**Abdominal pain**

**Key Issues:**

* A detailed history and physical examination often is more helpful in establishing a diagnosis for acute **abdominal pain** with less risk to the patient than a premature and costly diagnostic evaluation.
* Early, appropriate general surgery consult may prevent both unnecessary studies and undue delay in care
* Older or immunocompromised patients may have atypical, subtle, or even absent clinical manifestations of disease.
* The more common diagnoses include:
  + Appendicitis
  + Gallbladder disease
  + Gastroenteritis
  + Diverticular disease
  + Intestinal obstruction
* Of patients presenting with acute **abdominal pain**, up to 33% will not result in a specific diagnosis.
  + When no cause is found, serious illness is unlikely and the pain usually resolves.
  + Confirm timely follow-up if etiology is unclear.

**Diagnostic Testing**

* CBC with differential
  + Indicated for most patients with **abdominal pain**
    - Leukocytosis
    - Anemia
* Urinalysis
  + Indicated for most patients with **abdominal pain**
    - UTI can present as **abdominal pain**
    - Glucosuria may suggest diabetic **abdominal pain**
    - Helps establish hydration status
* Serum lipase
  + Indicated for most patients with **abdominal pain** and is probably preferred over amylase
* Liver function tests only if indicated
* Urine or serum pregnancy test
  + Indicated for woman of childbearing age

**Clinical Indications for Imaging**

* Supine and upright films of the abdomen
  + Indicated to evaluate clinical suspicion of ANY ONE of the following:
    - Bowel obstruction
    - Viscus perforation or ischemia
    - Unexplained peritonitis
    - Renal colic
* Ultrasound of pelvis
  + Indicated to evaluate clinical suspicions of ANY ONE of the following:
    - Ectopic pregnancy
    - Equivocal cases of suspected acute appendicitis
    - Acute **abdominal pain** in young adult woman or pregnant woman
    - Ovarian enlargement or cysts
* Ultrasound of abdomen
  + Indicated to evaluate clinical suspicions of ANY ONE of the following:
    - Chronic cholecystitis, gallbladder-wall-thickening, or gallstones
    - Appendicitis as indicated by presence of ANY ONE of the following:
      * After surgical consultation
      * Atypical presentation
      * Pregnant woman or woman with risk of adnexal disease
    - Ectopic pregnancy
    - Ascites
    - Liver masses or enlarged liver
    - Acute **abdominal pain** in young adult woman and pregnant woman
    - Ovarian enlargement on physical exam
    - Renal colic if patient has contrast allergy or serum creatinine >2.0
* CT scan of abdomen
  + 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)
    - Suspected abdominal or pelvic abscess
    - Intestinal obstruction, when plain films cannot identify obstruction
    - Blunt or penetrating abdominal trauma
* Water-soluble GI contrast studies
  + Indicated for ANY ONE of the following (using water-soluble contrast):
    - Suspected perforation
    - Suspected partial intestinal obstruction
* Oral barium contraindicated for patient with suspected colonic obstruction
* Barium enema
  + Indicated for suspected colonic obstruction when possible perforation is not a concern
* Radioisotope scan, e.g., HIDA, PIPIDA
* Angiography
  + Indicated for selected patients when ALL of the following are present:
    - Dull, cramping midabdominal **pain** occurring 15 to 30 minutes after eating
    - Gradual weight loss
    - No other explanation for symptoms
* Magnetic resonance imaging
  + Not routinely used as a primary diagnostic tool

**Clinical Indications for Referral**

* Referral threshold depends on the specific condition diagnosed or suspected
* Refer for ANY ONE of the following:
  + Further evaluation of surgical abdomen
  + Suspicion of peritoneal irritation
  + Persistent **abdominal pain** without explanatory diagnosis
  + Significantly abnormal examination including ANY ONE of the following:
    - Localized tenderness
    - Abnormal rectal examination
    - Heme positive stools
    - Markedly abnormal bowel sounds

**Clinical Indications for Hospitalization**

* Emergent evaluation or management of **1 or more** of the following:
  + Abdominal aortic aneurysm, abscess or dissection
  + Acute abdominal pain, and clinical suspicion of **1 or more** of the following:
    - Acute cholecystitis, Hepatitis, Pancreatitis, Pelvic inflammatory disease, Pyelonephritis, Appendicitis, Bowel obstruction, Cholangitis, Diverticulitis, Ileus, Incarcerated hernia, Mesenteric ischemia, Ovarian torsion, Perforation, Testicular torsion, Volvulus
    - Diabetic ketoacidosis
    - Ectopic pregnancy
    - Intussusception
    - Ischemic bowel disease
    - Malignancy
    - Meckel diverticulum
    - Myocardial infarction
    - Nephrolithiasis
    - Pneumonia
    - Porphyria
    - Pulmonary embolism
    - Sickle cell crisis
    - Trauma
    - Uremia
  + Findings on imaging tests, including **1 or more** of the following:
    - Abdominal free air
    - Bowel obstruction
    - Dilated biliary tree
    - Dilated small bowel loops
  + Findings on physical examination, including **1 or more** of the following:
    - Abdominal pain out of proportion to examination
    - Altered mental status
    - Bloody, maroon, or melenic stool
    - Peritoneal signs
    - Vital sign abnormality
  + Severe “red flag” or “alarm” features including **1 or more** of the following:
    - Fever
    - Light-headedness or syncope
    - Obstipation
    - Overt gastrointestinal blood loss
    - Recent surgery or endoscopic procedure
    - Vomiting or inability to maintain adequate oral intake
* Gastroenterology referral for revaluation or management of chronic abdominal pain and **1 or more** of the following:
  + Clinical suspicion of 1 or more of the following:
    - Chronic pancreatitis
    - Diverticulosis
    - Functional abdominal pain
    - Gastroparesis
    - Inflammatory bowel disease
    - Irritable bowel syndrome
    - Peptic ulcer disease
* Gynecology referral for evaluation or management of **1 or more** of the following:
  + Endometriosis
  + Gynecologic cancer
  + Pelvic inflammatory disease
* Hematology referral for evaluation or management of porphyria
* Interventional radiology referral for fine needle aspiration of suspected infected pancreatic necrosis
* Nephrology referral for evaluation or management of uremia
* Oncology referral for evaluation or management of malignancy
* Urology referral for evaluation or management of nephrolithiasis
* Vascular surgery referral for evaluation or management of abdominal aortic aneurysm

**Reference:**

Milliman Care Guidelines, “Ambulatory Care”, “Abdominal Pain – Referral Management”, 23rd Edition, 2/26/2019.