

ThinkAskLearn
Health Professional Education

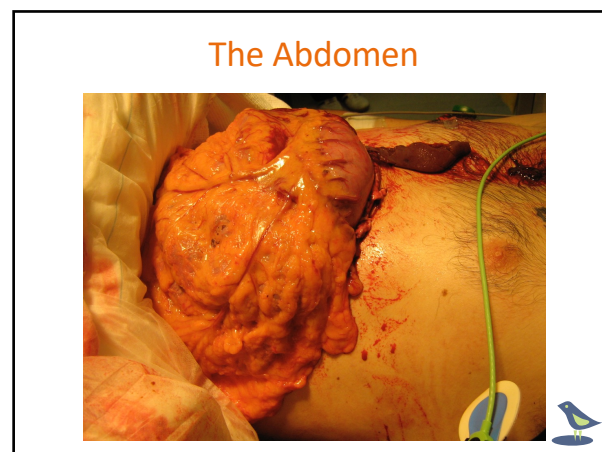
Abdominal Pain

Identifying the life threatening

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www.thinkasklearn.com.au

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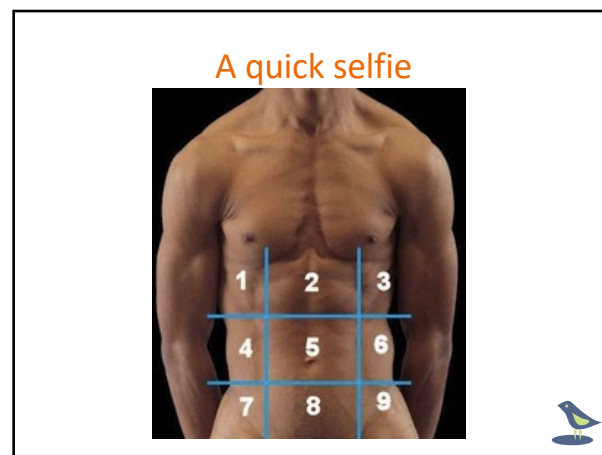


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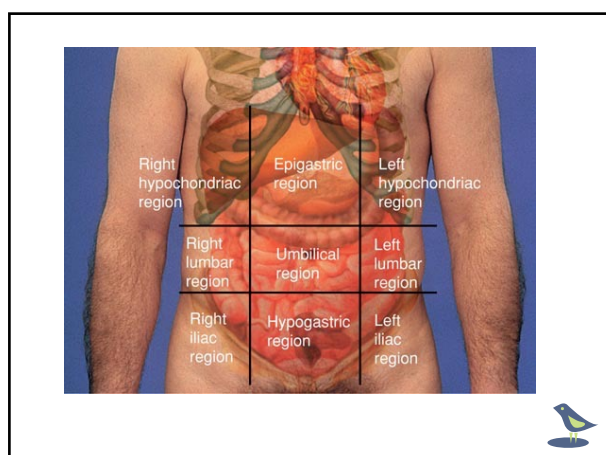
But Clearly most Abdo Pain....

- 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

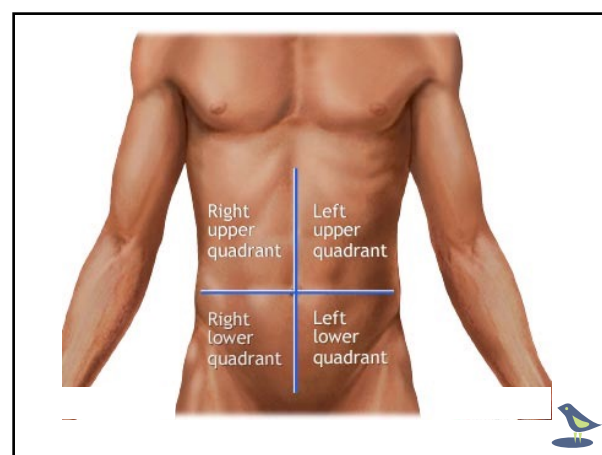
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An approach

- 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


- Are you pregnant?
 - Test for it!!!, Ectopic pregnancy
- Are you taking steroids or antibiotics?
 - Mask infection
- Did the pain start centrally and migrate to RLQ?
 - Highly specific for appendicitis



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High Yield Historical Questions

Older Patients

- 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
 - How much alcohol do you drink?
 - Consider pancreatitis, hepatitis or cirrhosis
- 



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High Yield Historical Questions

Older Patients

- 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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Simple Gastroenteritis

- Nausea
- Vomiting
- Watery diarrhea
- Abdominal cramping
- Fever
- Headache
- Loss of appetite
- Weight loss
- Dehydration



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[illegible]

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But the stool sample may help....

- Some patients should be investigated regardless of the severity of disease
 - Returned travellers
 - Diarrhoea for more than 4–5 days
 - Pts with bloody stools
 - Immunocompromised Pt
 - Suspicion of an outbreak of enteric disease
- Food poisoning is not an indication for stool sample

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Dehydration Assessment

	Mild	Moderate	Severe
Weight loss	Up to 5%	6-10%	More than 10%
Appearance	Active, alert	Irritable, alert, thirsty	Lethargic, looks sick
Capillary filling	Normal	Slightly delayed	Delayed
Pulse	Normal	Fast, low volume	Very fast, thready
Respiration	Normal	Fast	Fast and deep
Blood pressure	Normal	Normal or low	Very low
Mucous memb.	Moist	Dry	Parched
Tears	Present	Less than expected	Absent
Eyes	Normal	Normal	Sunken
Skin Turgor	Springs back	Tents briefly	Prolonged tenting
Fontanel (infant sitting)	Normal	Sunken slightly	Sunken significantly
Urine flow	Normal	Reduced	Severely reduced

Based on Duggan et al 1992

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Original Investigation

Effect of Dilute Apple Juice and Preferred Fluids vs Electrolyte Maintenance Solution on Treatment Failure Among Children With Mild Gastroenteritis A Randomized Clinical Trial

Stephen B. Freedman, MDCM, MSc; Andrew R. Willan, PhD; Kathy Boutis, MD; Suzanne Schuh, MD

JAMA Published online April 30, 2016

- 647 kids aged 6months-60months with mild /moderate dehydration*
- Outcomes – IV rehydration, hospitalisation, ED/GP revisit, ongoing weight loss, other secondary outcomes

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Dilute Apple Juice and preferred fluids vs Commercial ORT

- Treatment failure rate
 - ORT 25% vs Apple 16.7%
- Needed IV rehydration
 - ORT 9% vs Apple 2.5%
- No other outcome difference
- Benefit of apple juice/preferred fluids over electrolyte maintenance solution was most notable in children aged 24 months or older



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Management of Vomiting

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Oral Ondansetron for Gastroenteritis in a Pediatric Emergency Department

Stephen B. Freedman, M.D.C.M., Mark Adler, M.D., Roopa Seshadri, Ph.D., and Elizabeth C. Powell, M.D., M.P.H.

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Management of Vomiting

- 215 kids 6mth-10 yrs
- Randomised to Ondansetron or placebo for mild to moderate gastroenteritis
- All had vomited within 4 hrs prior to enrolment
- 2mg – 8-15kg; 4mg 16-30kg, 8mg for over 30kg
- Oral rehydration as per department protocol 30ml every 5 minutes
- Vomiting - 14% vs 35%, Need IVT – 14% vs 31%
- Increased rates of diarrhoea in Ondansetron group

ORIGINAL ARTICLE
Oral Ondansetron for Gastroenteritis in a Pediatric Emergency Department

Stephen B. Freedman, M.D., M.Sc., Mark Adler, M.D., Rongtao Shih, Ph.D., and Elizabeth C. Powell, M.D., M.P.H.



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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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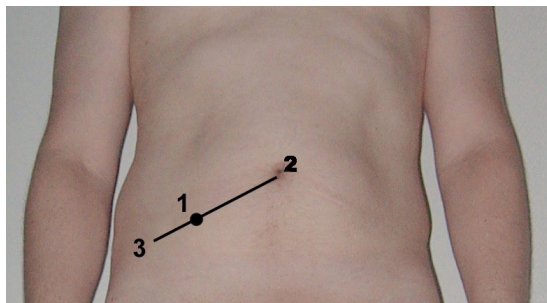
Other Clinical Signs

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



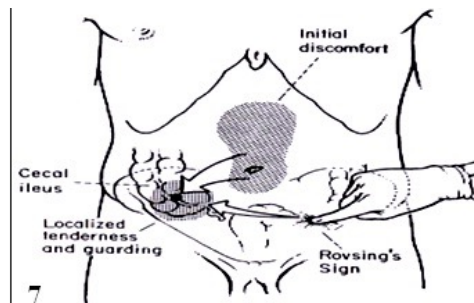
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Tenderness at McBurney's point
up to 94% sensitivity, 86% specific,



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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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Management

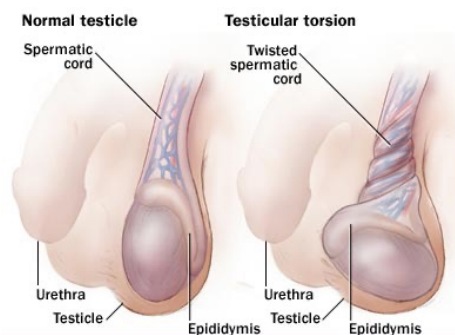
- Supportive care
 - IV fluids, analgesia, NBM
- Antibiotics
- Surgical treatment
- Conservative management
 - Controversial (Research for selection criteria)
 - ~25% of patient require surgery with 1 year

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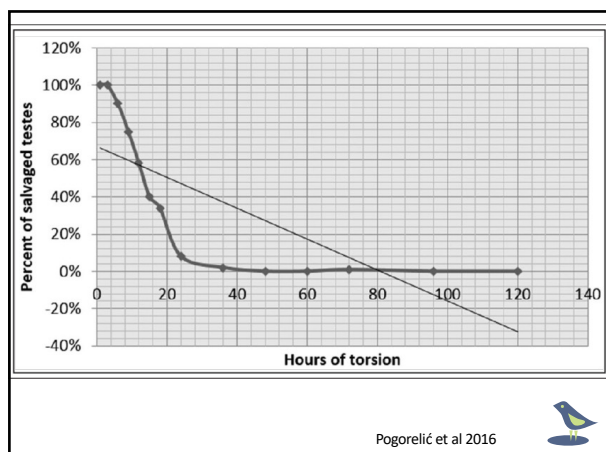
Another quick case

- A 14 year old boy presents to your clinic
- 12hr 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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