

Injuries to the Abdomen

ORGAN OR TISSUE	COMMON INJURIES	SYMPTOMS
Diaphragm	<ul style="list-style-type: none"> Partially protected by bony structures, the diaphragm is most commonly injured by penetrating trauma (particularly gunshot wounds to the lower chest) Automobile deceleration may lead to rapid rise in intra-abdominal pressure and a burst injury Diaphragmatic tear usually indicates multi-organ involvement 	<ul style="list-style-type: none"> Decreased breath sounds Abdominal peristalsis heard in thorax Acute chest pain and shortness of breath may indicate diaphragmatic tear May be hard to diagnose because of multisystem trauma or the liver may "plug" the defect and mask it
Esophagus	<ul style="list-style-type: none"> Penetrating injury is more common than blunt injury May be caused by knives, bullets, foreign body obstruction May be caused by iatrogenic perforation May be associated with cervical spine injury 	<ul style="list-style-type: none"> Pain at site of perforation Fever Difficulty swallowing Cervical tenderness Peritoneal irritation
Stomach	<ul style="list-style-type: none"> Penetrating injury is more common than blunt injury; in one-third of patients, both the anterior and the posterior walls are penetrated May occur as a complication from cardiopulmonary resuscitation or from gastric dilation 	<ul style="list-style-type: none"> Epigastric pain Epigastric tenderness Signs of peritonitis Bloody gastric drainage
Liver	<ul style="list-style-type: none"> Most commonly injured organ (both blunt and penetrating injuries); blunt injuries (70% of total) usually occur from motor vehicle crashes and steering wheel trauma Highest mortality from blunt injury (more common in suburban areas) and gunshot wound (more common in urban areas) Hemorrhage is most common cause of death from liver injury; overall mortality 10%–15% 	<ul style="list-style-type: none"> Persistent hypotension despite adequate fluid resuscitation Guarding over right upper or lower quadrant; rebound abdominal tenderness Dullness to percussion Abdominal distention and peritoneal irritation Persistent thoracic bleeding
Spleen	<ul style="list-style-type: none"> Most commonly injured organ with blunt abdominal trauma Injured in penetrating trauma of the left upper quadrant 	<ul style="list-style-type: none"> Hypotension, tachycardia, shortness of breath Peritoneal irritation Abdominal wall tenderness Left upper quadrant pain Fixed dullness to percussion in left flank; dullness to percussion in right flank that disappears with change of position
Pancreas	<ul style="list-style-type: none"> Most often penetrating injury (gunshot wounds at close range) Blunt injury from deceleration; injury from steering wheel Often associated (40%) with other organ damage (liver, spleen, vessels) 	<ul style="list-style-type: none"> Pain over pancreas Paralytic ileus Symptoms may occur late (after 24 hr); epigastric pain radiating to back; nausea, vomiting Tenderness to deep palpation
Small intestines	<ul style="list-style-type: none"> Duodenum, ileum, and jejunum; hollow viscous structure most often injured by penetrating trauma Gunshot wounds account for 70% of cases Incidence of injury is third only to liver and spleen injury When small bowel ruptures from blunt injury, rupture occurs most often at proximal jejunum and terminal ileum 	<ul style="list-style-type: none"> Testicular pain Referred pain to shoulders, chest, back Mild abdominal pain Peritoneal irritation Fever, jaundice, intestinal obstruction
Large intestines	<ul style="list-style-type: none"> One of the more lethal injuries because of fecal contamination; occurs in 5% of abdominal injuries More than 90% of incidences are penetrating injuries Blunt injuries are often from safety restraints in motor vehicle crashes 	<ul style="list-style-type: none"> Pain, muscle rigidity Guarding, rebound tenderness Blood on rectal examination Fever