


ThinkAskLearn
Health Professional Education

Abdominal Pain

Identifying the life threatening



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The Abdomen

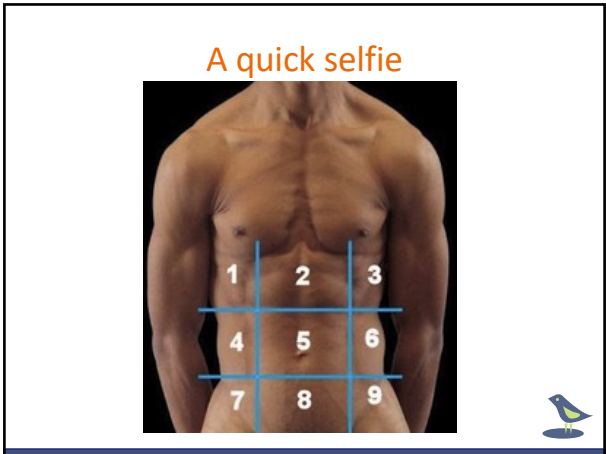
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But Clearly most Abdo Pain....

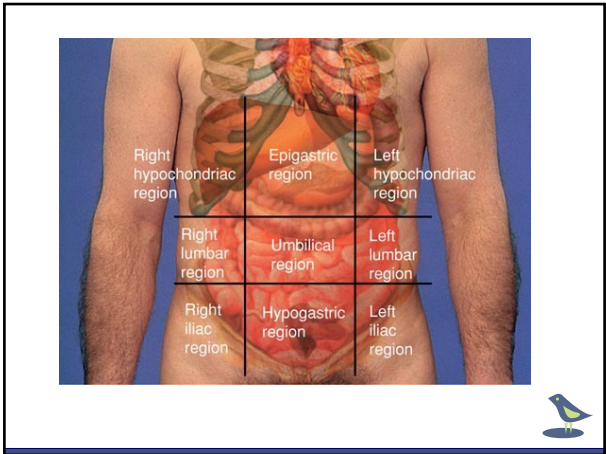
- Common presentation
- Diagnostic dilemma
- Spectrum from minor to extreme
 - 16 year old presents to ED with one episode of vomiting
 - 78 year old with central abdo pain tearing thru to back



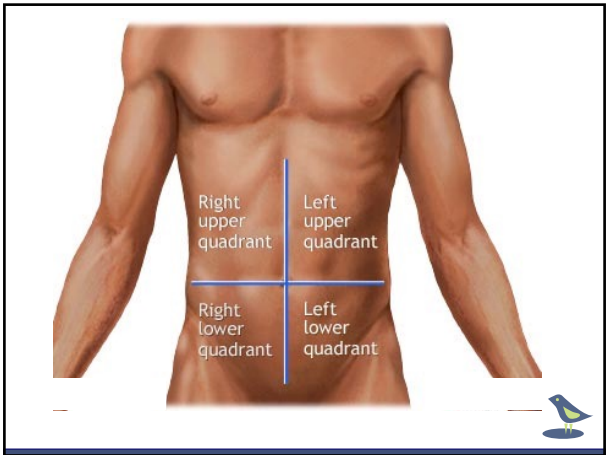
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An approach

- Primary Survey
- Visual Assessment
- Note the vital signs
- Assess degree of discomfort
 - Provide analgesia immediately
 - In ED
 - Oral analgesia maybe ok
 - Have low threshold for IV opioids
 - Consider Ketorolac if possible



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Analgesia Myth

- Sir Zachary Cope
- Assessment of the Acute Abdomen
- 1st edition 1921
- Describe withholding analgesia as it may mask signs of assessment
- Needed to be disproven multiple times



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Cope's Early Diagnosis of the Acute Abdomen

- Still in publication
- Updated removed analgesia issue
- **History** is essential to assessing the abdomen



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High Yield Historical Questions

- How old are you?
 - Advanced age means increased risk
- Which came first – pain or vomiting
 - Pain first more likely surgical condition
- How long have you had the pain
 - <48hrs more likely to be surgical cause



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High Yield Historical Questions

- Have you ever had abdominal surgery?
 - Consider adhesions or obstruction
- Is the pain constant or intermittent?
 - Constant more likely to be surgical
- Have you ever had this before?
 - Nil previous more likely to be surgical



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High Yield Historical Questions

- Do you have a history of cancer, diverticulitis, pancreatitis, kidney failure gallstones or inflammatory bowel disease?
 - All suggestive of more serious disease
- Do you have HIV?
 - Consider occult infection, drug related pancreatitis



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High Yield Historical Questions

- How much alcohol do you drink?
 - Consider pancreatitis, hepatitis or cirrhosis
- Are you pregnant?
 - Test for it!!!, Ectopic pregnancy
- Are you taking steroids or antibiotics?
 - Mask infection



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High Yield Historical Questions

- Did the pain start centrally and migrate to RLQ?
 - Highly specific for appendicitis
- Do you have a history of vascular disease or heart disease, hypertension or atrial fibrillation?
 - Consider mesenteric ischaemia or AAA



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Right Upper Quadrant

Biliary colic
Acute cholecystitis
Hepatitis
Hepatic abscess
Hepatomegaly
Perforated duodenal ulcer
Acute pancreatitis
Myocardial ischemia
Pain of a pulmonary origin

Left Upper Quadrant

Gastritis
Splenic infarction or infection
Myocardial ischemia
Left lower lobe pneumonia

Right Lower Quadrant

Appendicitis
Leaking aneurysm,
Regional enteritis
Meckel's diverticulitis
Abdominal wall hematoma
Incarcerated or strangulated inguinal hernia
Ureteral calculi
Endometriosis
Ruptured ectopic pregnancy
Twisted ovarian cyst
Pelvic inflammatory disease

Left Lower Quadrant

Regional enteritis
Leaking aneurysm
Sigmoid diverticulitis
Incarcerated or strangulated inguinal hernia
Ureteral calculi
Ruptured ectopic pregnancy
Twisted ovarian cyst
Pelvic inflammatory disease

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- Abdo pain is not a feature of uncomplicated gastroenteritis



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A quick case

- A 16 year old male, looks slightly unwell
- C/o Abdo pain
- Had one vomit
- Nil diarrhoea
- What is your approach???
- T37.7, P96, RR 24, SpO2 97% Rm Air BP 117/64



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The acute appendix

- Common cause of the acute abdomen
- Most frequent indications for emergent theatre
- Common in younger adult
- Male to Female ratio 1.4:1
- 233/100 000 population



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Pathophysiology

- Initial inflammation in appendix wall
- Followed by localised ischaemia
- Then perforation
- Development of contained abscess
- Or generalised peritonitis



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Signs and Symptoms

- Abdo pain is most common symptom
- Classic Symptoms
 - RLQ pain
 - Anorexia
 - Nausea and Vomiting (Follow onset of pain)
- 50-60% have migratory pain
 - Starts around umbilicus then moves to RLQ
- Initial features maybe non specific



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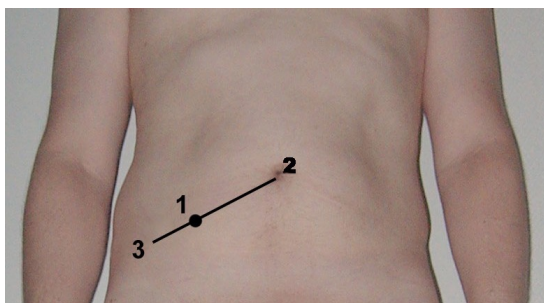
Other Clinical Signs

- Low grade fever ~38.5C
- Raised WCC
 - Unlikely if WCC normal
 - Higher WCC indicated perforated or gangrenous
- Palpate the abdomen
 - Guarding, Rebound tenderness



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Tenderness at McBurney's point
up to 94% sensitivity, 86% specific,



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Rovsing's Sign

up to 68% sensitivity, 96% specific

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Psoas Sign

up to 42% sensitivity, 97% specificity

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Table 3. Appendicitis Inflammatory Response Score¹¹

Variables	Score
Vomiting	1
Pain in right inferior fossa	1
Rebound tenderness or muscular defense	Light Medium Strong
Body temperature > 38.5°C (101.3°F)	1
Polymorphonuclear leukocytes	70%-84% ≥ 85%
WBC count	10.0-14.9 ≥ 15.0
CRP concentration	1-4.9 mg/L ≥ 5 mg/L
Sum	(0-12)

Sum 0-4 = Low probability. Outpatient follow-up if unaltered general condition.

Sum 5-8 = Indeterminate group. Inhospital active observation with rescoring/imaging or diagnostic laparoscopy according to local traditions.

Sum 9-12 = High probability. Surgical exploration is proposed.

Alvarado

Scoring System

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Management

- Supportive care
 - IV fluids, analgesia, NBM
- Antibiotics
- Surgical treatment
- Conservative management
 - Controversial (Research for selection criteria)
 - ~25% of patient require surgery with 1 year

CODA 2020



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Next victim please....

- A 32 year old female presents to triage
- She is an obese patient that is also 28/40 pregnant
- She presents with 8/10 RUQ pain that is constant
- Nausea++, sl vomiting
- Do you send her on to maternity?



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More information please

- Previous Dx of Gallstones
- Febrile
- Tachycardia
- Tender RUQ
- Positive Murphy's sign
 - Unable to take deep inspiration when palpating RUQ



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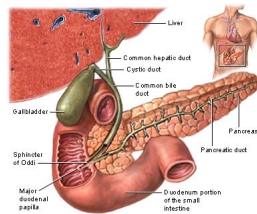
Murphy's Sign



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A quick refresh

- Bile secreted by liver
- Used to breakdown fats
- Stored in Gallbladder
- Feeds into duodenum
- Has fundus, body, neck
- Neck is where stones lodge



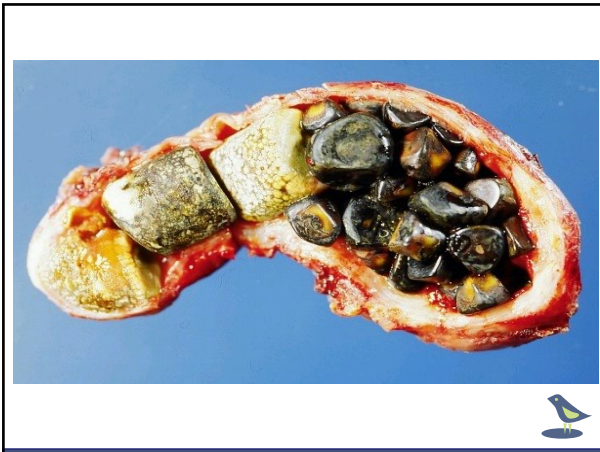
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Gallstone (Cholelithiasis) formation

- Supersaturation of the bile,
- Sludge like precipitant forms
- Microlithiasis occurs (gallstones < 2mm)
- Develop to larger stones
- That way madness lies....



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Phases of Gallstones

- Gallstone disease can be divided into 3 clinical phases :
 - Initial asymptomatic phase;
 - Symptomatic phase characterized by mild non-specific symptoms or biliary colic;
 - Complicated gallstone disease
- Distinct, predictable
- Highly unusual for a complication to be the first manifestation of gallstone disease.



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The Five F's

- Fair
 - Higher rates in Caucasian groups
- Fat
 - Linked to obesity, increased cholesterol
- Forty
 - Rates increase with age
- Fertile
 - Increased exposure to estrogen
- Female
 - Higher rates than males



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ED Management of Gallstones

- IV narcotics
- IV fluids
- USS to confirm presence
 - Measure thickness of gallbladder
 - Presence of Calculi in common bile duct
- Pain settles – Home with referral to surgeon
- Just because there is a gallstone does not necessarily mean it is the cause of the problem



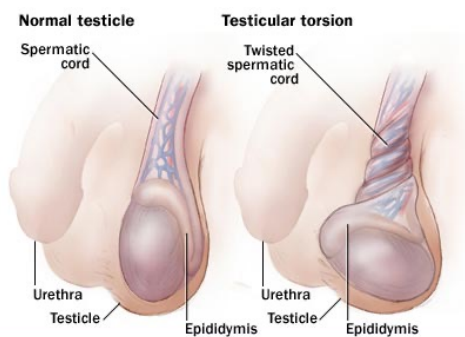
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Another quick case

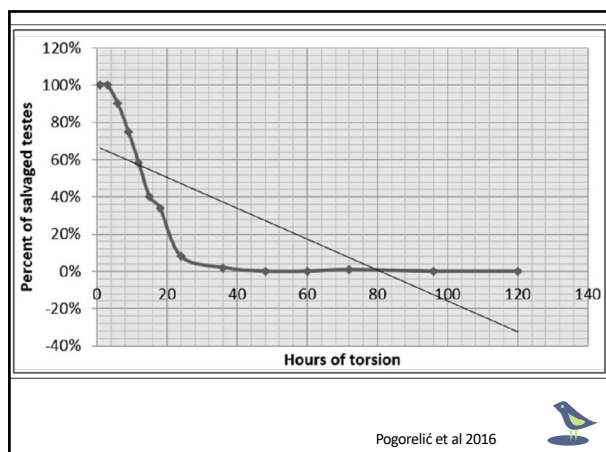
- A 14 year old boy presents to your clinic
- 48hr hx of Lt testicular pain
- Denies trauma
- SL nausea but nil vomiting
- What are your concerns?
- O/E high riding, swollen Lt testis



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Urgent USS

- Needs high triage – Usually Cat 2 especially in pain <6hrs
- Doppler USS
 - Check position and blood flow
- Urgent urological opinion and surgery
- Analgesia
- “Time is testis”

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Conclusion

- Discussed the importance of history
- Identified some (not all) of the life threatening causes of abdominal pain
- Review care of
 - Gastro
 - Appendicitis
 - Torsion

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