

PROTOCOL OVERVIEW

This Clinical Protocol advises on indications, guidelines, and referral for Abdominal Imaging.

INDICATIONS

A. Abdominal Abscess

- Indicated for ANY ONE of the following:
 - ALL of the following are present:
 - ANY ONE of the following symptoms:
 - Persistent abdominal pain
 - Unexplained fever
 - Suspected abscess due to the presence of ANY ONE of the following:
 - Fever of unknown origin, i.e., intermittent, or persistent temperature of 101°F for > 3 weeks without other explanation
 - Recent abdominal surgery
 - Recent infection elsewhere
 - Diverticular disease
 - Recent trauma
 - Immunosuppression
 - Inflammatory bowel disease, i.e., Crohn's disease or ulcerative colitis
 - Follow-up of previously diagnosed abscess

B. Abdominal Aortic Aneurysm

- Indicated as an alternative to ultrasound for ANY ONE of the following:
 - Symptoms suggesting a leak
 - Preoperative evaluation before surgery to assess vascular anatomy or configuration (spiral)
 - As a replacement for ultrasound when images are inadequate due to gas, obesity, or other causes for ANY ONE of the following:
 - Asymptomatic pulsatile mass
 - Initial screening if ALL of the following are present:
 - Male, 65 years of age and older
 - ANY ONE of the following:
 - Significant smoking history
 - Other atherosclerotic disease
 - First-degree relatives with abdominal aortic aneurysms
 - A second screening test after an initial normal screening study, probably after at least 8 years
 - As follow-up test for known abdominal aortic aneurysms
 - Every 6 months if ANY ONE of the following is present; otherwise every year:
 - Growth is >0.4 cm/year
 - Persistently elevated diastolic blood pressure >90 mm Hg

- Patient continues smoking

C. Abdominal Pain

- Indicated for abdominal pain when ANY ONE of the following is present:
 - Equivocal cases of suspected acute appendicitis, (helical)
 - Palpable mass
 - History of malignancy
 - Diverticulitis with suspected abscess
 - Suspected intestinal ischemia
 - Suspected pancreatitis
 - Suspected leaking abdominal aortic aneurysm (AAA)
 - Intestinal obstruction when plain films cannot identify obstruction
 - Blunt or penetrating abdominal trauma

D. Adrenal Mass

- Indicated for ANY ONE of the following (enhanced only when unenhanced is indeterminate):
 - Incidental mass seen on ultrasound with ANY ONE of the following:
 - Initial evaluation
 - Follow-up of benign adenoma
 - 6 to 12 months for lesions < 3 cm
 - 3 to 6 months for lesions between 3 cm and 5 cm
 - Findings suggestive of ANY ONE of the following:
 - Pheochromocytoma (contrast risky if pheochromocytoma suspected)
 - Cushing's syndrome
 - Hyperaldosteronism

E. Appendicitis

- Indicated for cases of suspected acute appendicitis when ALL of the following are present:
 - After surgical consult
 - ANY ONE of the following:
 - Uncertain diagnosis, but only after ultrasound for child, young female, or pregnant patient
 - Suspected abdominal or pelvic abscess, including suspected appendiceal perforation
 - Suspected renal calculi

F. Bladder Cancer, Invasive

- Indicated for staging of invasive bladder cancer

G. Breast Cancer

- Indicated for breast cancer staging when ANY ONE of the following is present:
 - Abnormal liver function tests or hepatosplenomegaly
 - Locally advanced breast cancer, i.e., lymph nodes matted or cancer extends to chest wall
 - Lymph node involvement
 - Distant metastases, known or suspected
 - Bone symptoms

H. Colon Cancer and Colonic Polyps

- Indicated for ANY ONE of the following:
 - During staging process for larger rectal carcinomas and all colon cancers
 - Periodically after initial treatment, usually every 3 to 5 years

I. Crohn's Disease

- Indicated for ANY ONE of the following:
 - Acute flare-ups
 - Symptoms unresponsive to medical therapy
 - Suspected abscess

J. Fever of Unknown Origin (FUO)

- Indicated when ALL of the following are present:
 - Intermittent or persistent temperature of 101°F for > 3 weeks
 - NONE of the following diagnostic evaluations identify a source of the fever:
 - Blood culture
 - Urine culture
 - Chest x-ray
 - PPD skin test
 - Rheumatoid factor
 - ANA
 - Physical exam for ALL of the following:
 - Source of infection
 - Inflammatory process
 - Malignancy

K. Hematuria

- Indicated, increasingly as first choice, for ANY ONE of the following:
 - As initial test for evaluation of hematuria
 - Staging of bladder and renal tumors
 - Evaluation of the renal parenchyma in trauma
 - Evaluation of a mass seen on IVP or ultrasound
 - Perirenal infections
 - Suspected renal colic or calculi

L. Hypertension, Renovascular

- Indicated for ALL of the following (helical CT angiogram, unenhanced):
 - ANY ONE of the following:
 - Hypertension and ANY ONE of the following:
 - Abrupt onset
 - Accelerated or malignant
 - Refractory to at least 3 drugs and a compliant patient
 - Onset of hypertension before 20 years of age
 - Unilateral small kidney
 - Epigastric or renal artery bruits
 - Recurrent, i.e., flash, pulmonary edema
 - ANY ONE of the following:
 - Surgical planning after diagnosis by duplex exam
 - Negative duplex but suspected accessory renal artery
 - Inadequate duplex exam due to bowel gas or obesity

M. Jaundice, Painless

- Indicated when ALL of the following are present (helical):
 - Painless jaundice
 - Negative or indeterminate ultrasound

- No other etiology for jaundice is present, e.g., medications or infectious hepatitis

N. Liver Cancer, Primary or Metastatic

- Indicated for ANY ONE of the following (biphasic, with hepatic arterial and portal venous phases is necessary):
 - Suspected metastatic lesion in the liver, due to presence of ANY ONE of the following:
 - Current or past history of cancer
 - Abnormal liver enzymes
 - Indeterminate mass on ultrasound
 - Surveillance after treatment for liver cancer

O. Liver Cirrhosis

- Indicated for patient with chronic cirrhosis due to any reason and ANY ONE of the following:
 - Elevated alpha-fetoprotein (AFP)
 - Palpable mass
 - Change in clinical condition, i.e., weight loss, jaundice, or worsening anemia

P. Palpable Abdominal Mass

- Indicated for evaluation of palpable abdominal mass (standard or helical)

Q. Pancreatic Disease

- Indicated for ANY ONE of the following (with IV contrast):
 - Acute pancreatitis as test of choice
 - Chronic pancreatitis
 - Evaluation of mass seen on ultrasound
 - Pancreatic pseudocyst and ANY ONE of the following:
 - Initial diagnosis or suspicion
 - Periodic follow-up until resolved
 - Follow-up studies after surgical drainage
 - Suspected neuroendocrine tumor, i.e., insulinoma or gastrinoma, due to presence of ANY ONE of the following (helical):
 - Suspected or known insulinoma due to presence of ALL of the following:
 - Fasting hypoglycemia
 - Elevated plasma insulin levels
 - Suspected or known carcinoid tumor
 - Suspected or known gastrinoma
 - Pancreatic cancer and ANY ONE of the following:
 - Suspected pancreatic cancer due to presence of ANY ONE of the following:
 - Painless jaundice
 - Weight loss
 - Abdominal pain
 - Follow-up of pancreatic cancer

R. Pyelonephritis

- Indicated for ANY ONE of the following (helical):
 - Lack of response to treatment within 48 to 72 hours, probably as second-line test after ultrasound
 - Diabetic patient with severe pyelonephritis
 - Recurrent infection, although ultrasound may better demonstrate anatomy
 - Suspected renal stone disease

- Interventional procedures such as drainage of renal abscess or perinephric or para-renal collections is being planned

S. Renal Cell Cancer, Staging

- Indicated for ANY ONE of the following (enhanced):
 - Initial staging
 - Follow-up after treatment

T. Renal Mass, Incidental

- Indicated for indeterminate mass seen on ultrasound (enhanced equals unenhanced)

U. Renal Colic and Kidney Stones

- Indicated as initial test for all patients with suspected renal stones, when ANY ONE of the following is present:
 - Acute onset of severe, unilateral flank or lower quadrant abdominal pain
 - Radiation to the groin or genitalia is typical
 - Pain tends to be colicky
 - Unable to find a position of comfort when the pain is at its peak
 - Nausea, vomiting, and diarrhea associated with hematuria
 - Urinary frequency and urgency associated with hematuria
 - Acute pyelonephritis poorly responsive to treatment

V. Soft Tissue Mass, Abdominal Wall

- Indicated for ANY ONE of the following:
 - Calcium is seen on plain film
 - Motion prevents ability to perform adequate MRI

W. Testicular Cancer

- Indicated for ANY ONE of the following:
 - Staging of testicular malignancy
 - Evidence of recurrence

X. Trauma, Abdomen

- Indicated after blunt abdominal trauma and ANY ONE of the following:
 - Hematuria
 - Falling hematocrit
 - Hypotension
 - Abdominal pain
 - Clinical suspicion of intra-abdominal injury

CITATION

Milliman Care Guidelines, “Ambulatory Care”, 10th Edition