

Pediatric CT Protocols

Reviewed By: Aditya Sunidja, MD

Date of Last Revision: April 2026

Date of Last Review: https://docs.google.com/spreadsheets/d/1a1on-GqlksrbCU8zpnnYgisOOebEUGCd_TKeLW5-Clg/edit?gid=0#gid=0

Contact: (866) 761-4200, choose option 1

***2 scouts (Lat and AP) to be performed on ALL CT's at Tacoma General and on pediatric CT's on the GE64 at St. Joseph**

***Dose for all pediatric contrast enhanced CT is 2cc/kg (up to adult dose as maximum)**

IV contrast at FHS sites for all patients <18yo: Omnipaque 300

IV contrast at MHS and TRA/DINW sites: Isovue 370

Rate of contrast injection: 2cc/s if using a 22 gauge IV or bigger. Contrast given through a 24 gauge IV should be hand injected.

At TRA Outpatient Sites: Contrast studies should not be performed routinely in patients under 12 years old. Please discuss potential cases of patients under 12 years of age with pediatric radiologist, as exceptions may be made depending on patient weight.

***If any patient at a TRA-MINW outpatient facility requires CT re-imaging, obtain Radiologist advice prior to proceeding with the exam.**

PEDIATRIC HEAD CT WITHOUT (ROUTINE)

0-15 yo:

- 3 mm axials brain algorithm
- 1 mm axial brain and bone algorithm
- Coronal and sagittal reformats in brain algorithm
- 0-10 yo, add coronal and sagittal reformats in bone algorithm
- If 1st time <2 yo or trauma, add 3D skull reconstructions

>15 yo:

- 5 mm axials brain algorithm
- 1 mm axial brain and bone algorithm
- Coronal and sagittal reformats in brain algorithm

TRY TO AVOID ORBITS!!!

PEDIATRIC HEAD CT WITH (ROUTINE)

0-15 yo:

- 3 mm axials brain algorithm
- 1 mm axial brain and bone algorithm
- Coronal and sagittal reformats in brain algorithm

>15 yo:

- 5 mm axials brain algorithm
- 1 mm axial brain and bone algorithm
- Coronal and sagittal reformats in brain algorithm

TRY TO AVOID ORBITS!!!

PEDIATRIC HEAD CT CRANIOSYNOSTOSIS PROTOCOL

- 3 mm axials brain algorithm
- 1 mm axial brain and bone algorithm
- Coronal and sagittal reformats in brain and bone algorithm
- 3D skull reconstructions

PEDIATRIC CTA HEAD/NECK

- **NOT** a commonly ordered study in kids—check with rad
- Same as adult CTA protocol
- 0.6 mm axial sections from arch through the vertex
- Coronal and sagittal reformations of neck arteries
- Separate coronal and sagittal reformations of intracranial arteries

PEDIATRIC C-SPINE:

- Image skull base-T1-T2
- 0.5/0.625/0.75 mm axial bone (small field of view centered over spine)
- 2 mm axial soft tissue algorithm sent to PACS (small field of view centered over spine)
- 2 mm sagittal and coronal bone algorithm reformats

PEDIATRIC ORBIT CT WITH AND/OR WITHOUT CONTRAST

- maxilla
- 0.5/0.625 mm axial bone
- 2 mm axial soft tissue algorithm
- 2 mm coronal and sagittal reformations soft tissue algorithm

***NOTE: HEAD AND ORBIT CT IN CHILDREN ALMOST NEVER NEED TO BE “WITH AND WITHOUT”; IF THIS ORDER COMES ACROSS, PLEASE CHECK WITH RAD B/F PROCEEDING**

PEDIATRIC IAC/TEMPORAL BONE PROTOCOL

- axial 0.5/0.625/0.75 mm acquisition—send each side to PACS individually, in bone algorithm
- 0.5/0.625/0.75 coronal reformations—send each side to PACS individually, in bone algorithm

PEDIATRIC NECK CT (SOFT TISSUE)

- almost always with contrast
- 2 mm slices, sella to arch

PEDIATRIC SINUS CT

- axial 0.5/0.625/0.75 mm slices, in bone algorithm
- 1 mm coronal reformations, in bone algorithm
- 2 mm soft tissue axial reformations

PEDIATRIC MAXILLOFACIAL CT

- Entire orbits through mandible
- 0.5/0.625/0.75 mm axial bone
- 2 mm axial soft tissue
- 1 mm coronal reformat bone

PEDIATRIC CHEST CT (WITH AND WITHOUT)

- 2 mm axial soft tissue and lung
- Lung MIPS on all chest CT's
- 2 mm coronal and sagittal reformat soft tissue

PEDIATRIC ABDOMEN AND PELVIS CT (WITH AND WITHOUT)

- 2 mm axial soft tissue
- 2 mm coronal and sagittal reformations of abdomen and pelvis

NOTE: Almost never need to do a w/ and w/o abdomen/pelvis in a kid; check with rad before proceeding.

***NOTE: ALL TRAUMA CASES SHOULD HAVE BONE ALGORITHM AXIALS SENT TO PACS AS WELL!!!**

PEDIATRIC APPENDICITIS (added Jun 18, 2014)

Same parameters as routine A/P, but limit scan range from hepatic flexure thru pubic symphysis