

Abdominal Pain	Goroll & Mulley	Porter	Abercrombie	Kasper	Gomella	Paulman	Wasson	Seller	Total	Collected
Aortic aneurysm dissection or rupture	x	x	x		x	x	x	x	7	8
Appendicitis		x	x	x	x	x	x	x	7	18
Cholecystitis		x	x	x	x	x	x	x	7	30
Diverticulitis	x	x	x	x		x	x	x	7	22
Gastroenteritis	x	x		x	x	x	x	x	7	2
Inflammatory bowel disease	x	x	x	x	x	x	x		7	11
Pancreatitis		x	x	x	x	x	x	x	7	16
Peptic ulcer disease	x	x	x	x	x		x	x	7	1
Bowel obstruction	x	x	x		x		x	x	6	42
Ischemic bowel or mesentery	x	x	x		x	x		x	6	4
Pelvic inflammatory disease		x	x	x	x		x	x	6	2
Peritonitis	x	x	x		x		x	x	6	
Ectopic pregnancy			x	x	x		x	x	5	2
Irritable bowel syndrome	x		x			x	x	x	5	
Renal calculi			x	x	x		x	x	5	1
Esophagitis				x	x		x	x	4	
Hepatitis		x	x		x		x		4	
MI (inferior wall)	x			x	x		x		4	
Endometriosis		x	x		x				3	1
Hematoma	x			x	x				3	2
Hernia – incarcerated		x			x			x	3	17
Mesenteric adenitis				x	x			x	3	
Ovarian torsion		x	x		x				3	
Pneumonia	x			x	x				3	2
Porphyria	x	x			x				3	
Pulmonary embolism/infarction	x			x	x				3	1
Pyelonephritis			x	x	x				3	3
Sickle cell crisis		x	x		x				3	
Splenic infarction			x	x	x				3	3
Splenic rupture or abscess		x		x	x				3	4
Biliary tree obstruction	x			x					2	1
Colitis				x	x				2	16

Diabetic ketoacidosis	x				x				2	
Herpes zoster	x			x					2	
Meckel's diverticulum				x	x				2	
Mittelschmerz		x			x				2	
Prostatitis			x				x		2	
Psoas abscess		x		x					2	1
Bowel perforation							x	x	2	8
Cirrhosis			x						1	
Colon cancer				x					1	2
Congestive hepatomegaly			x						1	
Cystitis		x							1	
Food allergy		x							1	
Gastric cancer	x								1	1
Hepatic abscess				x					1	1
Infectious colitis			x						1	
Lead poisoning	x								1	
Mediterranean fever		x							1	
Muscle wall trauma	x								1	
Myositis	x								1	
Nerve invasion	x								1	
Nerve root compression	x								1	
Ruptured ectopic pregnancy		x							1	
Subdiaphragmatic abscess				x					1	
Trauma		x							1	
Typhoid fever		x							1	
Urinary track obstruction	x								1	
Uremia					x				1	
Renal infarction					x				1	
Esophageal rupture					x				1	
Pericarditis					x				1	
Bladder distension					x				1	
Appendagitis epiploicae										9
Vein thrombus (portal, SMV, testicular)										7
Hepatic metastases										4
Lymphoma										4
Gallbladder cancer										3
Pancreatic cancer										3
Perirectal abscess										2
Hepatobiliary dyskinesia										2
Spinal fracture										2
Shunt complication										1
Omphalitis										1
Esophageal cancer										1
Hydronephrosis from ureterocele										1
Hepatic laceration										1

Cholangiocarcinoma										1
ADPKD – liver										1
Hepatic hemangioma										1
Retroperitoneal sarcoma										1
Rib metastases										1
Foraminal stenosis										1
Prostate abscess										1
Uterine distension										1
Pelvic sarcoma										1
Mesenteric lymphadenitis										1

ABDOMINAL PAIN		
Cause	Clinical Features	Imaging Findings
LUNG BASES		
Pneumonia (referred pain)	Cough; fever; elevated WBC count.	Lung base ground glass opacity, consolidation, or effusion.
Pulmonary embolism/infarction	Cough; dyspnea; elevated WBC count.	Lung base Hampton's hump or arterial filling defect.
Pericarditis	Dyspnea; ECG changes.	Fluid, thickening, or calcification of the pericardium.
MUSCULOSKELETAL STRUCTURES		
Nerve invasion	Nerve distribution of pain.	Tumor along the course of the nerve.
Nerve root compression	Dermatomal distribution of pain.	Spinal stenosis, disc herniation, or synovial cyst.
LIVER		
Cirrhosis	Anorexia; fatigue; weight loss; elevated liver enzymes; history of alcohol abuse.	Abnormal morphology of the liver with nodular surface. Atrophy in chronic disease.
Congestive hepatomegaly	Dyspnea.	Large liver; findings of congestive heart failure; hepatic vein reflux.
Hepatitis	Elevated liver enzymes.	Large liver; heterogenous enhancement of the liver with infection/inflammation; fatty liver with steatosis/steatohepatitis.
Hepatic abscess	Fever; elevated WBC count.	Liver mass lacking central enhancement.
Hepatic metastases	History of primary tumor; failure to thrive	Multiple liver masses showing variable enhancement.
SPLEEN		
Sickle cell crisis	Sickle cell disease; anemia.	Bone infarcts and small or absent, infarcted spleen.
Splenic infarction	Acute LUQ pain.	Wedge-shaped non-enhancing segment.
Splenic rupture	Trauma; elevated WBC count.	Discontinuity; contrast extravasation.
Splenic abscess	Elevated WBC count.	Hypodense lesion lacking central enhancement.
GALLBLADDER		
Cholecystitis	Murphy's sign; elevated WBC count.	Obstructing gallstone; gallbladder wall thickening; pericholic fat stranding or fluid.
Gallbladder cancer	RUQ pain.	Mass of the gallbladder.
HEPATOBIILIARY TREE		
Biliary tree obstruction	Elevated liver enzymes.	Dilated biliary tree with or without identifiable intraluminal stone or tumor or extrinsic mass.
PANCREAS		
Pancreatitis	Elevated lipase and amylase; elevated WBC count; history of	Swollen pancreas; peripancreatic fat stranding; ascites; thick walled duodenum (rarely).

	gallstones or alcohol abuse.	
Pancreatic carcinoma	Mid abdominal pain. Features of accompanying pancreatitis.	Pancreatic mass; features of accompanying pancreatitis.
KIDNEYS AND URETERS		
Renal calculi	Hematuria.	Obstructing stone in the kidneys, ureters, or bladder.
Pyelonephritis	Pyuria; elevated WBC count.	Striated nephrogram.
Urinary track obstruction	Hematuria.	Dilated collecting system; stone or intrinsic or extrinsic tumor.
Renal infarction	Hematuria.	Wedge-shaped lack of contrast enhancement.
ADRENALS		
Metastatic disease	Known primary tumor.	Mass.
Hematoma	Anticoagulation, trauma, or adrenal tumor.	Mass.
VASCULATURE		
Aortic aneurysm dissection or rupture	Pulsatile abdominal mass; hypotension or shock.	Distension of aortic lumen; dissection; poor definition of abdominal aortic margin.
SMA thrombus	Sudden onset mid abdominal pain.	Filling defect in SMA; bowel infarction with pneumatosis and venous air
Venous thrombus	Abdominal pain from mesenteric ischemia	Filling defect in superior mesenteric or portal vein or both.
LYMPHATICS/RETROPERITONEUM		
Psoas abscess	Elevated WBC count.	Retroperitoneal mass lacking central enhancement.
Lymphoma	Systemic illness.	Multiple enlarged retroperitoneal lymph nodes.
BOWEL		
Esophagitis	Postprandial pain.	Hiatal hernia.
Esophageal rupture	Vomiting; anorexia.	Free air in the mediastinum.
Gastric cancer	Anorexia; hematemesis.	Stomach wall mass
Gastroenteritis	Mid-abdominal pain.	Thick walled stomach (rarely).
Bowel obstruction	Abdominal distension; increased bowel sounds.	Dilated proximal and collapsed distal bowel; causative lesion at lead point.
Inflammatory bowel disease	Intermittent diarrhea.	Thick walled bowel; peri-enteric fat stranding or fluid.
Ischemic bowel or mesentery	Pain worse after meals; weight loss; other vascular disease (PAD, CAD, stroke).	Air in bowel wall or free air; constricted or absent arterial flow; mesenteric arterial or venous or portal vein thrombosis; fat stranding in mesentery.
Meckel's diverticulum	Elevated WBC count.	Abnormal outpouching of bowel; fluid or fat stranding if inflamed; ectopic gastric mucosa.
Appendicitis	Loss of appetite; rebound tenderness; elevated WBC count.	Swollen appendix; periappendiceal fat stranding or fluid.
Diverticulitis	Elevated WBC count.	Diverticulae plus thick walled colon, pericolic fat stranding or fluid.
Colitis	Diarrhea.	Thick walled large bowel; pericolic fluid or fat stranding.

Colon cancer	Hematochezia.	Thick walled bowel; accompanying obstruction (if present).
Appendagitis epiploicae	Typically LLQ pain.	Pericolonic fat stranding with central fat density adjacent to normal colon.
PERITONEAL CAVITY		
Peritonitis	Rebound tenderness; elevated WBC count.	Ascites or peritoneal fat stranding.
Mesenteric adenitis	Elevated WBC count.	Lymphadenopathy of mesentery; “misty mesentery”.
Bowel perforation	Loss of appetite.	Free air in the peritoneal cavity; fluid or fat stranding.
Subdiaphragmatic abscess	Fever; elevated WBC count.	Subdiaphragmatic mass lacking central enhancement.
ABDOMINAL WALL		
Hernia – incarcerated	Mass; prior surgery.	Bowel loop with focal distension or in abnormal position.
Hematoma	Anti-coagulated from drugs or bleeding disorder.	Soft tissue density in abdominal wall or retroperitoneum (rarely intraperitoneal).
Muscle wall trauma	Trauma.	Hematoma or discontinuous muscle in abdominal wall.
PELVIS		
Pelvic inflammatory disease	Vaginal discharge; cervical tenderness; elevated WBC count.	Pelvic free fluid or fat stranding; tubovarian swelling/mass.
Ectopic pregnancy	Positive pregnancy test.	Adnexal mass, fluid, or fat stranding.
Endometriosis	Pain related to menstrual cycle.	Soft tissue implant in pelvis or peritoneal cavity; ascites; fat stranding.
Ovarian torsion	Adnexal pain.	Adnexal mass, fluid, or fat stranding. Swollen ovary with diminished blood flow.
Prostatitis	Large prostate; elevated WBC count.	Large prostate.
Bladder distension	Palpable bladder.	Dilated bladder; cause (enlarged prostate gland, bladder neck/urethral stone or tumor)
ABDOMINAL PAIN WITH VERY SUBTLE, VERY INFREQUENT, OR NO CT FINDINGS		
Peptic ulcer disease; irritable bowel syndrome; inferior wall MI (unless there is also CHF); porphyria; diabetic ketoacidosis; herpes zoster; Mittelschmerz; cystitis; food allergy; lead poisoning; Mediterranean fever; myositis; typhoid fever; uremia		

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