

Issue #4: Abdomen

Anatomy

A. Quadrants

RUQ: liver, gall bladder, right kidney, pancreas

LUQ: spleen, stomach, Left kidney, pancreas

RLQ: appendix, cecum, right ovary

LLQ: colon, left ovary

Midline: bladder, uterus

B. Boundaries

Superior – diaphragm

Inferior – iliac crest

Anterior – rectus abdominus

Lateral – obliques

Posterior – thoracic and lumbar vertebrae, iliopsoas muscle

C. Hollow vs Solid

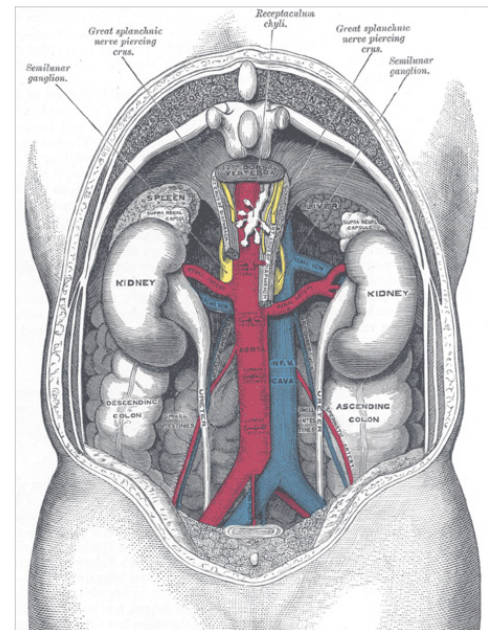
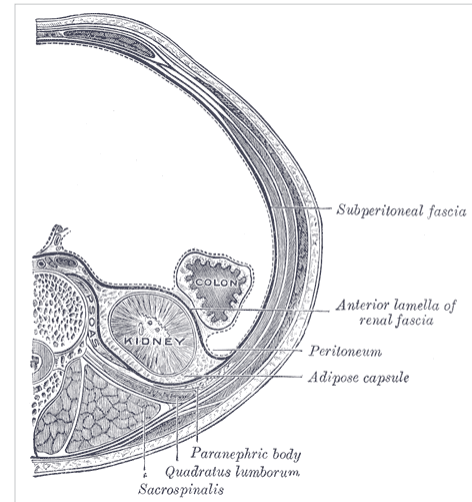
Hollow – stomach, intestines, bladder, uterus

Solid – spleen, liver, pancreas, kidneys

D. Retroperitoneal space

Kidneys

Ureter



References:

Rifat, SF.; Gilvydis, RP; (2003) Blunt abdominal trauma in sports. *Current Sports Medicine Reports*, 2(2): 93-97.

Ryan, JM; (2003) Abdominal injuries and sport. *British Journal of Sports Medicine*, 33(3): 155-160.

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Acute Abdominal Injuries

Muscle strain/contusion

S&S: acute pain increasing with palpation; pain with ROM testing; muscle guarding

Tx: ice, rest prn, NSAID's as indicated

Appendicitis

appendix is the most common cause for urgent abdominal surgery

S&S: initial non-specific discomfort around the umbilicus; specific pain localizing over McBurney's point in RLQ in 12-18 hours; low grade fever; nausea and vomiting; positive Rebound tenderness; positive Iliopsoas/Obturator sign

Tx: immediate referral; appendectomy

Spleen injury

splenic rupture is the most common cause of death due to abdominal trauma in sport; most vulnerable to injury during and after systemic illness such as mononucleosis; spleen can initially splint itself after trauma delaying the hemorrhage

S&S: LUQ pain, radiating pain to left shoulder – Kehr's sign; nausea/vomiting; shock; abdominal rigidity; Rebound tenderness

Tx: immediate referral; possible removal of spleen

Acute pancreatitis

causes include poor diet, obesity, alcohol, abdominal trauma, tumor mass, gall stones

S&S: marked tenderness in the mid epigastrium and possibly entire abdomen; hypoactive bowel sounds;

Tx: referral, intravenous hydration, restriction of oral intake;

Cholecystitis

inflammation or infection of the gall bladder usually caused by gall stones; happens 2-3 times more often in women

S&S: acute onset of severe cramping in the RUQ; pain may radiate into chest, upper back and shoulders; low grade fever, vomiting, pruritis, jaundiced skin; palpable midline and RUQ pain; positive Murphy's sign

Tx: referral, intravenous hydration, antibiotic therapy, analgesics

Ovarian cyst rupture

S&S: sudden and sharp/piercing abdominal pain in the pelvic region; bloating; nausea and vomiting; fever; weakness and dizziness

Tx: immediate referral

Ectopic pregnancy

an abnormal pregnancy that occurs outside the uterus

S&S: initially there may be abnormal vaginal bleeding, low back pain, cramping on one side of pelvis, pain in lower abdomen, nausea; if there is a rupture patient may experience severe, sharp and sudden pain in the lower abdomen, shoulder pain, shock, syncope

Tx: immediate referral

Acute gastroenteritis

an irritation or inflammatory condition of the stomach and intestines caused by a bacteria or virus; often manifests itself as vomiting or diarrhea

S&S: diarrhea, nausea, diffuse abdominal pain, fever, fatigue

Tx: hydration, over the counter medication, bland diet, referral if symptoms persist for 48 hours

Acute Retroperitoneal Injuries

Kidney contusion

S&S: deep, aching pain in the lower back; possible muscle guarding; nausea and vomiting; shock; hematuria (blood in urine)

Tx: referral to determine extent of injury

Kidney stones

S&S: severe pain that starts suddenly and may go away suddenly; pain may be felt in the belly area or side of the back and may move to groin area or testicles; abnormal urine color or hematuria; fever; nausea and vomiting

Tx: referral; small stones may pass on their own; NSAID's; increased water consumption

