Instructions for use

The following coverage policy applies to health benefit plans administered by Cigna. Coverage policies are intended to provide guidance in interpreting certain standard Cigna benefit plans and are used by medical directors and other health care professionals in making medical necessity and other coverage determinations. Please note the terms of a customer’s particular benefit plan document may differ significantly from the standard benefit plans upon which these coverage policies are based. For example, a customer’s benefit plan document may contain a specific exclusion related to a topic addressed in a coverage policy.

In the event of a conflict, a customer’s benefit plan document always supersedes the information in the coverage policy. In the absence of federal or state coverage mandates, benefits are ultimately determined by the terms of the applicable benefit plan document. Coverage determinations in each specific instance require consideration of:

1. The terms of the applicable benefit plan document in effect on the date of service
2. Any applicable laws and regulations
3. Any relevant collateral source materials including coverage policies
4. The specific facts of the particular situation

Coverage policies relate exclusively to the administration of health benefit plans. Coverage policies are not recommendations for treatment and should never be used as treatment guidelines.

This evidence-based medical coverage policy has been developed by eviCore, Inc. Some information in this coverage policy may not apply to all benefit plans administered by Cigna.

These guidelines include procedures eviCore does not review for Cigna. Please refer to the Cigna CPT code list for the current list of high-tech imaging procedures that eviCore reviews for Cigna.

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# PEDAB-1~General Guidelines

## Procedure Codes Associated with Abdomen Imaging

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<th>Procedure Description</th>
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<tbody>
<tr>
<td>Abdomen MRI without contrast</td>
<td>74181</td>
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<tr>
<td>Abdomen MRI with contrast (rarely used)</td>
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<tr>
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<tr>
<td>Abdomen MRA</td>
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<tr>
<td>Abdomen CT without contrast</td>
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<tr>
<td>Abdomen/Pelvis CT without contrast</td>
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<tr>
<td>Abdomen/Pelvis CT with contrast</td>
<td>74177</td>
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<td>Abdomen/Pelvis CT without and with contrast</td>
<td>74178</td>
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<tr>
<td>CT Guidance for Needle Placement (Biopsy, Aspiration, Injection, etc.)</td>
<td>77012</td>
</tr>
<tr>
<td>CT Guidance for and monitoring of Visceral Tissue Ablation</td>
<td>77013</td>
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<tr>
<td>CT Guidance for Placement of Radiation Therapy Fields</td>
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<tr>
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<tr>
<td>Ultrasound, abdominal wall</td>
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<tr>
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<tr>
<td>Ultrasound, retroperitoneal; limited</td>
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<tr>
<td>Ultrasound, transplanted kidney (with duplex Doppler)</td>
<td>76776</td>
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<td>Description</td>
<td>Code</td>
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<tr>
<td>Duplex scan of arterial inflow and venous outflow of abdominal, pelvic, scrotal contents and/or retroperitoneal organs; complete study</td>
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<tr>
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<tr>
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<tr>
<td>Duplex scan of aorta, inferior vena cava, iliac vasculature, or bypass grafts; limited</td>
<td>93979</td>
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</table>
PEDAB-1.1 Pediatric Abdominal Imaging Age Considerations

Many conditions affecting the abdomen in the pediatric population are different diagnoses than those occurring in the adult population. For those diseases that occur in both pediatric and adult populations, minor differences may exist in management due to an individual’s age, comorbidities, and differences in disease natural history between children and adults.

✓ Individuals age <18 years old should be imaged according to the Pediatric Abdomen Imaging Guidelines, and individuals age ≥18 years should be imaged according to the Abdomen Imaging Guidelines, except where directed otherwise by a specific guideline section.

PEDAB-1.2 Pediatric Abdomen Imaging Appropriate Clinical Evaluation and Conservative Treatment

✓ A recent (within 60 days) face-to-face evaluation including a detailed history, physical examination, appropriate laboratory studies, and basic imaging such as plain radiography or ultrasound should be performed prior to considering advanced imaging, unless the individual is undergoing guideline-supported scheduled follow-up imaging evaluation.

✓ These guidelines are based upon using advanced imaging to answer specific clinical questions that will affect individual management. Imaging is not indicated if the results will not affect individual management decisions. Standard medical practice would dictate continuing conservative therapy prior to advanced imaging in individuals who are improving on current treatment programs.

✓ Unless otherwise stated in a specific guideline section, the use of advanced imaging to screen asymptomatic individuals for disorders involving the abdomen is not supported. Advanced imaging should only be approved in individuals who have documented active clinical signs or symptoms of disease.

✓ Unless otherwise stated in a specific guideline section, repeat imaging studies of the same body area 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.
PEDAB-1.3 Pediatric Abdomen Imaging Modality General Considerations

✓ Ultrasound
  o Ultrasound should be done prior to advanced imaging in most abdominal conditions to rule out those situations that do not require advanced imaging
  o 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
  o CPT codes vary by body area and presence or absence of Doppler imaging and are included in the table at the beginning of this guideline

✓ MRI
  o MRI of the abdomen is generally performed without and with contrast (CPT® 74183) unless the individual has a documented contraindication to gadolinium or otherwise stated in a specific guideline section
  o Due to the length of time for image acquisition and the need for stillness, anesthesia is required for almost all infants and young children (age <7 years), as well as older children with delays in development or maturity. In this individual population, MRI imaging sessions should be planned with a goal of avoiding a short-interval repeat anesthesia exposure due to insufficient information using the following considerations:
    ▪ MRI should always be performed without and with contrast unless there is a specific contraindication to gadolinium use, since the individual already has intravenous access for anesthesia
    ▪ If multiple body areas are supported by eviCore guidelines for the clinical condition being evaluated, MRI of all necessary body areas should be obtained concurrently in the same anesthesia session
  o The presence of surgical hardware or implanted devices may preclude MRI
  o The selection of best examination may require coordination between the provider and the imaging service

✓ CT
  o CT of the abdomen typically extends from the dome of the diaphragm to the upper margin of the sacroiliac joints, and CT of the abdomen and pelvis extends from the dome of the diaphragm through the ischial tuberosities.
    ▪ In general, CT of the abdomen is appropriate when evaluating solid abdominal organs.
    ▪ In general, CT of the Abdomen and pelvis is appropriate when evaluating inflammatory or infectious processes, hematuria, or conditions that appear to involve both the abdomen and the pelvis.
    ▪ In some cases, especially in follow-up of a known finding, it may be appropriate to limit the exam to the region of concern to reduce radiation exposure.
The contrast level in pediatric CT imaging is specific to the clinical indication, as listed in the specific guideline sections.

CT of the abdomen or abdomen and pelvis may be indicated for further evaluation of abnormalities suggested on prior US or MRI studies.

CT may be indicated without prior MR or US, as indicated in specific sections of these guidelines.

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 the best examination may require coordination between the provider and the imaging service.

- 3D Rendering
  - 3D Rendering indications in pediatric abdomen imaging are identical to those for adult individuals.
    - See Preface-4.1~3D Rendering for 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**

1. ACR-SPR Practice Parameter for the Performance Of Computed Tomography (CT) of the Abdomen and Computed Tomography (Ct) Of The Pelvis. Revised 2016 (Resolution 22).
Children with generalized abdominal pain and normal physical examination and laboratory studies, including stool for blood (and stool culture if diarrhea), should initially be evaluated by ultrasound (CPT®76700 or CPT®76705) and treated conservatively.

- Gastroenterology (GI) specialist evaluation is helpful in determining the need for advanced imaging.

Children with abdominal pain that can be localized to a particular area of the abdomen should be imaged according to the relevant guideline section:
- PEDAB-3~Right Lower Quadrant Pain, Rule Out Appendicitis
- PEDAB-4~Flank Pain, Rule Out Renal Stone
- PEDAB-8~Right Upper Quadrant Pain, Rule Out Cholecystitis
- PEDAB-24~Left Upper Quadrant Pain
- PEDAB-28~Left Lower Quadrant Pain

Children with generalized acute abdominal pain AND any of the following red flag signs or symptoms require additional investigation (which may include advanced imaging). CT Abdomen (CPT®74160) or Abdomen/Pelvis (CPT®74177) with contrast is indicated unless otherwise specified in a specific guideline section:
- Pain that wakes the child from sleep
- Unexplained fever (T≥100.4°F)
- Dysphagia
- GI bleeding
- Significant vomiting
- Severe chronic diarrhea or nocturnal diarrhea in a toilet-trained child
- Failure to thrive, involuntary weight loss, or delay in linear growth or pubertal development
- Family history of inflammatory bowel disease, celiac disease, or peptic ulcer disease
- Abdominal mass, hepatomegaly, and/or splenomegaly on exam
- Jaundice
- Arthritis
- Costovertebral angle tenderness
- Perianal disease
- Spinal tenderness
References


PEDAB-3~Right Lower Quadrant Pain

For individuals age ≤14 years:
✓ If local expertise exists, ultrasound (CPT®76700 or CPT®76705) is indicated as the initial examination. If positive or negative, no further diagnostic imaging is necessary.
  o If the appendix is not visualized on ultrasound and the white blood cell count is not elevated, no further imaging is necessary
✓ If insufficient local ultrasound expertise exists or the ultrasound findings are inconclusive, any of the following studies are indicated for evaluation of right lower quadrant pain:
  o CT Abdomen/Pelvis with contrast (CPT®74177)
  o CT Abdomen/Pelvis without contrast (CPT®74176)
  o MRI Pelvis without contrast (CPT®72195)
  o MRI Pelvis without and with contrast (CPT®72197)

For individuals age ≥15 years:
✓ Any of the following studies are indicated:
  o CT Abdomen/Pelvis with contrast (CPT®74177)
  o CT Abdomen/Pelvis without contrast (CPT®74176)
  o MRI Pelvis without contrast (CPT®72195)
  o MRI Pelvis without and with contrast (CPT®72197)

If the appendix is absent, follow guidelines in: PEDAB-2~Generalized Abdominal Pain

References
Flank Pain imaging indications in pediatric individuals are very similar to those for adult individuals. See: AB-4~Flank Pain, Rule out Renal Stone for imaging guidelines.

Pediatric-specific imaging considerations include the following:
- In children, ultrasound (CPT®76770 or CPT®76775) is the preferred initial study
- If ultrasound is inconclusive, CT Abdomen/Pelvis without contrast (CPT®74176) is indicated
- If CT is inconclusive or there is significant concern for radiation exposure from frequent CT use for a particular individual, MRI without and with contrast of the abdomen (CPT®74183) and pelvis (CPT®72197) is indicated
- If hematuria is present, see PEDAB-7~Hematuria for imaging guidelines

Reference
PEDAB-5.1 Upper Urinary Tract

✓ Males with first time UTI (and females with first or second UTI) should undergo ultrasound evaluation (CPT®76770 or CPT®76775), as the initial imaging modality to diagnose hydronephrosis, pyelonephritis, or congenital renal anomaly.
  - If hydronephrosis is present, this should be further evaluated with voiding cystourethrography (VCUG), to evaluate for vesicoureteral reflux.

✓ Diuretic renography using Tc-99m MAG 3 (CPT®78708) is the study of choice for the following indications:
  - Differentiating a dilated non-obstructed urinary system from a true stenosis (e.g., UPJ obstruction; ureteral-vesical junction [UVJ] obstruction), and for
  - Quantifying renal parenchymal function.
  - Ultrasound findings that are compatible with a multicystic dysplastic kidney to evaluate function of the affected kidney or a ureteral-pelvic junction (UPJ) obstruction of the contralateral kidney
  - Diagnostic evaluation of upper tract dilatation when VCUG is negative
  - Renal function evaluation in individuals with hydronephrosis

✓ Magnetic resonance urography (MRU) (CPT®74183 and CPT®72197), is appropriate (where available) for investigation of a dilated upper urinary tract
  - NOTE: MRU requires sedation in young children
  - MRU can also quantitate renal function
  - MRU is very sensitive for the detection of acute pyelonephritis, and where available can be used in place of CT

✓ Technetium-99m-dimercaptosuccinic acid (Tc-99m DMSA) scintigraphy (CPT®78700), is indicated in the following:
  - Children aged 5 years or younger with febrile UTI for the diagnosis of acute pyelonephritis. Sensitivity of DMSA scintigraphy is much higher than ultrasound and is equivalent to CT, but at a lower radiation dose.
  - Detection of post-pyelonephritic renal scarring at least 6 months after the documented upper tract UTI
**PEDAB-5.2 Lower Urinary Tract**

- Fluoroscopic Voiding cystourethrogramy (VCUG) is indicated for detection of possible vesico-ureteral reflux (VUR) in neonates or young children when hydronephrosis is seen on ultrasound.

- The American Academy of Pediatrics clinical practice guidelines no longer recommend routine VCUG for infants and young children from 2 to 24 months of age after the first febrile UTI.
  - The current recommendation is to postpone the VCUG until the second febrile UTI UNLESS there are:
    - Atypical or complex clinical circumstances
    - Renal/bladder ultrasound reveals hydronephrosis, scarring, or obstructive uropathy

- Vesicoureteral Reflux (VUR)
  - Fluoroscopic VCUG is typically performed for diagnosis and grading of VUR, and should be the first modality used for diagnosis.
  - Radionuclide cystography, because of its lower radiation burden and higher sensitivity for reflux > Grade I, is recommended for follow-up imaging of VUR, and investigation of VUR in siblings of affected individuals.

- Male individuals with first UTI should be evaluated with fluoroscopic VCUG studies rather than radionuclide cystography, to visualize the male urethra for possible posterior urethral valves.

- For female individuals, radionuclide cystography may replace fluoroscopic VCUG as the initial study, since urethral anatomy is rarely abnormal except in complex malformations.

- MR urography is indicated for evaluation of ectopic distal ureteral insertion, or other complex lower urinary tract anatomy.

**References**

**PEDAB-6~Pediatric Acute Gastroenteritis**

- Imaging is not indicated in pediatric acute gastroenteritis unless there is a concern for other causes of symptoms.

- When necessary, imaging in children with suspected gastroenteritis should begin with plain x-rays of the abdomen, including supine and left lateral decubitus views. The left lateral decubitus view is useful for the detection of air-fluid levels and for detection of gas in the rectum and to exclude obstruction.

- Ultrasound (CPT®76700 or CPT®76705) should be performed if there is organomegaly, palpable mass, or suspicion for intussusception (See: PEDAB-26~Intussusception).
  - While ultrasound (CPT®76700 or CPT®76705) may detect findings of gastroenteritis, imaging is not necessary to make the diagnosis of uncomplicated gastroenteritis.

- CT Abdomen/Pelvis with contrast (CPT®74177) is indicated if abdominal red flag symptoms are present as listed in PEDAB-2~Generalized Abdominal Pain.

**References**

Hematuria is a relatively common complaint in pediatric individuals, and the imaging considerations are different than those occurring in adult individuals.

✓ For individuals with asymptomatic gross hematuria or microscopic hematuria present on separate urinalysis evaluations, ultrasound of the kidneys (CPT®76770 or 76775) and bladder (CPT®76856 or 76857) are indicated

✓ For individuals with painful hematuria and no recent trauma, any of the following studies can be approved:
  o CT Abdomen/Pelvis without contrast (CPT®74176)
  o Ultrasound of kidneys (CPT®76770 or 76775)
  o Ultrasound of bladder (CPT®76856 or 76857)

✓ For individuals with hematuria and recent trauma, the following studies are indicated:
  o CT Abdomen/Pelvis with contrast (CPT®74177)
  o CT Cystography (CT Pelvis with bladder contrast—CPT®72193), if gross hematuria is present and pelvic fracture or traumatic bladder injury is suspected

References
Right upper quadrant pain imaging indications in pediatric individuals are very similar to those for adult individuals.
  o See: **AB-2~Abdominal Pain** for imaging guidelines.

Pediatric-specific imaging considerations include the following:
  o MRI is preferred over CT when possible to reduce radiation exposure

**Reference**

Enterography is the most appropriate advanced imaging study for individuals with inflammatory bowel disease (IBD).

✔ For children with suspected IBD, MR enterography (CPT®74183 and CPT®72197) is preferred to avoid radiation exposure
  o CT enterography (CPT®74177) is indicated if MR enterography is inconclusive or unavailable

✔ For children with established IBD, MR enterography (CPT®74183 and CPT®72197) is indicated for the following:
  o Monitoring response to disease-modifying treatment on an annual basis or when treatment change is being considered
  o Individuals with new or worsening symptoms or suspected complications including abscess, perforation, fistula, or obstruction
  o CT enterography (CPT®74177) can be approved if MR enterography is inconclusive or unavailable.

References
Abdominal sepsis imaging indications in pediatric individuals are identical to those for adult individuals. See AB-3~Abdominal Sepsis (Suspected Abdominal Abscess) for imaging guidelines.
CT Abdomen/Pelvis with contrast (CPT®74177) is indicated in individuals with suspected postoperative complications (e.g. bowel obstruction, abscess, anastomotic leak, etc.)

- Children can also be evaluated with ultrasound (CPT®76700 or CPT®76705) initially (especially in small children or in thin older children) or with MRI abdomen and pelvis without and with contrast (CPT®74183 and CPT®72197).

Because MRI may not be practical for the timely evaluation of post-operative abscesses, MRI should only replace CT when the study can be completed in a similar time frame as CT.

Beyond 60 days postoperatively, see: PEDAB-2~Abdominal Pain, Generalized.

**References**


Constipation and diarrhea are extremely common complaints in children. The overwhelming majority of individuals do not require advanced imaging for evaluation of constipation or diarrhea.

Irritable bowel is rare in young children, but more common in adolescents. The overwhelming majority of individuals do not require advanced imaging for evaluation of irritable bowel syndrome.

✓ Constipation that is associated with the following additional red flag signs or symptoms may require advanced imaging:
  o Red flag symptoms for abdominal pain (See PEDAB-2~Generalized Abdominal Pain)
  o Clinical suspicion of tethered cord based on abnormal physical findings over the spine or failure of maximal laxative therapy. See PEDSP-5~Tethered Cord for imaging guidelines.

✓ Diarrhea that is associated with the following additional red flag signs or symptoms may require advanced imaging:
  o Red flag symptoms for abdominal pain (See PEDAB-2~Generalized Abdominal Pain)

✓ Irritable bowel syndrome that is associated with the following additional red flag signs or symptoms may require advanced imaging:
  o Red flag symptoms for abdominal pain (See PEDAB-2~Generalized Abdominal Pain)

References
PEDAB-13.1 Abdominal Wall Mass
✓ For initial imaging of a newly discovered abdominal wall mass, any of the following studies are indicated:
  o Ultrasound (CPT®76700)
  o MRI Abdomen without contrast (CPT®74181) or without and with contrast (CPT®74183)
  o If below the umbilicus, MRI Pelvis without contrast (CPT®72195) or without and with contrast (CPT®72197) may be added to MRI Abdomen

✓ If ultrasound and/or MRI are inconclusive or insufficient for preoperative planning, any of the following studies are indicated:
  o CT abdomen with contrast (CPT®74160) or without contrast (CPT®74150)
  o If below the umbilicus, CT Abdomen/Pelvis with contrast (CPT®74177) or without contrast (CPT®74176)

PEDAB-13.2 Intra-Abdominal Mass
✓ Ultrasound (CPT®76700) should be the initial imaging study for children with an intra-abdominal mass.

✓ Additional imaging studies will be determined by the results of the ultrasound, and will depend on the location and organ involvement associated with the mass as well as history, physical exam, and laboratory findings. See the following sections for additional imaging guidelines:
  o PEDONC-1~General Guidelines
  o PEDONC-5~Pediatric Lymphomas
  o PEDONC-6~Neuroblastoma
  o PEDONC-7~Pediatric Renal Tumors
  o PEDONC-10~Pediatric Germ Cell Tumors
  o PEDONC-11~Pediatric Liver Tumors
  o PEDONC-14~Pediatric Adrenocortical Carcinoma
  o PEDAB-15~Liver Lesion Characterization
  o PEDAB-17~Adrenal Lesions
  o PEDAB-19~Indeterminate Renal Lesion
  o PEDAB-25~Spleen
References


PEDAB-14~Renovascular Hypertension

✓ Any of the following studies are indicated for initial evaluation of a pediatric individual with repeated systolic BP >95th percentile for age (≥3 measurements):
  o Doppler or Duplex Ultrasound (CPT®93975 or CPT®93976)
  o Complete retroperitoneal ultrasound (CPT®76770)
  o Captopril renography (CPT®78709)

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>95th percentile SBP Boys</th>
<th>95th percentile SBP Girls</th>
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</table>

✓ All follow-up requests for pediatric hypertension will go to Medical Directors for review.

Other considerations for imaging evaluation:

✓ Abdominal MRA (CPT®74185) or CTA (CPT®74175) may be indicated for pediatric individuals with hypertension to exclude fibromuscular dysplasia of the renal arteries

✓ Echocardiography (CPT®93306) is indicated at initial evaluation to screen for cardiac abnormalities, coarctation of the aorta, and end-organ damage such as left ventricular hypertrophy


References


Liver lesion characterization imaging indications in pediatric individuals are very similar to those for adult individuals.

- See: **AB-29~Liver Lesion Characterization** for imaging guidelines.

Pediatric-specific imaging considerations include the following:

- MRI is preferred over CT when possible to reduce radiation exposure.

**References**

Elevated liver function testing imaging indications in pediatric individuals are very similar to those for adult individuals. See: **AB-30~Elevated Liver Function (LFT) Levels** for imaging guidelines.

Causes of liver failure or cirrhosis in pediatric individuals are different from adults, and are generally due to one of the following:
- Biliary dysfunction (biliary atresia, cystic fibrosis, etc.)
- Metabolic disease
- Post-infectious
- Idiopathic causes

Liver ultrasound (CPT® 76700) is indicated as an initial study for individuals prior to approving CT or MRI for pediatric individuals
- MRI Abdomen without and with contrast (CPT® 74183) is indicated for evaluation of ultrasound findings that are inconclusive or technically limited, and is preferred over CT when possible to reduce radiation exposure

Repeat liver ultrasound (CPT® 76705) is indicated in pediatric individuals in the following circumstances:
- Known chronic liver dysfunction or cirrhosis of any cause
- New or worsening findings on history, physical exam, or laboratory results that suggest progression of liver disease
- Doppler ultrasound of the liver (CPT® 93975 or 93976) is indicated when portal venous congestion or portal hypertension is suspected

**References**

Adrenal cortical lesion imaging indications in pediatric individuals are very similar to those for adult individuals. See: **AB-16~Adrenal Cortical Lesions** for imaging guidelines.

Pediatric-specific imaging considerations include the following:

- Neonatal adrenal hemorrhage may be identified on renal ultrasound. The most concerning potential diagnosis is neuroblastoma. This can often be adequately evaluated with short interval follow-up retroperitoneal ultrasound (CPT®76770) in 7-10 days.
  - If repeat ultrasound is inconclusive or there is high clinical concern for neuroblastoma, MRI Abdomen without and with contrast (CPT®74183) or CT Abdomen without and with contrast (CPT®74170) is indicated. MRI is preferred over CT when possible to reduce radiation exposure.
- Neuroblastoma is the most common primary adrenal tumor in pediatric individuals.
  - See **PEDONC-6~NEUROBLASTOMA** for imaging guidelines.

**References**


PEDAB-18~Hemochromatosis

PEDAB-18.1 Hereditary (Primary) Hemochromatosis
✓ Hereditary hemochromatosis imaging indications in pediatric individuals are identical to those for adult individuals. See AB-11.2~Hereditary Hemochromatosis and Other Iron Storage Disorders for imaging guidelines.

PEDAB-18.2 Transfusion-Associated (Secondary) Hemochromatosis
Transfusion-associated hemochromatosis is a common complication of exposure to repeated red blood cell transfusions. This can occur in any individual with exposure to >20 transfusion episodes, but is most common among sickle cell disease, thalassemia, bone marrow failure (aplastic anemia, Fanconi anemia, etc.), oncology individuals, and hematopoietic stem cell transplant individuals.

✓ T2* MRI has been well established in the determination of organ iron burden in transfusion-associated hemochromatosis. Contrast use is not necessary for evaluation of iron burden. The following studies are indicated for evaluation of transfusion-associated hemochromatosis:
  o MRI Abdomen without contrast (CPT® 74181) for liver iron evaluation
  o MRI Cardiac without contrast (CPT® 75557) for cardiac iron evaluation
  o MRI Chest without contrast (CPT® 71550) can be approved as a single study to evaluate both heart and liver iron burden
  o CPT® 74181 and 75557 can be approved alone, or both together as clinically indicated for a specific individual
  o If requested, CPT® 71550 will evaluate both heart and liver and should not be approved with any other codes

✓ Screening MRI is indicated every 12 months for chronically transfused individuals at risk of hemochromatosis

✓ Imaging is indicated every 3 months for treatment response in individuals receiving active treatment (chelation and/or phlebotomy)

References
Indeterminate renal lesion imaging indications in pediatric individuals are very similar to those for adult individuals. See AB-35~Indeterminate Renal Lesion for imaging guidelines.

Pediatric-specific imaging considerations include the following:
- Pediatric renal cysts have a lower risk of malignant progression than renal cysts in adults
- For individuals who have simple cysts but are symptomatic and surgical intervention is being considered, CT Abdomen with contrast (CPT®74160) is indicated (CPT®74160)
- For pediatric individuals with complex renal cyst identified on ultrasound, CT Abdomen without and with contrast (CPT®74170) is indicated
- Individuals with solid renal masses should be imaged according to guidelines in section PEDONC-7~Pediatric Renal Tumors.
Hydronephrosis is a relatively common finding in pediatric individuals, with the following imaging considerations:

- **Individuals with prenatal hydronephrosis** can be evaluated with retroperitoneal ultrasound (CPT®76770) within the first week of life, and again after 6 weeks of age.

- **Individuals with known uncomplicated hydronephrosis** can be followed with retroperitoneal ultrasound (CPT®76770) every 6-12 months.

- **For individuals with hydronephrosis associated with urinary tract infection or vesicoureteral reflux**, see PEDAB-5~Urinary Tract Infection (UTI) for imaging guidelines.

- **Individuals with ureteropelvic junction obstruction (UPJO)** be evaluated with retroperitoneal ultrasound (CPT®76770), and diuretic renography (CPT® 78707, 78708, or 78909) for preoperative planning and postoperatively at 6 -12 months.
  - If hydronephrosis has resolved on postoperative imaging then no further routine imaging is indicated.

- **Magnetic resonance urography (MRU)** (CPT®74183 and CPT®72197) is rarely indicated, but can be approved in individuals with inconclusive ultrasound and diuretic renography.

- **CT Abdomen with contrast** (CPT®74160) is rarely indicated, but can be approved in individuals with inconclusive ultrasound and a suspected vascular cause of UPJO.

**References**

Abdominal ultrasound (CPT® 76700) or retroperitoneal ultrasound (CPT® 76770) are indicated for clinical concern for polycystic kidney disease, or for screening individuals at risk for autosomal dominant polycystic kidney disease (ADPCKD).

**References**

Blunt abdominal trauma imaging indications in pediatric individuals are identical to those for adult individuals.

- See AB-10.1 Blunt Abdominal Trauma for imaging guidelines.
Hernia imaging indications in pediatric individuals are identical to those for adult individuals.
  
  o  See **AB-12~Hernias** for imaging guidelines.
Abdominal lymphadenopathy imaging indications in pediatric individuals are identical to those for adult individuals.

- See **AB-8~Abdominal Lymphadenopathy** for imaging guidelines.
Left upper quadrant pain imaging indications in pediatric individuals are identical to those for adult individuals. See AB-2~Abdominal Pain for imaging guidelines.
✓ Spleen imaging indications in pediatric individuals are very similar to those for adult individuals. See: AB-34~Spleen for imaging guidelines.

✓ Pediatric-specific imaging considerations include the following:
  o MRI is preferred over CT when possible to reduce radiation exposure.

**Reference**

Intussusception, telescoping of one bowel loop into another, is a frequent cause of abdominal pain in young children. It may be associated with bloody stools. Plain x-rays (supine and left lateral decubitus views) should be performed initially to exclude a mass or bowel obstruction from other causes.

- Ultrasound (CPT®76700 or CPT®76705) is indicated as an initial study if there is a strong suspicion for intussusception, but if negative, plain x-rays of the abdomen should follow.

Reference
Bowel obstruction imaging indications in pediatric individuals are identical to those for adult individuals. See AB-20~Bowel Obstruction for imaging guidelines.
Diverticulitis is the most common cause of left lower quadrant pain in adults but is extremely rare in children.

Gastroenterologist evaluation is helpful in determining the appropriate diagnostic pathway in individuals with left lower quadrant pain with or without heme-positive stools or rectal bleeding, since advanced imaging is rarely helpful in the initial evaluation of these individuals.

✓ Pelvic ultrasound (CPT®76856) is the initial imaging study of choice for children and for females who still have ovaries or uterus intact, for detecting gynecologic abnormalities that may cause left lower quadrant pain.

References
PEDAB-30~Celiac Disease (Sprue)

✓ Celiac disease imaging indications in pediatric individuals are identical to those for adult individuals.
  o See **AB-24~Celiac Disease (Sprue)** for imaging guidelines.
PEDAB-31~Transplant

✓ Liver and kidney transplant imaging indications in pediatric individuals are identical to those for adult individuals.
  ○ See AB-42~Transplant for imaging guidelines.

✓ For post-transplant lymphoproliferative disorder in pediatric individuals, see PEDONC-5.3~Pediatric Non-Hodgkin Lymphoma, Aggressive Mature B-Cell NHL for imaging guidelines.
PEDAB-32~Gaucher’s Disease

See: PEDPN-4 Gaucher’s Disease for imaging guidelines.