

| Imaging Findings  | Cause                         |
|---|-------------------------------|
| <b>LUNG BASES</b>   |                               |
| Lung base ground glass opacity, consolidation, or effusion.   | Pneumonia                     |
| Lung base Hampton's hump or arterial filling defect.  | Pulmonary embolism/infarction |
| Fluid, thickening, or calcification of the pericardium.   | Pericarditis                  |
| <b>MUSCULOSKELETAL STRUCTURES</b>   |                               |
| Tumor along the course of the nerve.  | Nerve invasion                |
| Spinal stenosis, disc herniation, or synovial cyst.   | Nerve root compression        |
| <b>LIVER</b>  |                               |
| Abnormal morphology of the liver with nodular surface. Atrophy in chronic disease.  | Cirrhosis                     |
| Large liver; findings of congestive heart failure; hepatic vein reflux.   | Congestive hepatomegaly       |
| Large liver; heterogenous enhancement of the liver with infection/inflammation; fatty liver with steatosis/steatohepatitis. | Hepatitis                     |
| Liver mass lacking central enhancement.   | Hepatic abscess               |
| Multiple liver masses showing variable enhancement.   | Hepatic metastases            |
| <b>SPLEEN</b>   |                               |
| Bone infarcts and small or absent, infarcted spleen.  | Sickle cell disease           |
| Wedge-shaped non-enhancing segment.   | Splenic infarction            |
| Discontinuity. Active contrast extravasation.   | Splenic rupture               |
| Hypodense lesion lacking central enhancement.   | Splenic abscess               |
| <b>GALLBLADDER</b>  |                               |
| Obstructing gallstone; gallbladder wall thickening; pericholic fat stranding or fluid.                                      | Cholecystitis                 |
| Mass of the gallbladder.  | Gallbladder cancer            |
| <b>HEPATOBIILIARY TREE</b>  |                               |
| Dilated biliary tree with or without identifiable intraluminal stone or tumor or extrinsic mass.                            | Biliary tree obstruction      |
| <b>PANCREAS</b>   |                               |
| Swollen pancreas; peripancreatic fat stranding; ascites; thick walled duodenum (rarely).                                    | Pancreatitis                  |
| Pancreatic mass; features of accompanying pancreatitis.   | Pancreatic carcinoma          |
| <b>KIDNEYS AND URETERS</b>  |                               |
| Obstructing stone in the kidneys, ureters, or bladder.  | Renal calculi                 |
| Striated nephrogram.  | Pyelonephritis                |
| Dilated collecting system; stone or intrinsic or extrinsic tumor.   | Urinary track obstruction     |
| Wedge-shaped lack of contrast enhancement.  | Renal infarction              |
| <b>ADRENALS</b>   |                               |
| Mass.   | Metastatic disease            |
| Mass.   | Hematoma                      |

| <b>VASCULATURE</b>   |                                       |
|--|---------------------------------------|
| Distension of aortic lumen; dissection; poor definition of abdominal aortic margin.  | Aortic aneurysm dissection or rupture |
| Filling defect in SMA; bowel infarction with pneumatosis and venous air  | SMA thrombus                          |
| Filling defect in superior mesenteric or portal vein or both.  | Venous thrombus                       |
| <b>LYMPHATICS/RETROPERITONEUM</b>  |                                       |
| Retroperitoneal mass lacking central enhancement.  | Psoas abscess                         |
| Multiple enlarged retroperitoneal lymph nodes.   | Lymphoma                              |
| <b>BOWEL</b>   |                                       |
| Hiatal hernia.   | Esophagitis                           |
| Free air in the mediastinum.   | Esophageal rupture                    |
| Stomach wall mass  | Gastric cancer                        |
| Thick walled stomach (rarely).   | Gastroenteritis                       |
| Dilated proximal and collapsed distal bowel; causative lesion at lead point.   | Bowel obstruction                     |
| Thick walled bowel; peri-enteric fat stranding or fluid.   | Inflammatory bowel disease            |
| Air in bowel wall or free air; constricted or absent arterial flow; mesenteric arterial or venous or portal vein thrombosis; fat stranding in mesentery. | Ischemic bowel or mesentery           |
| Abnormal outpouching of bowel; fluid or fat stranding if inflamed; ectopic gastric mucosa.   | Meckel's diverticulum                 |
| Swollen appendix; periappendiceal fat stranding or fluid.  | Appendicitis                          |
| Diverticulae plus thick walled colon, pericolic fat stranding or fluid.  | Diverticulitis                        |
| Thick walled large bowel; pericolic fluid or fat stranding.  | Colitis                               |
| Thick walled bowel; accompanying obstruction (if present).   | Colon cancer                          |
| Pericolic fat stranding with central fat density adjacent to normal colon.   | Appendagitis epiploicae               |
| <b>PERITONEAL CAVITY</b>   |                                       |
| Ascites or peritoneal fat stranding.   | Peritonitis                           |
| Lymphadenopathy of mesentery; "misty mesentery".   | Mesenteric adenitis                   |
| Free air in the peritoneal cavity; fluid or fat stranding.   | Bowel perforation                     |
| Subdiaphragmatic mass lacking central enhancement.   | Subdiaphragmatic abscess              |
| <b>ABDOMINAL WALL</b>  |                                       |
| Bowel loop with focal distension or in abnormal position.  | Hernia – incarcerated                 |
| Soft tissue density in abdominal wall or retroperitoneum (rarely intraperitoneal).   | Hematoma                              |
| <b>PELVIS</b>  |                                       |
| Pelvic free fluid or fat stranding; tubovarian swelling/mass.  | Pelvic inflammatory disease           |
| Adnexal mass, fluid, or fat stranding.   | Ectopic pregnancy                     |
| Soft tissue implant in pelvis or peritoneal cavity; ascites; fat stranding.  | Endometriosis                         |
| Adnexal mass, fluid, or fat stranding. Swollen ovary with diminished blood flow.   | Ovarian torsion                       |
| Large prostate.  | Prostatitis                           |
| Dilated bladder; cause (enlarged prostate gland, bladder neck/urethral stone or tumor)   | Bladder distension                    |

## **DICTIONARY TEMPLATE WITH PROMPTS FOR ABDOMEN AND PELVIS CT PERFORMED FOR ABDOMINAL DISTENSION**

### CT ABDOMEN AND PELVIS ENHANCED

**INDICATION:** [Review record for fever, tachycardia, WBC, lipase, amylase, and liver enzymes. If abdominal pain dominates the clinical presentation, consider using abdominal pain checklist.]

**COMPARISON:** [Check priors to see if following a known lesion.]

**TECHNIQUE:** Images were obtained from above the diaphragm through the symphysis pubis following oral ingestion of [+volume/brand+] along with IV injection of [+volume/brand+]. [<Portal venous phase and delayed images were obtained following contrast material injection.>]

### INTERPRETATION:

**Lung bases:** [Ground glass opacity, consolidation, or effusion (pneumonia). Hampton's hump or arterial filling defect (pulmonary embolism). Pericardial fluid, thickening, or calcification (pericarditis).]

**Musculoskeletal structures:** [Tumor along the course of a nerve (primary nerve tumor or nerve invasion). Spinal canal or foraminal stenosis, disc herniation, or synovial cyst (nerve root compression).]

**Liver:** [Nodular contour of the liver with or without atrophy (cirrhosis). Enlarged liver with hepatic vein reflux and cardiomegaly, pleural effusion fluid, and lung density (congestive heart failure with congestive hepatomegaly). Enlarged liver with heterogeneous enhancement (infectious hepatitis) or fatty replacement (steatohepatitis). Liver mass lacking central enhancement (abscess). Liver masses with variable contrast enhancement (metastases).]

**Spleen:** [Small or absent spleen with associated bone infarcts (sickle cell disease). Wedge-shaped, base-peripheral area lacking contrast enhancement (splenic infarction). Discontinuous spleen with contrast extravasation (splenic rupture). Spleen mass lacking central enhancement (abscess).]

**Gallbladder:** [Obstructing gallstone, gallbladder wall thickening, pericholecystic fat stranding or fluid (cholecystitis). Mass of the gallbladder (gallbladder cancer).]

**Hepatobiliary tree:** [Dilated biliary tree especially if an obstructing stone or tumor can be identified (biliary tree obstruction).]

**Pancreas:** [Swollen pancreas, peripancreatic fat stranding, ascites (pancreatitis). Pancreatic mass (pancreatic carcinoma).]

**Kidneys:** [Obstructing stone in the kidneys, ureter, or bladder (renal stone disease). Striated nephrogram (pyelonephritis). Dilated collecting system especially if an obstructing stone or tumor can be identified (urinary tract obstruction). Wedge-shaped lack of contrast enhancement (renal infarction).]

**Adrenals:** [Adrenal mass (metastatic disease, hematoma).]

**Vasculature:** [Distended aortic lumen (aortic aneurysm). Aortic flap (dissection). Periaortic stranding and/or contrast extravasation (aortic dissection). Filling defect in the superior

mesenteric artery (SMA clot with mesenteric ischemia). Pneumatosis and/or venous air (bowel infarction). Filling defect in the superior mesenteric or portal vein (venous thrombus).]

Lymphatics/retroperitoneum: [Retroperitoneal mass lacking central enhancement (abscess).

Multiple enlarged retroperitoneal lymph nodes (lymphoma).]

Bowel: [Hiatal hernia (GERD, esophagitis). Free air in the mediastinum (esophageal rupture).

Stomach wall mass (gastric cancer). Thick walled stomach (gastroenteritis). Dilated proximal and collapsed distal bowel with or without obvious causative lesion at the lead point (bowel obstruction). Pneumatosis or venous air (ischemic bowel disease). Peri-enteric fat stranding (inflammatory or ischemic bowel). Thick walled bowel (inflammatory bowel disease).

Abnormal outpouching of bowel near the terminal ileum (Meckle's diverticulum). Swelling of the appendix, abnormal contrast enhancement or thickened wall of the appendix, stone in the appendix, periappendiceal fat stranding (appendicitis). Mass of the colon (colon cancer).

Pericolonic fat stranding with central fat density adjacent to normal colon (appendagitis epiploicae). Diverticulae, bowel wall thickening, and peri-colic fat stranding, with or without free air, free fluid or abscess formation (diverticulitis).]

Peritoneal cavity: [Ascites (peritonitis, pancreatitis, other causes of bowel or peritoneal inflammation/infection). Lymphadenopathy including along the mesenteric root (mesenteric adenitis). Free air in the peritoneal cavity, perienteric fat stranding, extravasation of orally administered contrast material (bowel perforation). Subdiaphragmatic mass lacking central enhancement (subdiaphragmatic abscess).]

Abdominal wall: [Bowel loop with focal distension or in an abnormal position (hernia). Soft tissue density in the abdominal wall (hematoma or abscess).]

Pelvis: [Tubovarian swelling/mass lacking central contrast enhancement with free fluid and fat stranding (pelvic inflammatory disease). Adnexal mass, fluid, or fat stranding (ectopic pregnancy, ovarian torsion). Enlarged prostate (prostatitis). Dilated bladder with or without causative obstructive lesion.]

IMPRESSION: []

## **DICTATION TEMPLATE WITH PROMPTS FOR ABDOMEN US PERFORMED FOR ABDOMINAL DISTENSION**

### ULTRASOUND ABDOMEN RIGHT UPPER QUADRANT

INDICATION: [Review record for fever, tachycardia, WBC, lipase, amylase, and liver enzymes. If abdominal pain dominates the clinical presentation, consider using abdominal pain checklist.]

COMPARISON: [Check priors to see if following a known lesion.]

TECHNICAL INFORMATION: []

### INTERPRETATION:

Liver: Liver: [Nodular contour of the liver with or without atrophy (cirrhosis). Enlarged liver with hepatic vein reflux and pleural effusion fluid, (congestive heart failure with congestive hepatomegaly). Enlarged hyperechoic liver (hepatitis). Liver lesion with a liquid center (abscess). Liver masses (metastases).]

Gallbladder: [Obstructing gallstone , gallbladder wall thickening, pericholecystic fat stranding or fluid (cholecystitis). Mass of the gallbladder (gallbladder cancer).]

Intrahepatic ducts: [Dilated biliary tree especially if an obstructing stone or tumor can be identified (biliary tree obstruction).]

Common bile duct: [Dilated biliary tree especially if an obstructing stone or tumor can be identified (biliary tree obstruction).]

Pancreas: [Swollen pancreas, peripancreatic fat stranding, ascites (pancreatitis). Pancreatic mass (pancreatic carcinoma).]

Kidneys: [Obstructing stone in the kidney or proximal ureter, or bladder (renal stone disease). Hyperemia of the kidney with focal hypodensity (pyelonephritis). Dilated collecting system especially if an obstructing stone or tumor can be identified (urinary tract obstruction). Wedge-shaped lack of flow (renal infarction).]

IMPRESSION: []