**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.