



CLINICAL GUIDELINES

Pediatric Chest Imaging Guidelines

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EviCore
By ~~EVERNORTH~~

EviCore healthcare Clinical Decision Support Tool Diagnostic Strategies: This tool addresses common symptoms and symptom complexes. Imaging requests for individuals with atypical symptoms or clinical presentations that are not specifically addressed will require physician review. Consultation with the referring physician, specialist, and/or individual's Primary Care Physician (PCP) may provide additional insight.

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Procedure Codes Associated with Chest Imaging

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MRI	CPT®
MRI Chest without contrast	71550
MRI Chest with contrast (rarely used)	71551
MRI Chest without and with contrast	71552
Unlisted MRI procedure (for radiation planning or surgical software)	76498

MRA	CPT®
MRA Chest (non-cardiac)	71555

CT	CPT®
CT Chest without contrast	71250
CT Chest with contrast	71260
CT Chest without and with contrast (rarely used)	71270
CT Guidance for Placement of Radiation Therapy Fields	77014
Unlisted CT procedure (for radiation planning or surgical software)	76497

CTA	CPT®
CTA Chest (non-coronary)	71275

Nuclear Medicine	CPT®
PET Imaging; limited area (this code not used in pediatrics)	78811
PET Imaging; skull base to mid-thigh (this code not used in pediatrics)	78812
PET Imaging; whole body (this code not used in pediatrics)	78813
PET with concurrently acquired CT; limited area (this code rarely used in pediatrics)	78814
PET with concurrently acquired CT; skull base to mid-thigh	78815
PET with concurrently acquired CT; whole body	78816
Pulmonary Ventilation (e.g., Aerosol or Gas) Imaging	78579
Pulmonary Perfusion Imaging	78580
Pulmonary Ventilation (e.g., Aerosol or Gas) and Perfusion Imaging	78582
Quantitative Differential Pulmonary Perfusion, Including Imaging When Performed	78597
Quantitative Differential Pulmonary Perfusion and Ventilation (e.g., Aerosol or Gas), Including Imaging When Performed	78598

Ultrasound	CPT®
Ultrasound, chest (includes mediastinum, chest wall, and upper back)	76604
Ultrasound, axilla	76882
Ultrasound, breast; <i>unilateral</i> , including axilla when performed; complete	76641
Ultrasound, breast; <i>unilateral</i> , including axilla when performed; limited	76642

General Guidelines (PEDCH-1.0)

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- A pertinent clinical evaluation since the onset or change in symptoms, including a detailed history, physical examination, and appropriate laboratory, and basic imaging such as plain radiography or ultrasound should be performed prior to considering advanced imaging (CT, MRI, Nuclear Medicine), unless the individual is undergoing guideline-supported scheduled imaging evaluation. A meaningful technological contact (telehealth visit, telephone call, electronic mail or messaging) since the onset or change in symptoms can serve as a pertinent clinical evaluation.
- Unless otherwise stated in a specific guideline section, the use of advanced imaging to screen asymptomatic individuals for disorders involving the chest is not supported. Advanced imaging of the chest is only supported in individuals who have documented active clinical signs or symptoms of disease involving the chest.
- Unless otherwise stated in a specific guideline section, repeat imaging studies of the chest are not necessary unless there is evidence for progression of disease, new onset of disease, and/or documentation of how repeat imaging will affect individual management or treatment decisions.

Health Equity Considerations

Health equity is the highest level of health for all individuals; health inequity is the avoidable difference in health status or distribution of health resources due to the social conditions in which individuals are born, grow, live, work, and age. Social determinants of health are the conditions in the environment that affect a wide range of health, functioning, and quality of life outcomes and risks. Examples include the following: safe housing, transportation, and neighborhoods; racism, discrimination, and violence; education, job opportunities, and income; access to nutritious foods and physical activity opportunities; access to clean air and water; and language and literacy skills.

Pediatric Chest Imaging Age Considerations (PEDCH-1.1)

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- Many conditions affecting the chest in the pediatric population have different diagnoses than those occurring in the adult population. For those diseases which occur in both pediatric and adult populations, differences may exist in management due to individual age, comorbidities, and differences in disease natural history between children and adults.
- Individuals who are 18 years old or younger should be imaged according to the Pediatric Chest Imaging Guidelines if discussed. Any conditions not specifically discussed in the Pediatric Chest Imaging Guidelines should be imaged according to the General Chest Imaging Guidelines. Individuals who are >18 years old should be imaged according to the General Chest Imaging Guidelines, except where directed otherwise by a specific guideline section.

Pediatric Chest Imaging Modality

General Considerations (PEDCH-1.3)

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- MRI
 - MRI Chest is generally performed without and with contrast (CPT[®] 71552) unless the individual has a documented contraindication to gadolinium or otherwise stated in a specific guideline section.
 - Due to the length of time required for MRI acquisition and the need to minimize individual movement, anesthesia is usually medically necessary for almost all infants (except neonate) and young individuals (age <7 years), as well as older individuals with delays in development or maturity. This anesthesia may be administered via oral or intravenous routes. In this individual population, MRI sessions should be planned with a goal of minimizing anesthesia exposure by adhering to the following considerations:
 - MRI procedures can be performed without and/or with contrast use as supported by these condition-based guidelines. If intravenous access will already be present for anesthesia administration and there is no contraindication for using contrast, imaging without and with contrast is medically necessary if requested. By doing so, the requesting provider may avoid repetitive anesthesia administration to perform an MRI with contrast if the initial study without contrast is inconclusive.
 - Evidence-based literature demonstrates the potential for gadolinium deposition in various organs including the brain, after the use of MRI contrast.
 - The U.S. Food and Drug Administration (FDA) has noted that there is currently no evidence to suggest that gadolinium retention in the brain is harmful and restricting gadolinium-based contrast agents (GBCAs) use is not warranted at this time. It has been recommended that GBCA use should be limited to circumstances in which additional information provided by the contrast agent is necessary and the necessity of repetitive MRIs with GBCAs should be assessed.
 - If multiple body areas are supported by the guidelines for the clinical condition being evaluated, MRI of all necessary body areas should be obtained concurrently.
 - The presence of surgical hardware or implanted devices may preclude MRI.
 - The selection of best examination may require coordination between the provider and the imaging service.
- CT

- CT Chest is generally performed either with contrast (CPT[®] 71260) or without contrast (CPT[®] 71250).
 - There are no generally accepted pediatric indications for CT Chest without and with contrast (CPT[®] 71270).
- CT should not be used to replace MRI in an attempt to avoid sedation unless listed as a recommended study in a specific guideline section.
- The selection of best examination may require coordination between the provider and the imaging service.
- Ultrasound
 - Ultrasound Chest (CPT[®] 76604) or Axilla (CPT[®] 76882) is medically necessary as an initial study for evaluating adenopathy, palpable chest wall lesions, pleural effusion or thickening, patency of thoracic vasculature, and diaphragm motion abnormalities.
 - For those individuals who do require advanced imaging, ultrasound can be very beneficial in selecting the proper modality, body area, image sequences, and contrast level that will provide the most definitive information for the individual.
- Nuclear Medicine
 - Nuclear medicine studies other than PET/CT are rarely used in evaluation of the pediatric chest.
 - Pulmonary Ventilation-Perfusion Imaging (CPT[®] 78582) has been replaced by CTA Chest (CPT[®] 71275) or CT Chest with contrast (CPT[®] 71260), but is medically necessary for evaluation of suspected pulmonary embolism if CT is unavailable.
 - See **Pulmonary Embolism (PE) (CH-25.1)** in the Chest Imaging Guidelines.
 - Pulmonary Perfusion Imaging (CPT[®] 78580) is not medically necessary in lieu of CPT[®] 78582 for initial evaluation of suspected pulmonary embolism, but is medically necessary for follow-up of an equivocal or positive ventilation-perfusion lung scan (CPT[®] 78582) to evaluate for interval change.
 - Pulmonary Ventilation Imaging (CPT[®] 78579) is not medically necessary in lieu of CPT[®] 78582 for evaluation of suspected pulmonary embolism, but is medically necessary for additional evaluation of an abnormal perfusion-only scan (CPT[®] 78580).
 - Pulmonary split crystal function study (CPT[®] 78597 or CPT[®] 78598), also known as Quantitative Differential Pulmonary Perfusion, is medically necessary for preoperative planning of segmental, lobar, or lung resection.
 - Quantitative Differential Pulmonary Perfusion Lung Scan (CPT[®] 78597 or CPT[®] 78598), can be performed post-lung transplant to detect regional perfusion abnormalities.
 - Radiopharmaceutical nuclear medicine imaging of an inflammatory process (CPT[®] 78800, CPT[®] 78801, CPT[®] 78802, or CPT[®] 78803) is rarely performed, but is medically necessary for evaluation of sarcoidosis or toxicity from drug toxicity (cyclophosphamide, busulfan, bleomycin, amiodarone, or nitrofurantoin).

- 3D Rendering
 - 3D Rendering indications in pediatric chest imaging are identical to those in the general imaging guidelines. See **3D Rendering (Preface-4.1)** in the Preface Imaging Guidelines.

The guidelines listed in this section for certain specific indications are not intended to be all-inclusive. Clinical judgment remains paramount and variance from these guidelines may be appropriate and warranted for specific clinical situations.

References (PEDCH-1)

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6. Reighard C, Junaid S, Jackson WM, et al. Anesthetic Exposure During Childhood and Neurodevelopmental Outcomes. *JAMA Netw Open*. 2022;5(6):e2217427. doi: 10.1001/jamanetworkopen.2022.17427.
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8. Expert Panel on Cardiac Imaging, Kirsch J, Wu CC, et al. ACR Appropriateness Criteria® Suspected Pulmonary Embolism: 2022 Update. *J Am Coll Radiol*. 2022;19(11S):S488-S501. doi:10.1016/j.jacr.2022.09.014
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12. Update on FDA approach to safety issue of gadolinium retention after administration of gadolinium-based contrast agents. Available at: <https://www.fda.gov/media/116492/download>. September 20, 2018.
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15. Soares BP, Lequin MH, Huisman TAGM. Safety of Contrast Material Use in Children. *Magn Reson Imaging Clin N Am*. 2017;25(4):779-785. doi:10.1016/j.mric.2017.06.009
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Lymphadenopathy (PEDCH-2)

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Lymphadenopathy (PEDCH-2.1)

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- Axillary lymphadenopathy imaging indications in pediatric individuals are identical to those for adult individuals. See **Axillary Lymphadenopathy (and Mass) (CH-2.2)** in the Chest Imaging Guidelines.
- Supraclavicular adenopathy in pediatric individuals is almost always pathologic, and advanced imaging is medically necessary prior to excisional biopsy. Fine-needle aspiration, while common in adults prior to advanced imaging, is not medically necessary for evaluating lymphadenopathy in pediatric individuals. ANY combination of the following studies are medically necessary for evaluation of supraclavicular adenopathy:
 - CT Chest with contrast (CPT® 71260)
 - MRI Chest without and with contrast (CPT® 71552)
 - Ultrasound Chest (CPT® 76604)
- If malignancy is suspected, refer to the condition specific imaging guidelines as below:
 - Lymphoma: **Pediatric Lymphomas (PEDONC-5)** in the Pediatric Oncology Imaging Guidelines.
 - Soft tissue sarcoma: **Pediatric Soft Tissue Sarcomas (PEDONC-8)** in the Pediatric Oncology Imaging Guidelines.
 - Neuroblastoma: **Neuroblastoma (PEDONC-6)** in the Pediatric Oncology Imaging Guidelines.

Reference (PEDCH-2)

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Mediastinal Mass (PEDCH-3)

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Mediastinal Mass (PEDCH-3.1)

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- The causes of mediastinal masses in pediatric individuals are generally different than those in adults, and therefore imaging considerations are different. Up to half of all pediatric mediastinal masses are malignant.
- Chest x-ray is medically necessary as an initial study for all individuals with suspected mediastinal mass.
- CT Chest with contrast (CPT[®] 71260) is medically necessary for any mediastinal mass identified on chest x-ray.
 - Masses can be very large and anterior masses frequently cause compression of the trachea and/or mediastinal blood vessels.
- MRI Chest without and with contrast (CPT[®] 71552) is medically necessary to evaluate any of the following findings:
 - a posterior (paravertebral) mediastinal mass on CT Chest that invades the spinal canal
 - CT findings that are inconclusive regarding specific anatomy
 - Large anterior mediastinal masses only when anesthesia is not used to complete the study.
- PET/CT (CPT[®] 78815) is medically necessary prior to biopsy in pediatric individuals if lymphoma is known or strongly suspected or there is evidence of tracheal compression on CT imaging. See **Pediatric Lymphoma (PEDONC-5)** in the Pediatric Oncology Imaging Guidelines.
- MIBG (CPT[®] 78800, CPT[®] 78802, CPT[®] 78803, or CPT[®] 78804) is medically necessary prior to biopsy in pediatric individuals if neuroblastoma is known or strongly suspected. See **Neuroblastoma (PEDONC-6)** in the Pediatric Oncology Imaging Guidelines.
- Ultrasound chest (CPT[®] 76604) is medically necessary in individuals younger than 5 years old to distinguish prominent but otherwise normal thymus from true mediastinal mass.
- A single repeat CT Chest with contrast (CPT[®] 71260) is medically necessary to confirm stability and avoid biopsy when NONE of the following features are present:
 - anterior mediastinal mass
 - enlarged lymph nodes anywhere in the imaging field
 - lymphopenia
 - pleural effusion

References (PEDCH-3)

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1. Thacker PG, Mahani MG, Heider A, et al. Imaging evaluation of mediastinal masses in children and adults. *J Thorac Imaging*. 2015;30(4):247-264.
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Hemoptysis (PEDCH-4)

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Hemoptysis – Imaging (PEDCH-4.1)

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- True hemoptysis is rare in pediatric individuals. A detailed history, physical examination, and appropriate laboratory studies should be performed prior to considering advanced imaging.
 - Aspirated blood from epistaxis or emesis frequently presents as hemoptysis, and history and physical examination will aid in this assessment.
- Chest x-ray is medically necessary as an initial study for stable individuals.
 - Advanced imaging is not medically necessary to evaluate individuals with epistaxis when there is a normal chest radiograph and no personal or family history of underlying lung disease or bleeding disorder.
 - CT Chest with contrast (CPT[®] 71260) or CTA Chest (CPT[®] 71275) is medically necessary for all other pediatric individuals with true hemoptysis.
 - CT Chest without contrast (CPT[®] 71250) is medically necessary for individuals with a documented allergy to CT contrast or significant renal dysfunction.
- MRI is not medically necessary in the evaluation of pediatric hemoptysis.

References (PEDCH-4)

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Cystic Fibrosis and Bronchiectasis (PEDCH-5)

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Cystic Fibrosis (PEDCH-5.1)

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- Chest x-ray is medically necessary for initial evaluation of acute clinical symptoms in individuals with cystic fibrosis.
- CT Chest without contrast (CPT[®] 71250) or with contrast (CPT[®] 71260) is medically necessary in the setting of any of the following (chest x-ray not required):
 - hemoptysis
 - pneumonia worsening despite antibiotic therapy
 - pleural effusion or empyema
 - suspected fungal pneumonia
 - monitoring treatment changes on bronchiectasis
 - expiratory CT for evaluating small airways disease
 - pre- and post-lung transplant evaluation
 - uncooperative individual
- Low dose CT Chest without contrast (CPT[®] 71250) is medically necessary **every 2 years** for monitoring of bronchiectasis and small airways disease.
- Cystic fibrosis associated liver disease develops in 5-10% of individuals with cystic fibrosis. Advanced imaging may be medically necessary if concerned for liver disease. See **Liver Disease (PEDAB-16)** in the Pediatric Abdomen Imaging Guidelines.

Bronchiectasis Not Associated with Cystic Fibrosis (PEDCH-5.2)

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- Bronchiectasis not associated with cystic fibrosis is rare in pediatric individuals, and imaging indications are identical to those for adult individuals. See **Bronchiectasis (CH-7.1)** in the Chest Imaging Guidelines.

References (PEDCH-5)

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Bronchiolitis (PEDCH-6)

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Bronchiolitis (PEDCH-6.1)

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Bronchiolitis is a self-limiting viral infection causing inflammation of the small airways, most common in infants under 12 months of age.

- Chest x-ray or chest ultrasound (CPT®76604) is medically necessary when there is a clinical suspicion of pneumonia or other complications.
- Advanced imaging is not medically necessary for routine evaluation or monitoring of bronchiolitis.
- CT Chest with contrast (CPT® 71260) is medically necessary for the following:
 - pleural effusion or empyema on relevant chest x-ray or chest ultrasound (CPT®76604)
 - immunocompromised individual with acute pulmonary symptoms
 - abnormality on relevant chest x-ray suggesting condition other than bronchiolitis

References (PEDCH-6)

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1. House SA, Ralston SL. Chapter 439,1: Wheezing in infants: bronchiolitis. In: Kliegman RM, St. Geme JW III, Blum NJ, Shah SS, Tasker RC, Wilson KM, eds. *Nelson Textbook of Pediatrics*. 22nd ed. 2024:2585-2588.
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Pneumonia (PEDCH-7)

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Pneumonia (PEDCH-7.1)

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- Pneumonia imaging indications in pediatric individuals are very similar to those for adult individuals. See **Pneumonia (CH-13.1)** in the Chest Imaging Guidelines.
- Pediatric-specific imaging considerations include the following:
 - Chest x-ray and/or Ultrasound chest (CPT[®] 76604) is medically necessary when the individual's condition does not respond to standard therapy.
 - CT Chest with contrast (CPT[®] 71260) is medically necessary for:
 - immunocompromised individuals with acute pulmonary symptoms
 - diagnosis of an abscess
 - necrotizing pneumonia cannot be confirmed
 - recurring pneumonia
 - acute complications
 - CT Chest without contrast (CPT[®] 71250) or with contrast (CPT[®] 71260) is medically necessary for individuals with recurrent lower respiratory tract infections.
 - Ultrasound chest (CPT[®] 76604) is medically necessary as an alternative for evaluation of complicated or recurrent childhood pneumonia.

Coronavirus Disease 2019 (COVID-19) (PEDCH-7.2)

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- Pediatric imaging for COVID-19 positive individuals are similar to those for adult individuals. See **Coronavirus Disease 2019 (COVID-19) (CH-13.2)** in the Chest Imaging Guidelines.
- Pediatric-specific imaging considerations include the following:
 - chest x-ray is the initial imaging test for all pediatric individuals
 - for concerns involving **Multisystem Inflammatory Syndrome in Children (MIS-C)** see **(PEDCD-12)**

References (PEDCH-7)

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Solitary Pulmonary Nodule (PEDCH-8)

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Solitary Pulmonary Nodule (PEDCH-8.1)

CHP.PM.0008.1.A

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The Fleischner Society guidelines for solitary pulmonary nodule management do not apply to pediatric individuals. An incidental solitary pulmonary nodule in a individual representing a primary lung carcinoma has never been reported in the literature. Similarly, an extrathoracic malignancy presenting with an incidental solitary pulmonary nodule in an otherwise healthy individual is very rare.

- CT Chest with contrast (CPT[®] 71260) is medically necessary as a one-time evaluation of a pulmonary nodule incidentally discovered on other imaging.
- Follow-up imaging of an incidental solitary pulmonary nodule in an asymptomatic healthy individual is **not** medically necessary.
 - Follow-up imaging is medically necessary for the following:
 - immunocompromised individuals
 - malignancy (see below)
 - invasive infection
 - new or worsening pulmonary symptoms
- Individuals with a malignant solid tumor who have pulmonary nodules of any size should have imaging according to the guideline section for the specific cancer type. See **Pediatric Oncology Imaging Guidelines** for specific imaging indications.
- This guideline section does not apply to multiple pulmonary nodules, which are imaged according to the underlying disorder in pediatric individuals.

Background and Supporting Information

A **nodule** is any pulmonary or pleural lesion that is a discrete, spherical opacity 2-30 mm in diameter surrounded by normal lung tissue. A larger nodule is called a mass. Entities that are not nodules, and are considered benign, include non-spherical linear, sheet-like, two-dimensional or scarring opacities.

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Positive PPD or Tuberculosis (PEDCH-9)

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Positive PPD or Tuberculosis (PEDCH-9.1)

CHP.TB.0009.1.A

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- Positive PPD and tuberculosis imaging indications in pediatric individuals are similar to those for adult individuals.
 - See **PPD or TB (Mycobacterium tuberculosis and Nontuberculous Mycobacterial Pulmonary Disease [NTM-PD]) (CH-14.1)** in the Chest Imaging Guidelines.
- Pediatric-specific imaging considerations include the following:
 - MRI Spine with and without contrast of the symptomatic spine level is medically necessary in individuals with concern for spinal involvement of tuberculosis.
 - MRI Chest with and without contrast (CPT® 71552) can be considered as a radiation-free alternative to chest CT in pediatric individuals.

Background and Supporting Information

- Chest x-ray can be useful as the initial imaging study when TB is suspected.

References (PEDCH-9)

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Asthma (PEDCH-10)

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Asthma (PEDCH-10.1)

CHP.AS.0010.1.A

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- Chest x-ray and/or Ultrasound chest (CPT[®] 76604) is medically necessary to further evaluate respiratory distress when the individual's condition does not respond to standard therapy.
- Advanced imaging is not medically necessary for routine evaluation or monitoring of asthma.
- CT Chest without (CPT[®] 71250) or with (CPT[®] 71260) contrast is medically necessary for the following:
 - pleural effusion or empyema on relevant chest x-ray
 - immunocompromised individual with acute pulmonary symptoms
 - abnormality on relevant chest x-ray suggesting condition other than asthma, including suspected foreign body
 - asthma and poor response to bronchodilators or conventional inhaled corticosteroid therapy in whom associated conditions, such as allergic bronchopulmonary aspergillosis and eosinophilic pneumonia, can mimic asthma

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Pectus Deformities (PEDCH-11)

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Pectus Deformities (PEDCH-11.1)

CHP.PD.0011.1.A

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- CT Chest without contrast (CPT[®] 71250), MRI Chest with and without contrast (CPT[®] 71552), or MRI Chest without contrast (CPT[®] 71550) is medically necessary in individuals with a pectus deformity for any of the following:
 - preoperative planning
 - significant cardiac depression after chest x-ray and echocardiography (CPT[®] 93306)
 - evidence of pulmonary impingement after chest x-ray and pulmonary function tests (PFTs) if there is increasing shortness of breath
 - Note: It may not be possible to obtain PFTs in individuals younger than 9 years old.
 - evaluation of congenital heart disease or Marfan's syndrome when suspected

References (PEDCH-11)

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Breast Masses (PEDCH-12)

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Breast Masses (PEDCH-12.1)

CHP.MS.0012.1.A

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See **Pediatric Breast Masses (PEDONC-17)** in the Pediatric Oncology Imaging Guidelines.

Vascular Malformations (PEDCH-13)

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Vascular Ring (PEDCH-13.1)

CHP.VM.0013.1.A

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- Chest x-ray is the recommended initial study in individuals with respiratory symptoms. A chest x-ray is not medically necessary for individuals diagnosed with a vascular ring on prenatal imaging studies.
- Barium esophagram is the recommended initial study in individuals with feeding difficulties.
- CT Chest with contrast (CPT[®] 71260), CTA Chest (CPT[®] 71275), MRA Chest (CPT[®] 71555), or MRI Chest without contrast (CPT[®] 71550) in individuals with known or suspected vascular ring after prenatal imaging studies, chest x-ray, or barium esophagram.
- Echocardiogram is medically necessary to rule out associated congenital heart disease.
 - CPT[®] 93303, CPT[®] 93306, CPT[®] 93320, and CPT[®] 93325 are medically necessary for initial evaluation of individuals with vascular ring and no prior echocardiograms.

Background and Supporting Information

Vascular rings generally present with either respiratory symptoms (stridor, wheezing, tachypnea, cough) or feeding difficulties (dysphagia, slow feeding, hyperextension of the head while feeding, weight loss, failure to thrive), but can also be discovered incidentally on imaging obtained for other purposes.

Other Vascular Malformations (PEDCH-13.2)

CHP.VM.0013.2.A

v1.0.2026

See **Pulmonary Arteriovenous Malformations (PEDCH-14.2)** for Pulmonary AVMs.

See **Vascular Anomalies (PEDPVD-2)** in the Pediatric Peripheral Vascular Disease Imaging Guidelines.

References (PEDCH-13)

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Congenital Chest Diseases (PEDCH-14)

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Congenital Cystic Lung Diseases (PEDCH-14.1)

CHP.CD.0014.1.A

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- This section includes common congenital cystic lung lesions such as:
 - bronchogenic cyst
 - congenital pulmonary airway malformation (congenital cystic adenomatoid malformation)
 - congenital lobar overinflation
- CT Chest with contrast (CPT[®] 71260) is medically necessary when a cystic lung lesion is suspected.
- MRI Chest with and without contrast (CPT[®] 71552) is medically necessary if CT is inconclusive or if requested for pre-operative planning.

Background and Supporting Information

- Cystic lung disease may be first identified on prenatal ultrasound, or discovered incidentally on chest x-ray.

Pulmonary Arteriovenous Malformations (PEDCH-14.2)

CHP.CD.0014.2.A

v1.0.2026

- Pulmonary arteriovenous malformations (PAVMs) are vascular structures that most commonly result from abnormal communication between pulmonary arteries and pulmonary veins.
 - Chest x-ray is medically necessary as an initial imaging modality for individuals with known AVMs, or individuals presenting with hypoxemia and/or hemoptysis.
 - CTA or MRA is medically necessary in individuals with known AVM or abnormal chest x-ray suggesting AVM for treatment planning.

Congenital Diaphragmatic Hernia (PEDCH-14.3)

CHP.CD.0014.3.A

v1.0.2026

- Congenital Diaphragmatic hernia (CDH) is a defect in the diaphragm which may allow the abdominal organs to enter the chest cavity, and may lead to compromised pulmonary function or may be associated with congenital heart disease.
 - Over 90% of the hernias occur in the posterolateral diaphragm (Bochdalek hernia) typically on the left side.
 - Most of the rest of the hernias are in the anteromedial diaphragm (Morgagni hernia).
- The vast majority of CDH are diagnosed prenatally (see **Fetal MRI [PV-15.1]**) in the Pelvis Imaging Guidelines), or as an inpatient shortly after delivery.
- If there is clinical concern for CDH, chest x-ray and/or US Chest (CPT[®] 76604) is medically necessary as the initial imaging study.
- CT Chest with contrast (CPT[®] 71260) or MRI Chest with and without contrast (CPT[®] 71552) is medically necessary when Chest x-ray and/or US are inconclusive, or if requested for treatment planning.

Pulmonary Sequestration (PEDCH-14.4)

CHP.CD.0014.4.A

v1.0.2026

- Pulmonary sequestration imaging indications in pediatric individuals are similar to those for adult individuals.
 - See **Pleural-Based Nodules and Other Abnormalities (CH-17.1)** in the Chest Imaging Guidelines.
- Pediatric-specific imaging considerations include the following:
 - CTA Chest (CPT® 71275) is the gold standard for diagnosing pulmonary lung abnormalities.
 - CT Chest with contrast (CPT® 71260) and MRI Chest without contrast (CPT® 71550) are alternative imaging modalities that can be used for diagnosis.

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