Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality.
*Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*
PEDIATRIC ORAL CONTRAST DOSE CHART

*If patient is allergic to Iodine notify Radiologist*

*Chart is for patients weighing up to 36kg. Patients over 36kg will receive maximum dose. See below*

- Round weight to nearest whole kilogram
- Diluents may be non-carbonated beverage or water (formula or milk if newborn to 6 months). Give by mouth.

Gastrographin 30 ml: must be diluted before administration

- 30ml vial: Distribute 15ml of contrast in 12oz of water or non-carbonated beverage x 2 cups for a total dose of 30ml in 24oz.
- Patient drinks both cups consecutively at the time specified by CT Technologist.

2% Barium Sulfate: *Give only if patient is allergic to iodine.*

- 1 X 450ml bottles for a total dose of 450ml. (Do not dilute)
- Patient drinks during the amount of time specified by the CT Technologist.

Omnipaque: must be diluted before administration

- Pedi calculation = 0.86 ml x the patient’s weight in kg = (Volume of Omnipaque x 30ml of diluent) = total volume

Example: 0.86ml x 10 kg = 8.6 ml of Omnipaque x 30ml of diluent = 258 ml total volume

(Total Volume is the dose of Omnipaque plus the diluents needed for the final dose for this patient)

Diluents may be noncarbonated beverage or water (formula or milk may be used.)

Oral administration

- **Max patient weight for this formula is 36kg. If patient weight is 36kg or greater, the patient will receive the maximum dose of Omnipaque specified on the dosage chart.**

The time and rate of administration will be communicated by the CT Technologist based on the following time schedule.

- 0-10 kg drinks oral prep over thirty minutes
- 10-20kg drinks oral prep over one hour (1)
- 20-36kg drinks oral prep over one to one and a half hours (1.5)

*Back to Pedi Body Protocol Page*

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

**Pediatric Oral Contrast Dosage Chart**

- If patient is allergic to iodine notify Radiologist

Chart is for patients weighing up to 35kg. Patients over 36kg will receive maximum dose. See below

- Round weight to nearest whole kilogram
- Diluents may be non-carbonated beverage or water (formula or milk if newborn to 6 months). Give by mouth.

<table>
<thead>
<tr>
<th>Weight in KG</th>
<th>Oral Omnipaque 240-300</th>
<th>Amount of Diluent</th>
<th>Total Volume (Omnipaque vol + Diluent volume)</th>
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<tbody>
<tr>
<td>1</td>
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</tr>
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<tr>
<td>&gt;36</td>
<td>36</td>
<td>899</td>
<td>930</td>
</tr>
</tbody>
</table>

Formula used in calculations: Omnipaque 240 0.86ml/kg x Ft kg weight = Omnipaque amount (mls)
Omnipaque amount (mls) x 3mls diluent = Total volume
Total volume - Omnipaque vol = Diluent volume (mls)

*Back to Pedi Body Protocol Page*
Patient Positioning

- Both arms should be raised above the head for optimal image quality
- If the patient cannot raise one arm, one arm down is preferred to both arms down and this information should be documented in tech notes for the radiologist
- If both arms are unable to be raised, this information should be documented in tech notes for the radiologist
- Shield patient when possible

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

IV Contrast at the discretion of the Radiologist

<table>
<thead>
<tr>
<th>Catheter</th>
<th>Injection Rate</th>
<th>PSI</th>
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<tbody>
<tr>
<td><strong>BD Nexiva Diffusics</strong></td>
<td></td>
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</tr>
<tr>
<td>24g</td>
<td>Less than or equal to 2cc/sec</td>
<td>325</td>
</tr>
<tr>
<td>22g</td>
<td>Less than 4cc/sec</td>
<td>325</td>
</tr>
<tr>
<td>20g</td>
<td>Greater than 4cc/sec</td>
<td>325</td>
</tr>
<tr>
<td><strong>B Braun Safety Introcan</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24g</td>
<td>HAND INJECTION ONLY</td>
<td></td>
</tr>
<tr>
<td>22g</td>
<td>Less than or equal to 2cc/sec</td>
<td>300</td>
</tr>
<tr>
<td>20g</td>
<td>Less than or equal to 4cc/sec</td>
<td>300</td>
</tr>
<tr>
<td>18g</td>
<td>Less than or equal to 6cc/sec</td>
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<tr>
<td><strong>B Braun Safety 3 Introcan</strong></td>
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</tr>
<tr>
<td>24g</td>
<td>Less than or equal to 2.5cc/sec</td>
<td>325</td>
</tr>
<tr>
<td>22g</td>
<td>Less than or equal to 3.5cc/sec</td>
<td>325</td>
</tr>
<tr>
<td>20g</td>
<td>Less than or equal to 4cc/sec</td>
<td>325</td>
</tr>
<tr>
<td>18g</td>
<td>Less than or equal to 5cc/sec</td>
<td>325</td>
</tr>
</tbody>
</table>

**PEDI CHEST/ABDOMEN/PELVIS AND PEDI ABDOMEN/PELVIS**

Set injection Rate on Power injector based on pt's weight

<table>
<thead>
<tr>
<th>Weight Range</th>
<th>Injection Rate</th>
<th>Delay</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;30 lbs</td>
<td>1ml per lb @1.5 ml/sec</td>
<td>60 sec delay</td>
</tr>
<tr>
<td>31-50 lbs</td>
<td>40ml @1.5/sec</td>
<td>60 sec delay</td>
</tr>
<tr>
<td>51-100 lbs</td>
<td>50ml @1.5 ml/sec</td>
<td>60 sec delay</td>
</tr>
<tr>
<td>101-210 lbs</td>
<td>75ml @ 2.0 ml/sec</td>
<td>60 sec delay</td>
</tr>
</tbody>
</table>

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

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PEDIATRIC CT BODY GENERAL GUIDELINES

Abdomen
- Abdomen only orders for pain must be verified with the referring clinician/radiologist that pelvis is not needed
- If IV access is obtained and the patient presents with acute right lower quadrant pain or are here to evaluate for appendicitis oral prep is not needed

Delayed imaging of the Kidneys, Ureters and Bladder for:
- H/O Trauma, Hydronephrosis, Immune-Compromised with suspected infection
- Consult with Radiologist on any other circumstances where additional imaging may be needed.

Chest
- Pediatric Radiologist needs to be consulted for special instructions when a patient presents with a diagnosis of empyema and or pleural effusion
- Shield patient when possible

*Back to Pedi Body Protocol Page*

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

CTDvol: ~5-10 mGy

- Pediatric Radiologist needs to be consulted for special instructions when a patient presents with a diagnosis of empyema and or pleural effusion

Setup:
Supine, AP Scout from above the diaphragm through the costophrenic angles, patient to be shielded with lead skirt

DFOV:
Appropriate for patients body habitus

Scan Parameters:
- IV Contrast administered according to chart at the discretion of the Radiologist

<table>
<thead>
<tr>
<th>Set injection Rate on Power injector based on pt's weight</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;35 lbs</td>
<td>20ml @1.5ml/ sec</td>
</tr>
<tr>
<td>36-55 lbs</td>
<td>40ml @ 2.0 ml/sec</td>
</tr>
<tr>
<td>&gt;56 lbs</td>
<td>50ml @ 2.0 ml/sec</td>
</tr>
</tbody>
</table>

PACS Series:
- Topogram
- 3x3 Soft Tissue
- 3x3 Lung
- 3x3 Soft Tissue Coronal
- 3x3 Soft Tissue Sagittal
- Dose Report/ Protocol Page

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

**Acquisition Parameters**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Scan Type</td>
<td>Spiral</td>
</tr>
<tr>
<td>Pitch</td>
<td>1.3</td>
</tr>
<tr>
<td>Detector Configuration</td>
<td>32 x 1.2</td>
</tr>
<tr>
<td>Slice Thickness</td>
<td>3.0</td>
</tr>
<tr>
<td>Rotation Time</td>
<td>0.6</td>
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<tr>
<td>Care Dose</td>
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</tr>
<tr>
<td>Quality Ref mAs</td>
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<tr>
<td>kVp</td>
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**Reconstruction Parameters**

<table>
<thead>
<tr>
<th>Reconstruction Parameter</th>
<th>Value</th>
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<tbody>
<tr>
<td><strong>Recon 1 Soft Tissue</strong></td>
<td></td>
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<tr>
<td>Kernel</td>
<td>I31s Medium</td>
</tr>
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<td>SAFIRE</td>
<td>3</td>
</tr>
<tr>
<td>Window</td>
<td>Mediastinum</td>
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<tr>
<td>Slice Thickness</td>
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</tr>
<tr>
<td><strong>Recon 2 Lung</strong></td>
<td></td>
</tr>
<tr>
<td>Kernel</td>
<td>I50s Medium Sharp</td>
</tr>
<tr>
<td>SAFIRE</td>
<td>3</td>
</tr>
<tr>
<td>Window</td>
<td>Lung</td>
</tr>
<tr>
<td>Slice Thickness</td>
<td>3.0 x 3.0</td>
</tr>
<tr>
<td><strong>Recon 3 Coronal</strong></td>
<td></td>
</tr>
<tr>
<td>Kernel</td>
<td>I31s Medium</td>
</tr>
<tr>
<td>SAFIRE</td>
<td>3</td>
</tr>
<tr>
<td>Window</td>
<td>Mediastinum</td>
</tr>
<tr>
<td>Slice Thickness</td>
<td>3.0 x 3.0</td>
</tr>
<tr>
<td>Protocol Designed to Minimize the Amount of Radiation While Maximizing the Yield and Produce Diagnostically Acceptable Image Quality</td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------------</td>
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<td>Back to Pedi Body Protocol Page*</td>
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<tr>
<td>Window</td>
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<tr>
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**Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality**

---

### Acquisition Parameters

<table>
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<tr>
<th>Parameter</th>
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<td>Scan Type</td>
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<tr>
<td>Pitch</td>
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<tr>
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<td>Care Dose</td>
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<tr>
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### Reconstruction Parameters

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<tbody>
<tr>
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<tr>
<td>SAFIRE</td>
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</tr>
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<tr>
<td>Slice Thickness</td>
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<table>
<thead>
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<td>SAFIRE</td>
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<tr>
<td>Window</td>
<td>Abdomen</td>
</tr>
<tr>
<td>Slice Thickness</td>
<td>3.0 x 3.0</td>
</tr>
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</table>
Setup:
1. Supine, AP Scout from above apices through the adrenal glands, patient to be shielded with lead skirt

DFOV:
Appropriate for patients body habitus

Scan Parameters:

**Supine:**
1. Scan from above the apices through the adrenal glands

**Dynamic Expiration:**
1. These axial/sequential scans will be performed while the patient is actively breathing out
   - While in the supine position have the patient take in a full breath and slowly breathe out.
   - While the patient is breathing out 5 rapid sequential scans will be performed at the same table position. This will be done at three different levels.
2. There will be 5 sequential 2-2.5 mm axial scans performed at three different levels
   - Upper Chest ~ midway between the carina and apices
   - Mid Chest at the level of the carina
   - Lower Chest ~ midway between the carina and the costophrenic angles

Reconstruction:
1. Recon 1 is a Soft Tissue axial data set
2. Recon 2 is a Lung axial data set
3. MPR’s should be reconstructed at 1mm x 5mm in a lung algorithm/kernel

PACS Series:
- Topogram Supine
- Mediastinum
- Lung
- Lung Coronal
- Lung Sagittal
- Dynamic Lung Expiration 1
- Dynamic Lung Expiration 2
- Dynamic Lung Expiration 3
- Patient Protocol/Dose Report

*Back to Pedi Body Protocol Page*
Acquisition Parameters

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Reconstruction Parameters

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<tr>
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<tr>
<td><strong>Care Dose</strong></td>
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</tr>
<tr>
<td><strong>Quality Ref mAS</strong></td>
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<tr>
<td><strong>kVp</strong></td>
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<tr>
<td><strong>Feed</strong></td>
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<tr>
<td><strong>Number of scans</strong></td>
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Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality

<table>
<thead>
<tr>
<th>Recon 3 Coronal</th>
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<tbody>
<tr>
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<tr>
<td>Window</td>
<td>Lung</td>
</tr>
<tr>
<td>Slice Thickness</td>
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<table>
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<tr>
<th>Recon 4 Sagittal</th>
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<td>SAFIRE</td>
<td>3</td>
</tr>
<tr>
<td>Window</td>
<td>Lung</td>
</tr>
<tr>
<td>Slice Thickness</td>
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</table>

<table>
<thead>
<tr>
<th>Recon 5 Reformat</th>
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<tbody>
<tr>
<td>Kernel</td>
<td>I31s Medium Smooth +</td>
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<tr>
<td>SAFIRE</td>
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<tr>
<td>Window</td>
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<tr>
<td>Slice Thickness</td>
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<tr>
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<td>Lung</td>
</tr>
<tr>
<td>Slice Thickness</td>
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*Back to Pedi Body Protocol Page*
**Setup:**
Supine, AP Scout from above the apices through the costophrenic angles, Patient to be shielded with lead skirt

**DFOV:**
Appropriate for patients body habitus

**Scan Parameters:**
Acquire images during full inspiration from above the apices through the costophrenic angles

**PACS Series:**
- Topogram
- 2x2 Soft Tissue
- 2x2 Lung
- 2x2 Bone
- 2x2 Soft Tissue Coronal
- 2x2 Soft Tissue Sagittal
- 2x2 Bone Coronal
- 2x2 Bone Sagittal
- Dose Report/ Protocol Page
Acquisition Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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<tbody>
<tr>
<td>Scan Type</td>
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</tr>
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<td>Rotation Time</td>
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<td>Care Dose</td>
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</tr>
<tr>
<td>Quality Ref mAs</td>
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<tr>
<td>kVp</td>
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Reconstruction Parameters

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</tr>
<tr>
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<td>SAFIRE</td>
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<tr>
<td>Window</td>
<td>Mediastinum</td>
</tr>
<tr>
<td>Slice Thickness</td>
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<tr>
<td><strong>Recon 2 Lung</strong></td>
<td></td>
</tr>
<tr>
<td>Kernel</td>
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<td>SAFIRE</td>
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<td>Window</td>
<td>Lung</td>
</tr>
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<td>Slice Thickness</td>
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<td><strong>Recon 3 Bone</strong></td>
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<tr>
<td>Kernel</td>
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<tr>
<td>SAFIRE</td>
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<tr>
<td>Window</td>
<td>Osteo</td>
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*Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*
<table>
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<tr>
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<th>Kernel</th>
<th>Window</th>
<th>Slice Thickness</th>
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<tr>
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</table>

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

**SIEMENS DEFINITION 64**

CTDvol: ~5-10 mGy

- Pediatric Radiologist needs to be consulted for special instructions when a patient presents with a diagnosis of empyema and or pleural effusion

**Setup:**

Supine, AP Scout from above the diaphragm through the costophrenic angles, patient to be shielded with lead skirt

**DFOV:**

Appropriate for patients body habitus

**Scan Parameters:**
- IV Contrast administered according to chart at the discretion of the Radiologist

<table>
<thead>
<tr>
<th>Set injection Rate on Power injector based on pt's weight</th>
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<tbody>
<tr>
<td><strong>&lt;35 lbs</strong></td>
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<tr>
<td><strong>36-55 lbs</strong></td>
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<tr>
<td><strong>&gt;56 lbs</strong></td>
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**PACS Series:**
- Topogram
- 3x3 Soft Tissue
- 3x3 Lung
- 3x3 Soft Tissue Coronal
- 3x3 Soft Tissue Sagittal
- Dose Report/ Protocol Page

*Back to Pedi Body Protocol Page*

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

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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<tbody>
<tr>
<td>Scan Type</td>
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</tr>
<tr>
<td>Pitch</td>
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<tr>
<td>Detector Configuration</td>
<td>16 x 1.2</td>
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<tr>
<td>Slice Thickness</td>
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</tr>
<tr>
<td>Rotation Time</td>
<td>0.5</td>
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<tr>
<td>Care Dose</td>
<td>on</td>
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<tr>
<td>Quality Ref mAs</td>
<td>50</td>
</tr>
<tr>
<td>Care kV</td>
<td>on</td>
</tr>
<tr>
<td>kVp</td>
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<td>Slider Position</td>
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Reconstruction Parameters

### Recon 1 Soft Tissue

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<td>Slice Thickness</td>
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### Recon 2 Lung

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<th>Parameter</th>
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<tr>
<td>SAFIRE</td>
<td>none</td>
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<tr>
<td>Window</td>
<td>Lung</td>
</tr>
<tr>
<td>Slice Thickness</td>
<td>3.0 x 3.0</td>
</tr>
</tbody>
</table>

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

<table>
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<td>SAFIRE</td>
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</tr>
<tr>
<td>Window</td>
<td>Mediastinum</td>
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<tr>
<td>Slice Thickness</td>
<td>3.0 x 3.0</td>
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<table>
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<tbody>
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</tr>
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<td>SAFIRE</td>
<td>2</td>
</tr>
<tr>
<td>Window</td>
<td>Mediastinum</td>
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<tr>
<td>Slice Thickness</td>
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<table>
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</tr>
<tr>
<td>Window</td>
<td>Mediastinum</td>
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<tr>
<td>Slice Thickness</td>
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<table>
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<tr>
<td>Window</td>
<td>Lung</td>
</tr>
<tr>
<td>Slice Thickness</td>
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*Back to Pedi Body Protocol Page*
Acquisition Parameters

<table>
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<tr>
<th>Parameter</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Scan Type</td>
<td>Spiral</td>
</tr>
<tr>
<td>Pitch</td>
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</tr>
<tr>
<td>Detector Configuration</td>
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<tr>
<td>Slice Thickness</td>
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<td>Rotation Time</td>
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<tr>
<td>Care Dose</td>
<td>on</td>
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<tr>
<td>Quality Ref mAs</td>
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<tr>
<td>Care kV</td>
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<tr>
<td>kVp</td>
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<tr>
<td>Slider Position</td>
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Reconstruction Parameters

**Recon 1 Soft Tissue**

<table>
<thead>
<tr>
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<tbody>
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<td>SAFIRE</td>
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</tr>
<tr>
<td>Window</td>
<td>Abdomen</td>
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**Recon 2 Lung**

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<thead>
<tr>
<th>Parameter</th>
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<tbody>
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<td>Window</td>
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</tr>
<tr>
<td>Slice Thickness</td>
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**Recon 3 Coronal**

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

<table>
<thead>
<tr>
<th>Recon 4 Sagittal</th>
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<tbody>
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<tr>
<td>Window</td>
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</tr>
<tr>
<td>Slice Thickness</td>
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<table>
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<tr>
<td>Window</td>
<td>Abdomen</td>
<td></td>
</tr>
<tr>
<td>Slice Thickness</td>
<td>1.5 x 0.65</td>
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<table>
<thead>
<tr>
<th>Recon 6 Lung MIP</th>
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<tr>
<td>Window</td>
<td>Lung</td>
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</tr>
<tr>
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*Back to Pedi Body Protocol Page*
*Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

### Acquisition Parameters

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<tr>
<th>Parameter</th>
<th>Value</th>
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<tbody>
<tr>
<td>Scan Type</td>
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<tr>
<td>Pitch</td>
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</tr>
<tr>
<td>Detector Configuration</td>
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<tr>
<td>Slice Thickness</td>
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</tr>
<tr>
<td>Rotation Time</td>
<td>0.5</td>
</tr>
<tr>
<td>Care Dose</td>
<td>on</td>
</tr>
<tr>
<td>Quality Ref mAs</td>
<td>80</td>
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<tr>
<td>Care kV</td>
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<tr>
<td>kVp</td>
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<tr>
<td>Slider Position</td>
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### Reconstruction Parameters

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<tbody>
<tr>
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<td>Abdomen</td>
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<p>| Recon 4 Sagittal       |                |        |           |                 |</p>
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<tr>
<td>Window</td>
<td>Abdomen</td>
</tr>
<tr>
<td>Slice Thickness</td>
<td>3.0 x 3.0</td>
</tr>
</tbody>
</table>

*Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*
Setup:
1. Supine, AP Scout from above apices through the adrenal glands, patient to be shielded with lead skirt

DFOV:
Appropriate for patients body habitus

Scan Parameters:

Supine:
1. Scan from above the apices through the adrenal glands

Dynamic Expiration:
1. These axial/sequential scans will be performed while the patient is actively breathing out
   • While in the supine position have the patient take in a full breath and slowly breathe out.
   • While the patient is breathing out 5 rapid sequential scans will be performed at the same table position. This will be done at three different levels.
2. There will be 5 sequential 2-2.5 mm axial scans performed at three different levels
   • Upper Chest ~ midway between the carina and apices
   • Mid Chest at the level of the carina
   • Lower Chest~ midway between the carina and the costophrenic angles

Reconstruction:
1. Recon 1 is a Soft Tissue axial data set
2. Recon 2 is a Lung axial data set
3. MPR’s should be reconstructed at 1mm x 5mm in a lung algorithm/kernel

PACS Series:
- Topogram Supine
- Mediastinum
- Lung
- Lung Coronal
- Lung Sagittal
- Dynamic Lung Expiration 1
- Dynamic Lung Expiration 2
- Dynamic Lung Expiration 3
- Patient Protocol/Dose Report

*Back to Pedi Body Protocol Page*
### Acquisition Parameters

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<td><strong>Sequential Expiration Acquisitions</strong></td>
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<td>Care Dose</td>
<td>on</td>
</tr>
<tr>
<td>Quality Ref mAs</td>
<td>50</td>
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<tr>
<td>Care kV on</td>
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</tr>
<tr>
<td>Slider Position</td>
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<td></td>
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<td>Quality Ref mAs</td>
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### Reconstruction Parameters

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<tr>
<td>Window</td>
<td>Mediastinum</td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Recon 2 Lung</strong></td>
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<td>Kernel</td>
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<tr>
<td>Window</td>
<td>Lung</td>
</tr>
<tr>
<td>Slice Thickness</td>
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*Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*
### Recon 3 Coronal

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<tr>
<td>Window</td>
<td>Lung</td>
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<tr>
<td>Slice Thickness</td>
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### Recon 4 Sagittal

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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<tbody>
<tr>
<td>Kernel</td>
<td>50f Medium Sharp ASA</td>
</tr>
<tr>
<td>SAFIRE</td>
<td>2</td>
</tr>
<tr>
<td>Window</td>
<td>Lung</td>
</tr>
<tr>
<td>Slice Thickness</td>
<td>1.0 x 5.0</td>
</tr>
</tbody>
</table>

### Recon 5 Reformat

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kernel</td>
<td>41f Medium</td>
</tr>
<tr>
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</tr>
<tr>
<td>Window</td>
<td>Mediastinum</td>
</tr>
<tr>
<td>Slice Thickness</td>
<td>1.0 x 0.5</td>
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</tbody>
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### Expiration

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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<tbody>
<tr>
<td>Kernel</td>
<td>B80f ultra sharp</td>
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<tr>
<td>SAFIRE</td>
<td>None</td>
</tr>
<tr>
<td>Window</td>
<td>Lung</td>
</tr>
<tr>
<td>Slice Thickness</td>
<td>2.0 mm</td>
</tr>
</tbody>
</table>
**Setup:**
Supine, AP Scout from above the apices through the costophrenic angles, Patient to be shielded with lead skirt

**DFOV:**
Appropriate for patients body habitus

**Scan Parameters:**
Acquire images during full inspiration from above the apices through the costophrenic angles

**PACS Series:**
- Topogram
- 2x2 Soft Tissue
- 2x2 Lung
- 2x2 Bone
- 2x2 Soft Tissue Coronal
- 2x2 Soft Tissue Sagittal
- 2x2 Bone Coronal
- 2x2 Bone Sagittal
- Dose Report/ Protocol Page

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

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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<tbody>
<tr>
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<tr>
<td>Pitch</td>
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<td>Detector Configuration</td>
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<td>Rotation Time</td>
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</tr>
<tr>
<td>Care Dose</td>
<td>on</td>
</tr>
<tr>
<td>Quality Ref mAs</td>
<td>50</td>
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<tr>
<td>Care kV</td>
<td>on</td>
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<tr>
<td>kVp</td>
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<td>Slider Position</td>
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### Reconstruction Parameters

#### Recon 1 Soft Tissue

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<td>Kernel</td>
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<tr>
<td>Window</td>
<td>Mediastinum</td>
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<tr>
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#### Recon 2 Lung

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<tr>
<th>Parameter</th>
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<tbody>
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<td>Window</td>
<td>Lung</td>
</tr>
<tr>
<td>Slice Thickness</td>
<td>2.0 x 2.0</td>
</tr>
<tr>
<td><strong>Recon 3 Coronal</strong></td>
<td></td>
</tr>
<tr>
<td>---------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Kernel</td>
<td>I41f Medium</td>
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<tr>
<td>Window</td>
<td>Mediastinum</td>
</tr>
<tr>
<td>Slice Thickness</td>
<td>2.0 x 2.0</td>
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<table>
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<th><strong>Recon 4 Sagittal</strong></th>
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<tr>
<td>Window</td>
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<tr>
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<table>
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<td>SAFIRE</td>
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<tr>
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<td>Mediastinum</td>
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<table>
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<tr>
<td>SAFIRE</td>
<td>0</td>
</tr>
<tr>
<td>Window</td>
<td>Osteo</td>
</tr>
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<td>Slice Thickness</td>
<td>2.0 x 2.0</td>
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</tbody>
</table>

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

**GE OPTIMA**

CTDvol: ~5-10 mGy

- Pediatric Radiologist needs to be consulted for special instructions when a patient presents with a diagnosis of empyema and or pleural effusion

**Setup:**

Supine, AP Scout from above the diaphragm through the costophrenic angles, patient to be shielded with lead skirt

**DFOV:**

Appropriate for patients body habitus

**Scan Parameters:**

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

<table>
<thead>
<tr>
<th>Set injection Rate on Power injector based on pt's weight</th>
<th>&lt;35 lbs</th>
<th>36-55 lbs</th>
<th>&gt;56 lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;35 lbs</td>
<td>20ml @ 1.5ml/ sec</td>
<td>40ml @ 2.0 ml/sec</td>
<td>50ml @ 2.0 ml/sec</td>
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<tr>
<td>36-55 lbs</td>
<td>15 sec delay</td>
<td>20 sec delay</td>
<td>25 sec delay</td>
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<tr>
<td>&gt;56 lbs</td>
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**PACS Series:**

- Topogram
- 3x3 Soft Tissue
- 3x3 Lung
- 3x3 Soft Tissue Coronal
- 3x3 Soft Tissue Sagittal
- Dose Report/ Protocol Page

*Back to Pedi Body Protocol Page*
*Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>Recon 2 Lung</strong></td>
<td></td>
</tr>
<tr>
<td>Algorithm</td>
<td>Lung</td>
</tr>
<tr>
<td>ASIR</td>
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</tr>
<tr>
<td>Recon Type</td>
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</tr>
<tr>
<td>Slice Thickness</td>
<td>2.5</td>
</tr>
<tr>
<td>Increment</td>
<td>2.5</td>
</tr>
<tr>
<td><strong>Recon 3 (thins) for reformats</strong></td>
<td></td>
</tr>
<tr>
<td>Algorithm</td>
<td>Standard</td>
</tr>
<tr>
<td>ASIR</td>
<td>40</td>
</tr>
<tr>
<td>Recon Type</td>
<td>Full</td>
</tr>
<tr>
<td>Slice Thickness</td>
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<tr>
<td>Increment</td>
<td>0.625</td>
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</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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<tbody>
<tr>
<td>Scan Type</td>
<td>Helical</td>
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<tr>
<td>Pitch and Speed (mm/rot)</td>
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</tr>
<tr>
<td></td>
<td>(19.38)</td>
</tr>
<tr>
<td>Detector Coverage</td>
<td>20 mm</td>
</tr>
<tr>
<td>Thick</td>
<td>2.5</td>
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<tr>
<td>Speed</td>
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<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>PT body size</td>
<td>13-31.4 lbs</td>
</tr>
<tr>
<td>Scan FOV</td>
<td>Sm. Body</td>
</tr>
<tr>
<td>Smart mA Range</td>
<td>50-200</td>
</tr>
<tr>
<td>kVp</td>
<td>80</td>
</tr>
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</table>

**Reconstruction Parameters**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recon 1 Soft Tissue</strong></td>
<td></td>
</tr>
<tr>
<td>Algorithm</td>
<td>Standard</td>
</tr>
<tr>
<td>ASIR</td>
<td>40</td>
</tr>
<tr>
<td>Recon Type</td>
<td>Full</td>
</tr>
<tr>
<td>Slice Thickness</td>
<td>2.5</td>
</tr>
<tr>
<td>Increment</td>
<td>2.5</td>
</tr>
<tr>
<td><strong>Recon 2 (thins) for reformats</strong></td>
<td></td>
</tr>
<tr>
<td>Algorithm</td>
<td>Standard</td>
</tr>
<tr>
<td>ASIR</td>
<td>40</td>
</tr>
<tr>
<td>Recon Type</td>
<td>Full</td>
</tr>
<tr>
<td>Slice Thickness</td>
<td>1.25</td>
</tr>
<tr>
<td>Increment</td>
<td>0.625</td>
</tr>
</tbody>
</table>

*Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*
Setup:
1. Supine, AP Scout from above apices through the adrenal glands, patient to be shielded with lead skirt

DFOV:
Appropriate for patients body habitus

Scan Parameters:

**Supine:**
1. Scan from above the apices through the adrenal glands

**Dynamic Expiration:**
1. These axial/sequential scans will be performed while the patient is actively breathing out
   - While in the supine position have the patient take in a full breath and slowly breathe out.
   - While the patient is breathing out 5 rapid sequential scans will be performed at the same table position. This will be done at three different levels.
2. There will be 5 sequential 2-2.5 mm axial scans performed at three different levels
   - Upper Chest – midway between the carina and apices
   - Mid Chest at the level of the carina
   - Lower Chest – midway between the carina and the costophrenic angles

Reconstruction:
1. Recon 1 is a Soft Tissue axial data set
2. Recon 2 is a Lung axial data set
3. MPR’s should be reconstructed at 1mm x 5mm in a lung algorithm/kernel

PACS Series:
- Topogram Supine
- Mediastinum
- Lung
- Lung Coronal
- Lung Sagittal
- Dynamic Lung Expiration 1
- Dynamic Lung Expiration 2
- Dynamic Lung Expiration 3
- Patient Protocol/Dose Report

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

### Acquisition Parameters

<table>
<thead>
<tr>
<th>Scan Type</th>
<th>Helical</th>
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</thead>
<tbody>
<tr>
<td>Pitch and Speed (mm/rot)</td>
<td>0.969:1 (19.38)</td>
</tr>
<tr>
<td>Detector Coverage</td>
<td>20 mm</td>
</tr>
<tr>
<td>Thick</td>
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</tr>
<tr>
<td>Speed</td>
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### Sequential Expiration Acquisitions

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<tr>
<td>Thick/Speed</td>
<td>1.25 1i</td>
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<td>Slice Thickness</td>
<td>1.25</td>
</tr>
<tr>
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<td>Full</td>
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<tr>
<td>Auto mA</td>
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<tr>
<td>Smart mA Range</td>
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<td>Noise Index</td>
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<tr>
<td>kVp</td>
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</tr>
<tr>
<td>Interval</td>
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<tr>
<td>Number of scans</td>
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<table>
<thead>
<tr>
<th>PT body size</th>
<th>13-31.4 lbs</th>
<th>31.5-40.4 lbs</th>
<th>40.5-69.4 lbs</th>
<th>69.5-121 lbs</th>
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<tbody>
<tr>
<td>Scan FOV</td>
<td>Sm. Body</td>
<td>Sm. Body</td>
<td>Sm. Body</td>
<td>Lg. Body</td>
</tr>
<tr>
<td>Smart mA Range</td>
<td>50-150</td>
<td>50-200</td>
<td>50-225</td>
<td>50-225</td>
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<tr>
<td>kVp</td>
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<td>100</td>
<td>100</td>
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### Reconstruction Parameters

<table>
<thead>
<tr>
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<tbody>
<tr>
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<tr>
<td>ASIR</td>
<td>40</td>
</tr>
<tr>
<td>Recon Type</td>
<td>Full</td>
</tr>
<tr>
<td>Slice Thickness</td>
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</tr>
<tr>
<td>Increment</td>
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*Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*
**Recon 2 Lung**

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<tr>
<th>Algorithm</th>
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<td>Recon Type</td>
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<td>Slice Thickness</td>
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<tr>
<td>Increment</td>
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**Recon 3 (thins) for reformats**

<table>
<thead>
<tr>
<th>Algorithm</th>
<th>Lung</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASIR</td>
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</tr>
<tr>
<td>Recon Type</td>
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<tr>
<td>Slice Thickness</td>
<td>1.25</td>
</tr>
<tr>
<td>Increment</td>
<td>0.625</td>
</tr>
</tbody>
</table>

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

*Back to Pedi Body Protocol Page*
Setup:
Supine, AP Scout from above the apices through the costrophrenic angles, Patient to be shielded with lead skirt

DFOV:
Appropriate for patients body habitus

Scan Parameters:
Acquire images during full inspiration from above the apices through the costrophrenic angles

PACS Series:
- Topogram
- 2.5 x 2.5 Soft Tissue
- 2.5 x 2.5 Lung
- 2.5 x 2.5 Bone
- 2.5 x 2.5 Soft Tissue Coronal
- 2.5 x 2.5 Soft Tissue Sagittal
- 2.5 x 2.5 Bone Coronal
- 2.5 x 2.5 Bone Sagittal
- Dose Report/ Protocol Page

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

**SIEMENS DEFINITION 40**

CTDVol: ~5-10 mGy

- Pediatric Radiologist needs to be consulted for special instructions when a patient presents with a diagnosis of empyema and or pleural effusion

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Supine, AP Scout from above the diaphragm through the costophrenic angles, patient to be shielded with lead skirt

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<tr>
<th>Set injection Rate on Power injector based on pt's weight</th>
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<tbody>
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<tr>
<td><strong>&gt;56 lbs</strong></td>
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</table>

**PACS Series:**

- Topogram
- 3x3 Soft Tissue
- 3x3 Lung
- 3x3 Soft Tissue Coronal
- 3x3 Soft Tissue Sagittal
- Dose Report/ Protocol Page

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

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<th>Parameter</th>
<th>Value</th>
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<tbody>
<tr>
<td>Scan Type</td>
<td>Spiral</td>
</tr>
<tr>
<td>Pitch</td>
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</tr>
<tr>
<td>Detector Configuration</td>
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<td>Rotation Time</td>
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<tr>
<td>Care Dose</td>
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<tr>
<td>Quality Ref mAs</td>
<td>50</td>
</tr>
<tr>
<td>Care kV</td>
<td>on</td>
</tr>
<tr>
<td>kVp</td>
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<tr>
<td>Slider Position</td>
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**Reconstruction Parameters**

<table>
<thead>
<tr>
<th>Reconstruction</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>Kernel</td>
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<tr>
<td>Window</td>
<td>Mediastinum</td>
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<td>Slice Thickness</td>
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<tr>
<td><strong>Recon 2 Lung</strong></td>
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<td>Kernel</td>
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<td>Window</td>
<td>Lung</td>
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<td>Slice Thickness</td>
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<tr>
<td>Recon 3 Coronal</td>
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<tr>
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<td>Slice Thickness</td>
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<tbody>
<tr>
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<tr>
<td>Window</td>
<td>Mediastinum</td>
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<tr>
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<table>
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<tr>
<td>Window</td>
<td>Mediastinum</td>
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<tr>
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<table>
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*Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*

*Back to Pedi Body Protocol Page*
Acquisition Parameters

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Reconstruction Parameters

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

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Reconstruction Parameters

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Recon 4 Sagittal

*Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality*
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<td>3.0 x 3.0</td>
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</table>

*Protocol designed to minimize the amount of radiation while maximizing the yield and produce diagnostically acceptable image quality.*
Setup:
1. Supine, AP Scout from above apices through the adrenal glands, patient to be shielded with lead skirt

DFOV:
Appropriate for patients body habitus

Scan Parameters:

**Supine:**
1. Scan from above the apices through the adrenal glands

**Dynamic Expiration:**
1. These axial/sequential scans will be performed while the patient is actively breathing out
   - While in the supine position have the patient take in a full breath and slowly breathe out.
   - While the patient is breathing out 5 rapid sequential scans will be performed at the same table position. This will be done at three different levels.
2. There will be 5 sequential 2-2.5 mm axial scans performed at three different levels
   - Upper Chest ~ midway between the carina and apices
   - Mid Chest at the level of the carina
   - Lower Chest ~ midway between the carina and the costophrenic angles

Reconstruction:
1. Recon 1 is a Soft Tissue axial data set
2. Recon 2 is a Lung axial data set
3. MPR’s should be reconstructed at 1mm x 5mm in a lung algorithm/kernel

PACS Series:
- Topogram Supine
- Mediastinum
- Lung
- Lung Coronal
- Lung Sagittal
- Dynamic Lung Expiration 1
- Dynamic Lung Expiration 2
- Dynamic Lung Expiration 3
- Patient Protocol/Dose Report

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

### Acquisition Parameters

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### Reconstruction Parameters

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<td><strong>Window</strong></td>
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<tr>
<td>Mediastinum</td>
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<tr>
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*[Back to Pedi Body Protocol Page]*
**Setup:**
Supine, AP Scout from above the apices through the costrophrenic angles, Patient to be shielded with lead skirt

**DFOV:**
Appropriate for patients body habitus

**Scan Parameters:**
Acquire images during full inspiration from above the apices through the costrophrenic angles

**PACS Series:**
- Topogram
- 2x2 Soft Tissue
- 2x2 Lung
- 2x2 Bone
- 2x2 Soft Tissue Coronal
- 2x2 Soft Tissue Sagittal
- 2x2 Bone Coronal
- 2x2 Bone Sagittal
- Dose Report/ Protocol Page

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

### Acquisition Parameters

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### Reconstruction Parameters

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#### Recon 2 Lung

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<td>Lung</td>
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<td><strong>Recon 3 Coronal</strong></td>
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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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<tr>
<td>2/22/22</td>
<td>Deanne Young</td>
</tr>
<tr>
<td>8/22/23</td>
<td>Jamie Christenson</td>
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