

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# PEDI CAROTIDS-Revised-9/14/2018

## SIEMENS DEFINITION 40

1. Supine, Lateral scout, no gantry angle
2. Scout should extend through the aortic arch for smart prep/bolus tracking
3. Patient Positioning:
    - Tilt the patients head so that a line connecting the lateral canthus of the eye and the EAC is perpendicular to the CT tabl etop
    - Retract shoulders as much as possible.
4. Scan from the bottom half of the orbits through the level of the arch (Includes great vessel origins and most of the arch)
5. *SHIELD PT WITH APRON*

**DFOV:** Preferred 15 cm

**Scan Parameters:**

1. Contrast:
    - At the discretion of the Radiologist

      Rate of IV -SEE IV GUIDELINES
      Type of IV contrast used: 350 mg/ml
      Volume of Contrast is based on the patient's weight
      A good rule of thumb is to use ~1 ml/lb. up to 75ml
2. Smart Prep/Bolus Tracking – start scanning upon entry of contrast at the level of the aortic arch or trigger at 60 HU

**PACS Series:**

- ST Axial
- Coronal MIP
- Sagittal MIP
- RT Carotid CPR
- LT Carotid CPR
- RT Vertebral CPR
- LT Vertebral CPR
- 3D VRT
- Patient Protocol/ Dose Report

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DIAGNOSTIC IMAGING

## Acquisition Parameters **15 and up use adult protocol

| | |
|---|---|
| Scan Type | Spiral |
| Pitch | 1.2 |
| Detector Configuration | 40 x 0.6 |
| Slice Thickness | 1.4 |
| Rotation Time | 0.5 |
| Care Dose | on |
| Quality Ref mAs | 40 |
| kVp should be set based on patient weight | |
| kVp | <20 lbs 80<br>>20 lbs 100 |
| FOV | 150 |
| Trigger | 60 |

## Reconstruction Parameters

| | |
|---|---|
| **Recon 1 Soft Tissue** | |
| Kernel | I31f Medium Smooth |
| SAFIRE | 2 |
| Window | CT Angio |
| Slice Thickness | 1.0 x 1.0 |
| **Recon 2 Reformat for 3D** | |
| Kernel | I26f Medium Smooth ASA |
| SAFIRE | 2 |
| Window | CT Angio |
| Slice Thickness | 0.6 x 0.4 |

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

| | |
|---|---|
| **Recon 3 Coronal MIP** | |
| Kernel | I31f Medium Smooth |
| SAFIRE | 2 |
| Window | CT Angio |
| Slice Thickness | 1.0 x 1.0 |
| **Recon 4 Sagittal MIP** | |
| Kernel | I31f Medium Smooth |
| SAFIRE | 2 |
| Window | CT Angio |
| Slice Thickness | 1.0 x 1.0 |

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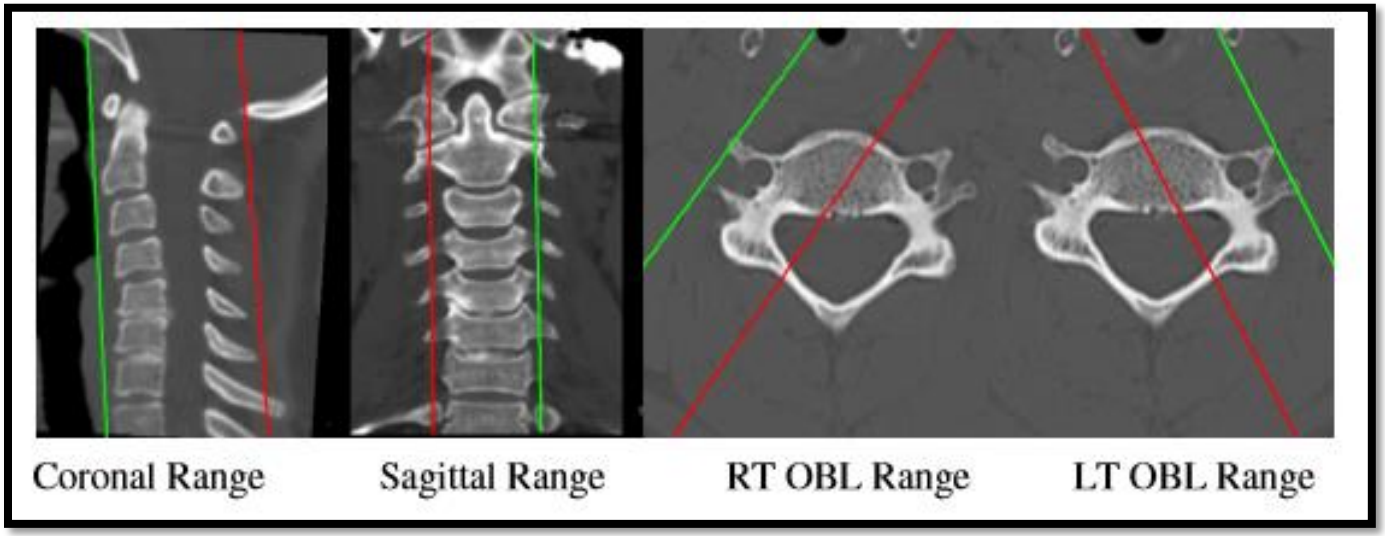
# PEDI CERVICAL-Revised-9/18/2018

## SIEMENS DEFINITION 40

Setup: 1. Supine, Lateral scout, no gantry angle
2. Scout from T3 through the Sella
3. Patient Positioning:
   - If no recent trauma, tilt the patients head so that a line connecting the lateral canthus of the eye and the EAC is perpendicular to the CT tabletop
   - Do not flex or extend the neck if there has been recent spine trauma or if the patient is in a cervical collar.
   - Retract shoulders as much as possible.
4. Start scan just below T1 Through the entire cervical spine
5. *SHIELD PT WITH APRON*




**PACS Series:**
1. Cervical ST
2. Cervical Bone
3. 1x1 Sag Cervical Spine
4. 1x1 Coronal Cervical Spine
5. 1x1 RT Oblique (not needed for hospital patients)
6. 1x1 LT Oblique (not needed for hospital patients)

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DIAGNOSTIC IMAGING

## Acquisition Parameters

****15 and up use adult protocol**

| | |
|---|---|
| Scan Type | Spiral |
| Pitch | 1.2 |
| Detector Configuration | 40 x 0.6 |
| Slice Thickness | 1.0 |
| Rotation Time | 0.5 |
| Care Dose | on |
| Quality Ref mAs | 100 |
| kVp | 110 |
| FOV | 120 |

## Reconstruction Parameters

| | |
|---|---|
| **Recon 1 Bone** | |
| Kernel | I70f Very Sharp |
| SAFIRE | 1 |
| Window | Osteo |
| Slice Thickness | 1.0 x 1.0 |
| **Recon 2 Axial ST** | |
| Kernel | I30f Medium smooth |
| SAFIRE | 2 |
| Window | Spine |
| Slice Thickness | 1.0 x 1.0 |
| **Recon 3 Coronal** | |
| Kernel | I70f Medium Sharp ASA |
| SAFIRE | 1 |
| Window | Osteo |
| Slice Thickness | 1.0 x 1.0 |

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

| | |
|---|---|
| **Recon 4 Sagittal** | |
| Kernel | I70f Medium Sharp ASA |
| SAFIRE | 1 |
| Window | Osteo |
| Slice Thickness | 1.0 x 1.0 |
| **Recon 5 RT Oblique** | |
| Kernel | I70f Medium Sharp ASA |
| SAFIRE | 1 |
| Window | Osteo |
| Slice Thickness | 1.0 x 1.0 |
| **Recon 6 LT Oblique** | |
| Kernel | I70f Medium Sharp ASA |
| SAFIRE | 1 |
| Window | Osteo |
| Slice Thickness | 1.0 x 1.0 |

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# PEDI FACIAL BONES/ORBITS-Revised-8/21/2019

## SIEMENS DEFINITION 40

**Setup:** Lateral scout from below the mandible through the frontal sinuses

**Position:** Supine

**DFOV:** Appropriate for patients body habitus

**Scan Parameters:**
Patient is scanned helical in the supine position through the entire area of concern
BB marker placed on patient's right cheek
*SHIELD PT WITH APRON*

**PACS Series:**

- Topogram
- Axial ST
- Axial Bone
- Coronal ST
- Coronal Bone
- Sagittal ST
- Sagittal Bone
- Patient Protocol/Dose Report

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

ARA DIAGNOSTIC IMAGING

## Acquisition Parameters**15 and up use adult protocol

| | |
|---|---|
| Scan Type | Spiral |
| Pitch | 1.0 |
| Detector Configuration | 16 x 1.2 |
| Slice Thickness | 1.5 |
| Rotation Time | 0.5 |
| Care Dose | on |
| Quality Ref mAs | 35 |
| kVp | 120 |
| FOV | 150 |

## Reconstruction Parameters

| | |
|---|---|
| **Recon 1 Soft Tissue** | |
| Kernel | J37f Medium Smooth |
| SAFIRE | 2 |
| Window | Sinuses |
| Slice Thickness | 1.5 x 1.5 |
| **Recon 2 Axial Bone** | |
| Kernel | H60f Sharp FR |
| SAFIRE | none |
| Window | Cranial Bone |
| Slice Thickness | 1.5 x 1.5 |
| **Recon 3 Coronal ST** | |
| Kernel | J37f Medium Smooth |

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

| | |
|---|---|
| SAFIRE | 2 |
| Window | Sinuses |
| Slice Thickness | 1.5 x 1.5 |
| **Recon 4 Coronal Bone** | |
| Kernel | H60f Sharp FR |
| SAFIRE | none |
| Window | Inner Ear |
| Slice Thickness | 1.5 x 1.5 |
| **Recon 5 Sagittal ST** | |
| Kernel | J37f Medium Smooth |
| SAFIRE | 2 |
| Window | Sinuses |
| Slice Thickness | 1.5 x 1.5 |
| **Recon 6 Sagittal Bone** | |
| Kernel | H60f Sharp FR |
| SAFIRE | None |
| Window | Inner Ear |
| Slice Thickness | 1.5 x 1.5 |

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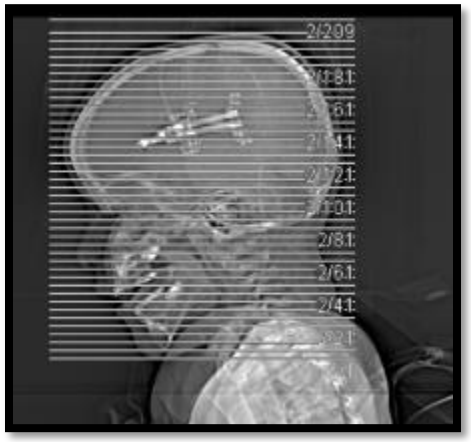
# PEDI LOW DOSE CRANIOFACIAL-Revised-8/21/2019

## SIEMENS DEFINITION 40

This is to be performed on all pediatric patients under the age of 14

**Setup**: Lateral scout from below the mandible through the top of the skull
**Scan Range**: From below the mandible through the top of the skull
**DFOV**: Appropriate for patients body habitus
*SHIELD PT WITH APRON*



PACS Series:

- Topogram
- 1x1 Axial ST
- 1x1 Axial Bone
- 3x3 Oblique Axial ST (Brain)
- 1x1 Bone Coronals
- 1x1 Bone Sagittal
- VRT Rotation
- VRT Tumble
- Patient Protocol/Dose Report

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*Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

| | |
|---|---|
| Scan Type | Spiral |
| Pitch | 1.0 |
| Detector Configuration | 40 x 0.6 |
| Slice Thickness | 1.0 |
| Rotation Time | 0.5 |
| Care Dose | on |
| Quality Ref mAs | 30 |
| kVp | 120 |
| FOV | 220 |

## Reconstruction Parameters

| | |
|---|---|
| **Recon 1 Soft Tissue** | |
| Kernel | J37f Medium Smooth |
| SAFIRE | 2 |
| Window | Cerebrum |
| Slice Thickness | 1.0 x 1.0 |
| **Recon 2 Axial Bone** | |
| Kernel | H60f Sharp FR |
| SAFIRE | none |
| Window | Cranial Bone |
| Slice Thickness | 1.0 x 1.0 |
| **Recon 3 Coronal Bone** | |
| Kernel | H60f Sharp FR |
| SAFIRE | none |
| Window | Cranial Bone |

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

| | |
|---|---|
| Slice Thickness | 1.0 x 1.0 |
| **Recon 4 Sagittal Bone** | |
| Kernel | H60f Sharp FR |
| SAFIRE | none |
| Window | Cranial Bone |
| Slice Thickness | 1.0 x 1.0 |
| **Recon 5 Axial Oblique Brain** | |
| Kernel | J37f Medium Smooth |
| SAFIRE | 2 |
| Window | Cerebrum |
| Slice Thickness | 3.0 x 3.0 |
| **Recon 6 Reformat for 3D** | |
| Kernel | J30f Medium Smooth |
| SAFIRE | 2 |
| Window | Cerebrum |
| Slice Thickness | 0.6 x 0.3 |

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# PEDI LIMITED SINUS-Revised-09/17/2014

**SIEMENS DEFINITION 40**

Setup: Lateral scout anterior to the tip of the nose through the adenoids

Position: Prone with marker on the RT cheek

DFOV: Appropriate for patients body habitus

Scan Parameters:

Patient is scanned helical in the prone position. If the patient is unable to lay prone a supine scan with coronal reformations is acceptable.

*SHIELD PT WITH APRON*

PACS Series: Topogram, ST Coronals 3x3, Bone Coronals 3x3

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ARA DIAGNOSTIC IMAGING

| Scanner | Definition 40 |
|---|---|
| Scan Type | Spiral |
| Rotation Time (sec) | 0.6 |
| Detector Configuration | 32 x 1.2 |
| Pitch | 1.0 |

| Age | kVp | Quality ref mAs | Dose Modulation |
|---|---|---|---|
| 0-14 yr | 120 | 35 | yes |
| **15 and up use ADULT protocol** | | | |

| **Recon 1 Soft Tissue** | |
|---|---|
| Kernal | J37s/sinuses |
| Slice thickness | 3 |
| Slice increment | 3 |
| **Recon 2 Bone** | |
| Kernel | H60 sharp/inner ear |
| Slice thickness | 3 |
| Slice increment | 3 |

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**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

# PEDI LUMBAR-Revised-11/7/2017

## SIEMENS DEFINITION 40

CTDIvol: ~5-10 mGy

**Setup:**

1. Supine, AP and Lateral scouts, no gantry angle
2. Extend scout from S2 through T12
3. Patient Positioning:
    - Post Myelography patients must be rolled 360 degrees before scanning; this will help to evenly distribute spinal contrast.
4. Start scan just below S2 through T12
5. Contrast at the discretion of the Radiologist

**For Patients with extensive hardware**: Use 130 kVp and perform the soft tissue reconstruction with the smoothest possible Kernel/Algorithm possible, and the Bone reformat reconstruction with a standard Kernel/Algorithm: this technique will help to reduce streaking artifact.
(If you are unsure if the amount of implanted hardware is considered extensive please consult with a Radiologist)

**PACS Series:**

- Lumbar ST
- Lumbar Bone
- Sag Lumbar Spine
- Coronal Lumbar Spine
- Axial Oblique 1
- Patient Protocol/Dose Report

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**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

ARA DIAGNOSTIC IMAGING

| | |
|---|---|
| Scan Type | Spiral |
| Pitch | 1.0 |
| Detector Configuration | 16 x 1.2 |
| Slice Thickness | 1.5 |
| Rotation Time | 1.0 |
| Care Dose | on |
| Quality Ref mAs | 90 |
| kVp | 120 |
| FOV | 150 |

| **Soft Tissue Axial** | |
|---|---|
| Kernel | I31s medium smooth/Spine |
| SAFIRE | 1 |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |
| **Bone Axial** | |
| Algorithm/ Kernel | I70h very sharp/ Osteo |
| SAFIRE | 1 |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |
| **Coronal** | |
| Kernel | I70h very sharp |
| SAFIRE | 1 |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |
| **Sagittal** | |
| Algorithm/ Kernel | I70h very sharp |
| SAFIRE | 1 |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |
| **Obl Axial** | |
| Kernel | I70h very sharp |
| SAFIRE | 1 |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |

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# PEDI ST NECK-Revised-12/7/2015

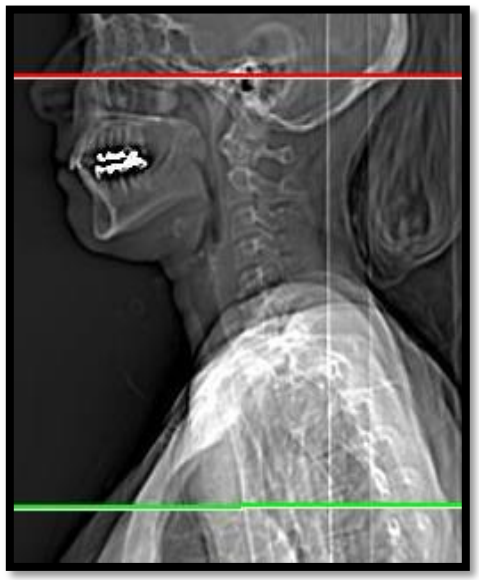
**SIEMENS DEFINITION 40**

CTDI: ~15-20mGy

- When performing CT Soft Tissue Neck scans on pediatric patients please avoid scanning the orbits unless the anatomy is of concern for the examination. If you are unsure as to include the orbits or not, please seek the advice of a radiologist

Setup:

13. Supine lateral scout
14. Scout should extend through the aortic arch
15. Start scan just below the orbits and scan through the aortic arch
16. DFOV Appropriate for patients body habitus



Scan Parameters:

IV Contrast administered according to chart at the discretion of the Radiologist

| Set injection Rate on Power injector based on patient's weight | | |
|---|---|---|
| **<16kg/<35lbs** | **1ml per lb @1.5 ml/ sec** | **34 sec delay** |
| **16-25kg/35-55lbs** | **40ml @ 1.5/sec** | **45 sec delay** |
| **26/34kg/55-75lbs** | **50ml @ 1.5 ml/sec** | **50 sec delay** |
| **>35kg/>76lbs** | **75ml @ 2.0 ml/sec** | **60 sec delay** |

PACS Series:

- Scout/Topogram
- 1.5 x 1.5 ST Neck
- 1.5 x 1.5 Bone
- 1.5 x 1.5 Coronal
- 1.5 x 1.5 Sagittal
- Dose Report/Protocol Page

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**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

ARA
DIAGNOSTIC IMAGING

| | |
|---|---|
| Scan Type | Spiral |
| Pitch | 1.2 |
| Detector Configuration | 16 x 1.2 |
| Slice Thickness | 1.5 |
| Rotation Time | 0.5 |
| Care Dose | on |
| Quality Ref mAs | 90 |
| kVp | 100 |
| FOV | 150 |

| **Soft Tissue Axial** | |
|---|---|
| Kernel | I31f med smooth/Larynx |
| SAFIRE | 1 |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |
| **Bone Axial** | |
| Algorithm/ Kernel | I50f med sharp ASA/Osteo |
| SAFIRE | 1 |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |
| **Coronal** | |
| Kernel | I31f med smooth |
| SAFIRE | 1 |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |
| **Sagittal** | |
| Algorithm/ Kernel | I31f med smooth/Larynx |
| SAFIRE | 1 |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |
| **Obl Axial** | |
| Kernel | I41s |
| SAFIRE | 1 |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

# PEDI TEMPORAL BONES-Revised-9/17/2014

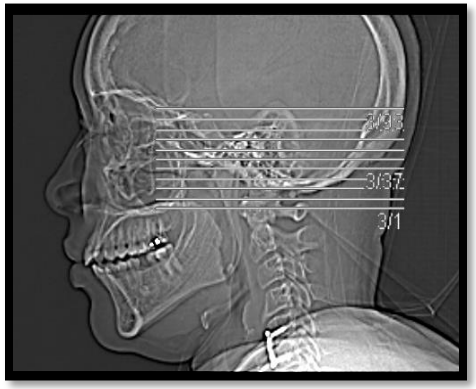
## SIEMENS DEFINITION 40

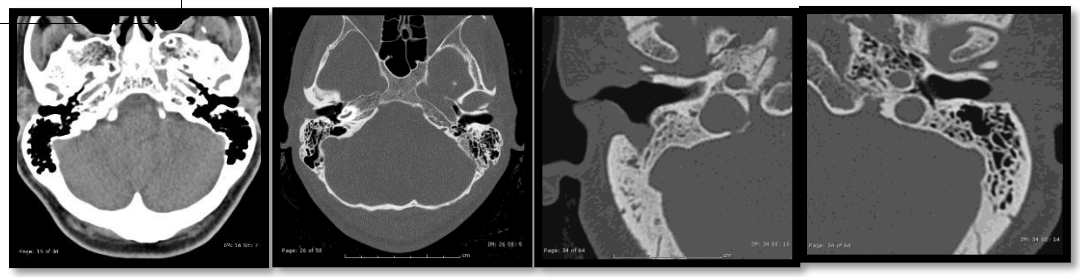
**Setup:**

13. Supine, AP and lateral scouts, no gantry angle
14. Patient Positioning: Tilt the patients head so that a line connecting the lateral canthus of the eye and the EAC is perpendicular to the CT tabletop
15. Start scan just inferior to the skull base and scan through the entire IAC's
16. Shield PT with apron

**DFOV:** Preferred 15cm (Range 14-20) *contrast at RAD discretion*

| Scanner | Definition 40 | |
|---|---|---|
| Scan Type | Spiral | |
| Rotation Time (sec) | 0.6 | |
| Detector Configuration | 4 x 0.6 | |
| Pitch | 1.0 | |
| Age | 0-14 | 15 and older use adult protocol |
| kVp | 110 | |
| Quality ref mAs | 90 | |
| Care Dose 4D | Y | |

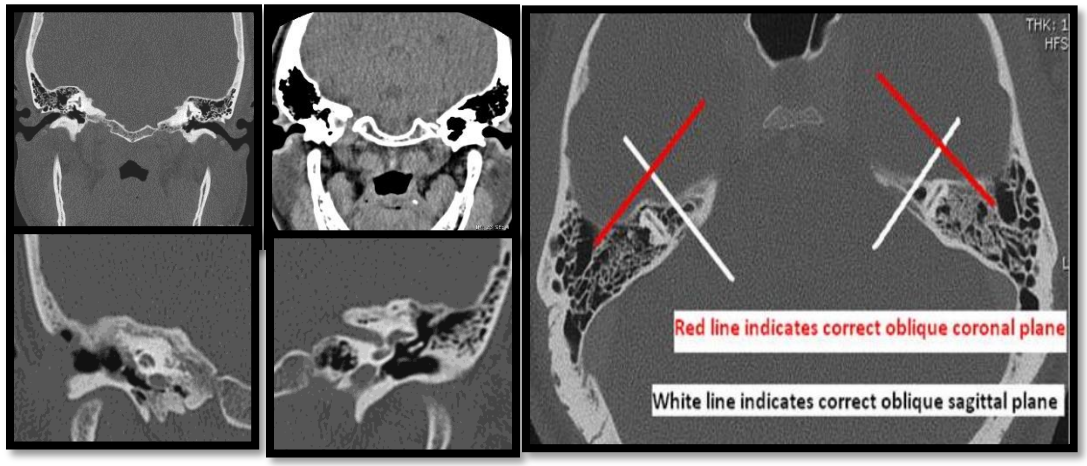




**Series Order:**

- Supine Topogram
- Axial ST
- Axial Bone
- RT Axial Bone
- LT Axial Bone

- Coronal Bone
- Coronal ST
- RT Coronal Bone
- LT Coronal Bone
-
- RT Obl Coronal
- RT Obl Sag
- LT Obl Coronal
- LT Obl Sag




**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

| | |
|---|---|
| **Soft Tissue Axial** | |
| Algorithm/ Kernel | H30s med smooth/Sinuses |
| SAFIRE | 0 |
| Slice thickness (mm) | 0.6 |
| Slice Increment (mm) | 0.6 |
| **Bone Axial** | |
| Algorithm/ Kernel | H60s Sharp FR/ Inner Ear |
| SAFIRE | 0 |
| Slice thickness (mm) | 0.6 |
| Slice Increment (mm) | 0.6 |
| **RT Axial Bone 10cm DFOV** | |
| Algorithm/ Kernel | H60s Sharp FR/ Inner Ear |
| SAFIRE | 0 |
| Slice thickness (mm) | 0.6 |
| Slice Increment (mm) | 0.6 |
| **LT Axial Bone 10cm DFOV** | |
| Algorithm/ Kernel | H60s Sharp FR/ Inner Ear |
| SAFIRE | 0 |
| Slice thickness (mm) | 0.6 |
| Slice Increment (mm) | 0.6 |
| **RT Axial Bone Reformat 10cm DFOV** | |
| Algorithm/ Kernel | H60s Sharp FR/ Inner Ear |
| SAFIRE | 0 |
| Slice thickness (mm) | 0.6 |
| Slice Increment (mm) | 0.3 |
| **LT Axial Bone Reformat 10cm DFOV** | |
| Algorithm/ Kernel | H60s Sharp FR/ Inner Ear |
| SAFIRE | 0 |
| Slice thickness (mm) | 0.6 |
| Slice Increment (mm) | 0.3 |

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**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

# PEDI THORACIC SPINE-Revised-12/7/2015

**SIEMENS DEFINITION 40**

**Setup**:

In order to evenly distribute spinal contrast, post myelography patients must be rolled 360 degrees before scanning

- Supine patient position
  a. AP scout from S2 through C7
  b. Lateral scout from S2 through C7
- Bismuth shield used after scout
- Scan from below L1 through C7


PACS Series:

- Scout/Topogram
- 1.5 x 1.5 Axial Soft Tissue
- 1.5 x 1.5 Axial Bone
- 1.5 x 1.5 Sagittal
- 1.5 x 1.5 Coronal
- Dose Report/ Protocol Page

**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

| | |
|---|---|
| Scan Type | Spiral |
| Pitch | 1.2 |
| Detector Configuration | 16 x 1.2 |
| Slice Thickness | 1.5 |
| Rotation Time | 1.0 |
| Care Dose | on |
| Quality Ref mAs | 90 |
| kVp | 120 |
| FOV | 150 |

| **Soft Tissue Axial** | |
|---|---|
| Kernel | I31s med smooth/Spine |
| SAFIRE | 2 |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |
| **Bone Axial** | |
| Algorithm/ Kernel | I70h very sharp ASA/Osteo |
| SAFIRE | 1 |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |
| **Coronal** | |
| Kernel | I70h very sharp ASA |
| SAFIRE | 1 |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |
| **Sagittal** | |
| Algorithm/ Kernel | I70h very sharp ASA |
| SAFIRE | 1 |
| Slice thickness (mm) | 1.5 |
| Slice Increment (mm) | 1.5 |

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# Protocol Review

CT Protocols are reviewed by the Radiation Safety Protocol Committee.

Committee members consists of ARA Radiation Safety Officer, Radiologists, ARA Outpatient Imaging Center Directors, Manager of Quality, Safety and Risk Management and Lead CT Technologists

| Protocol(s) Review Date |
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| 09/04/2024 |
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**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

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