Cohere Medical Policy- Computed Tomography (CT), Abdomen/Pelvis

Clinical Guidelines for Medical Necessity Review

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Important Notices

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Other Notices:

Guideline Information:

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Service: Computed Tomography (CT), Abdomen/Pelvis

Recommended Clinical Approach

Computed tomography (CT) of the abdomen/pelvis should be initiated by the referring physician or an appropriate allied healthcare professional involved in the patient's care. The request should contain all the necessary information regarding the patient's signs and symptoms, history, and known and suspected diagnoses to determine the appropriate imaging modalities.[1]

Bosniak Classification[2-3]		
Stage	**Malignancy Risk (%)**	**Features**
I	0	Hairline-thin wall; water attenuation; no septa, calcifications, or solid components; non-enhancing.
II	0	1. Few thin septa with or without perceived (not measurable) enhancement; fine calcification or a short segment of slightly thickened calcification in the wall or septa. 2. Homogeneously high-attenuating masses less than or equal to 3 cm that are sharply marginated and do not enhance.
IIF	5	1. Minimally thickened or more than a few thin septa with or without perceived (not measurable) enhancement that may have thick or nodular calcification. 2. Intrarenal non-enhancing hyperattenuating renal masses greater than 3 cm.
III	50	Thickened (less than 3 mm) wall or septa with enhancement.
IV	90	Soft tissue components (e.g., nodules) with measurable enhancement.

Medical Necessity Criteria

Indications

➔ **Computed tomography (CT), abdomen/pelvis** is considered appropriate if **ANY** of the following is **TRUE**[1]:

- ◆ Conditions related to the mesentery or peritoneum, including **ANY** of the following:
  - Suspicion of peritonitis with peritoneal symptoms/signs (e.g., rebound tenderness or severe pain)[4]; **OR**
  - Followup of abdominal lymph node enlargement if symptoms have not resolved; **OR**
  - Internal hernia[5]; **OR**
- ◆ Conditions related to the hepatobiliary system (liver, bile ducts, gallbladder, and associated structures) with right upper quadrant pain, where ultrasound is indeterminate or abnormal and further imaging is needed for **ANY** of the following:
  - A previously imaged indeterminate liver lesion that remains indeterminate; **OR**
  - Clinical features and lab findings are suspicious of cholangitis or hepatitis; **OR**
  - Autoimmune (e.g., autoimmune hepatitis, primary biliary cirrhosis); **OR**
  - Preoperative or postoperative evaluation (e.g., liver resection, donor or transplant, hepatic shunt placement); **OR**
  - Annual screening of a patient with an increased risk of cancer due to **ANY** of the following:
    - Cirrhosis or chronic viral hepatitis where ultrasound is inconclusive, limited, or requires further work-up and triple phase CT liver protocol is requested; **OR**
    - Primary sclerosing cholangitis after age 20; **OR**

- Diffuse liver disease (e.g., cirrhosis, steatosis, iron deposition disease); **OR**
- Jaundice or hyperbilirubinemia when a biliary obstruction is suspected based on the cholestatic pattern on liver function tests with ultrasound showing biliary duct dilatation and MRI cannot be performed; **OR**

◆ Conditions related to the pancreas, including **ANY** of the following[6]:

- Duct obstruction (e.g., calculi, stricture, or mass) is suspected based on prior imaging, and MRI cannot be performed; **OR**
- Follow-up of pancreas-related fluid collections (e.g., pseudocysts or walled-off necrosis) detected on prior imaging, including treatment response or when the patient's clinical condition has worsened; **OR**
- Pancreatitis (acute or chronic) with **ANY** of the following:
  - Concern for complications (e.g., necrosis or abscess); **OR**
  - Lack of response to conservative treatment and management; **OR**
- Indeterminate cyst in an asymptomatic patient that requires follow-up and meets **ANY** of the following as outlined in the American College of Radiology (ACR) *Management of Incidental Pancreatic Cysts* (available here)[7]:
  - **ANY** of the criteria included in Figure 1 on p. 2; **OR**
  - **ANY** of the criteria included in Figure 2A on p. 3; **OR**
  - **ANY** of the criteria included in Figure 2B on p. 4; **OR**
  - **ANY** of the criteria included in Figure 3 on p. 5; **OR**
  - **ANY** of the criteria included in Figure 4 on p. 6; **OR**

- Splenic or perisplenic abnormalities and **ANY** of the following is **TRUE**:
  - Detected on prior imaging that requires further workup or follow-up; **OR**
  - Splenomegaly detected clinically, and ultrasound is inconclusive, requiring further workup; **OR**
- Abnormalities of the kidneys with at least one ultrasound of the kidneys for the present condition that requires further workup when **ANY** of the following is **TRUE**:
  - Renal cysts with classification of Bosniak IIF or above (up to annually for 5 years)[2-3]; **OR**
  - Solid indeterminate renal masses (up to annually if requested by urologist); **OR**
  - Renal angiomyolipomas and **ANY** of the following is **TRUE**:
    - Every 5 years when 2 to 3 cm; **OR**
    - Every 2 years when 3 to 4 cm; **OR**
    - Up to annually when greeted than 4 cm; **OR**
  - Characterization of other indeterminate lesions detected with other imaging modalities; **OR**
  - Diagnostic evaluation of concerning signs/symptoms (e.g., pain, concern for rupture, infection, hemorrhage) in a patient with known polycystic kidney disease; **OR**
  - Anatomic abnormalities, congenital or acquired (e.g., horseshoe kidney, ectopic insertion of the ureter, retroperitoneal fibrosis); **OR**
- Infectious/inflammatory disease (e.g., pyelonephritis)with **ANY** of the following[8-9]:
  - Concern for complications (e.g., abscess, obstruction, or lack of response to treatment); **OR**
  - Recurrent; **OR**
  - Before a planned procedure or intervention; **OR**

- Factors indicating high-risk for complicated pyelonephritis, (e.g., pregnancy (MRI is preferred), transplant, and known renal/ureteral calculi); **OR**
- Further evaluation of unexplained hydronephrosis when detected on ultrasound; **OR**
- Followup of renal calculi in the setting of predisposing conditions (e.g., medullary nephrocalcinosis, hypercalcemia, hypercalciuria when ultrasound is non-diagnostic); **OR**
- Renal transplant complication[10]; **OR**
- Microscopic hematuria[11]; **OR**

◆ Conditions related to the prostate, including **ANY** of the following:

- Prostatitis when symptoms are worsening despite treatment; **OR**
- Prostate cancer for **ANY** of the following indications:
    - Initial staging, when cancer is at least unfavorable intermediate-risk when **ANY** of the following is **TRUE**:
        - ◆ **TWO** of the following:
            - T2b–cT2c; **OR**
            - Grade Group 2 or above; **OR**
            - PSA 10–20 ng/m; **OR**
        - ◆ **ANY** of the following:
            - Grade Group 3 or above (4+3 = 7. Note: 3+4=7 is Grade Group 2); **OR**
            - At least 50% of biopsy cores positive for cancer; **OR**
            - PSA greater than 20 ng/mL; **OR**
    - Assess treatment response when carcinoma is poorly differentiated; **OR**
    - Restaging, when metastases are suspected when **ANY** of the following is **TRUE**:

        - Failure for PSA to become undetectable after complete prostatectomy; **OR**
        - Rise of PSA at least 2 ng/dL above the lowest post-treatment PSA; **OR**
        - Persistently rising PSA levels on two tests; **OR**
        - Poorly differentiated carcinoma (may not produce PSA); **OR**
- Conditions related to the genitourinary system, including **ANY** of the following:
    - Bladder conditions including **ANY** of the following:
        - Further evaluation of known bladder pathology seen on cystoscopy; **OR**
        - Concern for bladder or urothelial (kidney or ureter) neoplasm, stricture, or stone based on prior imaging or clinical abnormalities (e.g., persistent hematuria)[12-13]; **OR**
    - Other reproductive organs, including the uterus/ovaries/testicle/fallopian tube/cervix when ultrasound is indeterminate (MRI is preferred); **OR**
    - An undescended testicle, if ultrasound is indeterminate (MRI is preferred); **OR**
    - Postpartum hemorrhage[14]; **OR**
    - Ovarian cysts or indeterminate masses, when ultrasound and MRI are indeterminate or cannot be performed; **OR**
- Conditions related to the vascular conditions, known or suspected, including **ANY** of the following:
    - Unrepaired aortic aneurysm when ultrasound is inconclusive, contraindicated, or requires further workup and follow-up evaluation is based on aneurysm size when **ANY** of the following is **TRUE**[15]:
        - 3 to 3.9 cm, every 2 to 3 years; **OR**

        - 4 to 4.9 cm, annually; **OR**
        - 5 to 5.4 cm, every 6 months; **OR**
    - Abdominal aortic aneurysm screening, one-time when ultrasound is non-diagnostic, contraindicated, or inconclusive; **OR**
    - Routine surveillance of aneurysm when stable on prior follow-up imaging or contrast is contraindicated (note CTA or MRA is preferred for routine follow-up after repair), and **ANY** of the following is **TRUE**:
        - Endovascular aneurysm repair (EVAR) (annual imaging surveillance); **OR**
        - Open surgical repair (OSR) (imaging surveillance every 5 years); **OR**
    - Pulsatile abdominal mass or other high-risk clinical sign or symptom with concern for aneurysm (e.g., severe abdominal pain, hypotension, or suspicion on prior imaging) (CTA is preferred)[16]; **OR**
    - Aortoenteric fistula, when injury to abdominal organs is being considered (CTA abdomen/pelvis is preferred); **OR**
    - Retroperitoneal bleed, suspected[17]; **OR**
    - Systemic (e.g., IVC) or portal venous thrombosis; **OR**
    - Arteriovenous anomalies (e.g., shunts and fistula - CTA preferred); **OR**
- Conditions related to the gastrointestinal conditions, including **ANY** of the following[18-19]:
    - Small bowel conditions including **ANY** of the following:
        - Celiac disease with recurring symptoms despite maintaining a gluten-free diet for 12 months or more; **OR**
        - Suspected or known Crohn's disease when **ANY** of the following is **TRUE**[20]:
            - For initial diagnosis when persisting abdominal pain or unexplained diarrhea or bleeding per rectum; **OR**

        - Follow-up when symptomatic or concern for progression (e.g., increased calprotectin); **OR**
    - Concern for obstruction with supporting clinical symptoms of **ANY** of the following:
        - Vomiting or abdominal pain; **OR**
        - History of prior abdominal surgery and the patient is symptomatic; **OR**
- Large bowel conditions including **ANY** of the following:
    - Acute conditions (e.g., diverticulitis, appendicitis, epiploic appendagitis) in an adult patient based on clinical exam findings including right lower quadrant or left lower quadrant pain when hernia is not suspected[18-19]; **OR**
    - Acute appendicitis in a pediatric (age 17 or less) patient, including **ANY** of the following:
        - Ultrasound is inconclusive, or appendix is not seen; **OR**
        - Peritoneal signs/symptoms present (e.g., rebound tenderness or severe pain); **OR**
    - Initial or follow-up evaluation of ulcerative colitis or other inflammatory pathology limited to the colon when **ANY** of the following is **TRUE**:
        - Colonoscopy is contraindicated or inconclusive; **OR**
        - There is a concern for a complication such as perforation/abscess based on clinical examination (e.g., abdominal pain, peritoneal signs, elevated white count); **OR**
    - Concern for obstruction with supporting clinical symptoms (e.g., severe constipation or lack of flatus or concerning history such as prior abdominal surgery); **OR**

- Mesenteric ischemia or ischemic enteritis/colitis when **ANY** of the following is **TRUE**:
    - High suspicion for ischemic enteritis/colitis or mesenteric/bowel infarct by another imaging study; **OR**
    - Anion-gap metabolic acidosis and/or high lactate in the setting of severe abdominal pain or abdominal pain that is out of proportion to the physical exam; **OR**
    - Known vascular risk factors or known vascular disease (e.g., age greater than 60 years, known coronary artery disease [CAD] or peripheral artery disease [PAD]) with severe abdominal pain or abdominal pain that is out of proportion to the physical exam; **OR**
    - Known vascular risk factors with post-prandial pain that affects daily life (e.g., fear of food, weight loss); **OR**
    - Symptoms or signs indicating lower GI bleeding; **OR**
- Gastric conditions, when endoscopy is contraindicated or inconclusive, or complication is suspected (e.g., perforated gastric ulcer, gastric outlet obstruction, or volvulus); **OR**
- Bowel volvulus, initial workup when suspected based on clinical symptoms, prior imaging, or planned peri-operative imaging; **OR**

◆ Indeterminate adrenal mass (1.0 cm or more) detected incidentally on prior imaging (no follow-up required if a mass contains fat (e.g., myelolipoma), primarily contains calcification, or measures less than 10 HU):

- If 1 to 4 cm with no prior imaging or history of cancer and **ANY** of the following is **TRUE**:
    - 12-month follow-up adrenal protocol CT if the mass is 1 to 2 cm; **OR**,

        - CT adrenal protocol if the mass is 2 to 4 cm; **OR**
    - If 1 to 4 cm with prior imaging available and **ANY** of the following is **TRUE**:
        - Mass is new or enlarging with no history of cancer, then, adrenal CT (if history of cancer, then a biopsy or PET/CT); **OR**
        - Mass is stable at more than 1 year, then, no follow-up is required; **OR**
    - If more than 4 cm, then, surgery or PET/CT; **OR**
- Screening, follow-up, and surveillance of malignancies when **ANY** of the following is **TRUE**:
    - Rising alpha-fetoprotein (AFP) in a high-risk patient or patient with known hepatocellular carcinoma (HCC)[21]; **OR**
    - Elevated CA 19-9 or CEA levels and cancer is suspected[21]; **OR**
    - Painless jaundice[21]; **OR**
    - Gross hematuria[21]; **OR**
    - Other biomarker or paraneoplastic syndrome suggestive of underlying malignancy[21]; **OR**
    - Annual screening of a patient with an increased risk of cancer due to **ANY** of the following:
        - Cirrhosis or chronic viral hepatitis and **ANY** of the following is **TRUE**[22]:
            - Ultrasound is non-diagnostic or requires further workup; **OR**
            - Ultrasound is positive, and confirmation is needed; **OR**
        - Primary sclerosing cholangitis; **OR**
        - Known mutation that increases susceptibility (e.g., Von Hippel Lindau, Tuberous Sclerosis, BRCA-1/2); **OR**

        - The patient has two or more first-degree or second-degree relatives with the same or related cancer from the same side of the family; **OR**

- Neoplastic conditions (including masses or mass-like conditions) and **ANY** of the following:
    - Initial staging for known neoplasm; **OR**
    - Surveillance as per nationally accepted guidelines such as National Comprehensive Cancer Network (NCCN); **OR**
- Pain of unknown source, including **ANY** of the following types of pain:
    - Epigastric pain (e.g., left upper quadrant, right lower quadrant, and left lower quadrant pain not due to hernia - ultrasound recommended if differential diagnosis is abdominal wall hernia)[23]; **OR**
    - Pelvic pain, where ultrasound is indeterminate; **OR**
    - Flank pain, acute onset[24]; **OR**
    - Known hernia with recent onset pain, and there is concern for complication; **OR**
    - Non-localized, acute abdominal pain[3]; **OR**
    - Pelvic pain in a patient of reproductive age, when ultrasound is indeterminate[24-25]; **OR**
- Preoperative or postoperative evaluation for **ANY** of the following:
    - Preoperative imaging for surgical planning when surgery is already planned (e.g., liver, kidney transplant); **OR**
    - Post-treatment complications when surgery was recently performed; **OR**
- Trauma, when injury to abdominal organs is being considered[26]; **OR**
- For evaluation of **ANY** of the following uncategorized/miscellaneous symptoms when applicable:
    - Palpable mass in the abdomen or pelvis with an ultrasound that is non-diagnostic or unlikely to be diagnostic or requires further workup; **OR**

- Follow-up for retroperitoneal fibrosis, suspected or known; **OR**
- Abdominal mass is suspected based on right-sided varicocele; **OR**
- Diffuse edema in the lower extremities with ultrasound Doppler for deep vein thrombosis (DVT) that is non-diagnostic for cause; **OR**
- Suspected hernia (excluding internal and sports hernias) when **ANY** of the following is **TRUE**:
    - Ultrasound is inconclusive or requires workup; **OR**
    - There is a suspected complication (e.g., strangulation, bowel obstruction); **OR**
    - Required for surgical planning; **OR**
- Fistulas (except perianal fistula where MRI is preferred); **OR**
- Lymphadenopathy when **ANY** of the following is **TRUE**:
    - When lymphoproliferative disorder is suspected based on prior imaging or palpable enlarged lymph nodes or B symptoms like night sweats, fever; **OR**
    - Follow-up of known abdominal lymphadenopathy; **OR**
- Fever of unknown origin greater than 101°F for at least 3 weeks where laboratory and clinical workup has been performed and have not revealed a diagnosis[27-28]; **OR**

◆ Repeat imaging (defined as repeat request following recent imaging of the same anatomic region with the same modality), in the absence of established guidelines, will be considered reasonable and necessary if **ANY** of the following is **TRUE**:

- New or worsening symptoms, such that repeat imaging would influence treatment; **OR**
- One-time clarifying follow-up of a prior indeterminate finding; **OR**
- In the absence of change in symptoms, there is an established need for monitoring which would influence management.

Non-Indications

- ➔ **Computed tomography (CT), abdomen/pelvis with contrast** is **NOT** considered appropriate if **ANY** of the following is **TRUE**[29]:
  - ◆ The patient has undergone advanced imaging of the same body part within 3 months without undergoing treatment or developing new or worsening symptoms[35]; **OR**
  - ◆ If contrast is used, history of anaphylactic allergic reaction to iodinated contrast media.

*NOTE: The referring professional and radiologist should discuss the risks and benefits of contrast media administration, including possible prophylaxis, in patients with chronic or worsening kidney disease or severe renal failure.
**NOTE: CT in pregnant patients should be requested at the discretion of the ordering provider and obstetric care provider.
***NOTE: CT in patients with claustrophobia should be requested at the discretion of the ordering provider.

Disclaimer on Radiation Exposure in Pediatric Population

Due to the heightened sensitivity of pediatric patients to ionizing radiation, minimizing exposure is paramount. At Cohere, we are dedicated to ensuring that every patient, including the pediatric population, has access to appropriate imaging following accepted guidelines. Radiation risk is dependent mainly on the patient's age at exposure, the organs exposed, and the patient's sex, though there are other variables. The following technical guidelines are provided to ensure safe and effective imaging practices:

Radiation Dose Optimization: Adhere to the lowest effective dose principle for pediatric imaging. Ensure that imaging protocols are specifically tailored for pediatric patients to limit radiation exposure.[30-31]

Alternative Modalities: Prioritize non-ionizing imaging options such as

ultrasound or MRI when clinically feasible, as they are less likely to expose the patient to ionizing radiation. For instance, MRI or ultrasound should be considered if they are more likely to provide an accurate diagnosis than CT, fluoroscopy, or radiography.[30-31]

Cumulative Dose Monitoring: Implement systems to track cumulative radiation exposure in pediatric patients, particularly for those requiring multiple imaging studies. Regularly reassess the necessity of repeat imaging based on clinical evaluation.[30-31]

CT Imaging Considerations: When CT is deemed the best method for achieving a correct diagnosis, use the lowest possible radiation dose that still yields reliable diagnostic images.[30-31]

Cohere Imaging Gently Guideline

The purpose of this guideline is to act as a potential override when clinically indicated to adhere to Imaging Gently and Imaging Wisely guidelines and As Low As Reasonably Possible (ALARA) principles.

Level of Care Criteria

Inpatient or Outpatient

Procedure Codes (CPT/HCPCS)

CPT/HCPCS Code	Code Description
72192	Computed tomography (CT), pelvis; without contrast material
72193	Computed tomography (CT), pelvis; with contrast material
72194	Computed tomography (CT), pelvis; without contrast material, followed by contrast material(s) and further sections
74150	Computed tomography (CT), abdomen; without contrast material
74160	Computed tomography (CT), abdomen; with contrast material
74170	Computed tomography (CT), abdomen; without contrast material, followed by contrast material(s) and further sections
74176	Computed tomography (CT), abdomen and pelvis; without contrast material
74177	Computed tomography (CT), abdomen and pelvis; with contrast material
74178	Computed tomography, abdomen and pelvis; without contrast material in one or both body regions, followed by contrast material(s) and further sections in one or both body regions
76380	Computed tomography, limited or localized follow-up study

Medical Evidence

Shah et al. (2022) performed a retrospective review of patients who had at least one CT scan of the abdomen (± pelvis) or MRI of the abdomen (± pelvis) at least 30 days post-diagnosis of Crohn's disease (CD) or ulcerative colitis (UC). The review identified factors associated with patients undergoing more than 5 CT scans of the abdomen between 2010 and 2019 and included 176,110 patients with CD and 143,460 patients with UC. From 2010 to 2019, the prevalence of individuals undergoing at least one annual CT scan of the abdomen increased with a mean annual percentage change of +3.6% for CD and +4.9% for UC. A 3.8% increase was found in the proportion of CD patients receiving greater than or equal to 5 CT scans of the abdomen annually compared to a 2.4% increase among UC patients over the ten years. The authors conclude that the prevalence of CT scans in IBD patients has escalated. Future research is needed regarding the determinants influencing the utilization of CT and MRI scans.[32]

Oldroyd et al. (2021) conducted a meta-analysis that focused on using CT to identify underlying asymptomatic cancers. CT scans of thorax, abdomen, or pelvis organs proved to be the most effective in diagnosing cancer cases, accounting for most detections (5 out of 18, 28%). Due to widespread availability and relatively low cost, CT scanning is a potentially valuable approach for cancer screening.[33]

Baron et al. (2018) performed a systematic review and meta-analysis on the accuracy of CT in the diagnosis of intra-abdominal injuries in patients presenting to the emergency department (ED) with anterior abdominal stab wounds. The study aimed to assess the precision of abdominal and pelvic computed tomography (CTAP) in diagnosing intra-abdominal injuries that necessitate therapeutic laparotomy (THER-LAP) in ED patients with acute abdominal or abdominal and pelvic blunt trauma. A total of 575 patients were included. For stable patients with suspected abdominal aortic syndromes, relying solely on a negative CT scan without a period of observation is insufficient to rule out significant intra-abdominal injuries.[34]

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Clinical Guideline Revision History/Information

Original Date: April 29, 2022		
Review History		
Version 2	8/20/2024	Annual review and policy restructure.
Version 3	10/30/2024	Edited repeat imaging criteria language.