Abdominal Assessment
Objectives

- Develop structured approach to abdominal assessment – history taking
- Review the anatomy of the abdomen
- Develop a systematic approach to abdominal physical assessment
- Make accurate clinical / diagnostic decisions related to assessment findings
Communication

Good Communication Can Improve Health Outcomes

- Introduce yourself
- Make patient comfortable
- Ensure privacy
- Ensure dignity is maintained and be culturally aware
- Explain procedures
- Avoid jargon
- Listen to your patient
History Taking - General

- Structured approach
- SOAPIE model
- S – Subjective data
- O – Objective data
- A - Assessment
- P - Plan
- I - Implementation
- E – Evaluation
- Allergies
- PMHX/PSHX

PMHX – past medical history
PSHX – past surgical history
Pain assessment allows the clinician to track the patients response to treatment such as analgesia. A detail description can also be helpful in identifying the pathology that is required to be collected. Pain can be more difficult to assess in the elderly patient, as it may be diffuse. Try not to be swayed by patient’s explanations for their pain, they may lead you down the wrong track.
**High-Yield Historical Questions**

1. How old are you? Advanced age means increased risk.
2. Which came first—pain or vomiting? Pain first is worse (more likely to be caused by surgical disease).
3. How long have you had the pain? Pain for less than 48 hours is worse.
5. Is the pain constant or intermittent? Constant pain is worse.
6. Have you ever had this before? A report of no prior episodes is worse.
7. Do you have a history of cancer, diverticulitis, pancreatitis, kidney failure, gallstones, or inflammatory bowel disease? All are suggestive of more serious disease.
8. Do you have human immunodeficiency virus (HIV)? Consider occult infection or drug-related pancreatitis.
9. How much alcohol do you drink per day? Consider pancreatitis, hepatitis, or cirrhosis in patients with history or signs of significant intake.
10. Are you pregnant? Test for pregnancy—consider ectopic pregnancy.
11. Are you taking antibiotics or steroids? Effects of these drugs may mask infection.
12. Did the pain start centrally and migrate to the right lower quadrant? High specificity for appendicitis.
13. Do you have a history of vascular or heart disease, hypertension, or atrial fibrillation? Consider mesenteric ischemia and abdominal aneurysm.


**Red Flags from the elicited History**

*(should raise the index of suspicion of more serious causes)*

- Pain that:
  - Is steady, severe, and progressing pain
Anatomy - Quadrants

Abdominal quadrants

To perform a systematic E.S assessment, try to visualize the abdominal structures by dividing the abdomen into four quadrants, as shown below.

**Right upper quadrant**
- Right lobe of liver
- Gallbladder
- Pylorus
- Duodenum
- Head of the pancreas
- Hepatic flexure of the colon
- Portions of the ascending and transverse colon

**Right lower quadrant**
- Cecum and appendix
- Portion of the ascending colon

**Left upper quadrant**
- Left lobe of the liver
- Stomach
- Body of the pancreas
- Splenic flexure of the colon
- Portions of the transverse and descending colon

**Left lower quadrant**
- Sigmoid colon
- Portion of the descending colon
Pt may require postural BP and HR – document any postural dizziness.
Patients Position

• Lie flat
• One pillow under head
• Arms alongside the body
• Abdomen exposed – above xiphoid process to symphysis pubis
• Can expose the area in stages to preserve the patient's dignity
When documenting, use these to describe the patient's general appearance. Patients that lie very still with shallow breathing should be assessed for an acute abdomen.
Visceral pain – stretching of the peritoneum or organ capsule

Pain Positions

• Parietal Pain – peritoneal irritation – fetal position
• Visceral Pain – lie supine with legs outstretched – dull, deep, aching
• Occlusion in hollow organ – restless prefer to be upright - colic

• Numerical Rating Scale
  0 – 10 Scale
  0 is no pain
  10 is the worst pain experienced
Scars – could indicate previous surgery or trauma – old scars are usually white new scars are red/pink.

Stomata – colostomy, ileostomy, ileal conduit


Local swelling – enlargement of the one of the abdominal organs

Veins – portal hypertension

Pulsations – AAA

Peristalsis – could be normal in thin patients – intestinal obstruction

Skin lesions – herpes/sister Joseph nodule

Discolouration – cullens / grey turner
Absent bowel sounds can only be documented if not present for 4 mins and this is from a paralytic ileus.

Obstructed bowel sounds – louder and higher pitch with a tinkling quality due to the presence of air and liquid.
Percussion

- Taping the middle finger with the other middle finger while it is pressed against the patient's abdomen
- Allows clinician to identify structures under the abdomen
- Sounds of percussion
  - Dull – solid/fluid filled structures (liver/spleen)
  - Tympany – Air filled spaces (stomach)
Each region can be palpated – regions can also be used to document the location of tenderness.
Seven Abdominal Signs

- **Cullen’s Sign**
  - Look for a blue tinged haemorrhagic patch around the umbilicus
  - Indicative of haemorrhagic pancreatitis
- **Grey Turner’s Sign**
  - Asses for evidence of bluish discoloration to flanks/ lower back
  - Indicative of haemorrhagic pancreatitis
- **Kehr’s Sign**
  - Patient may c/o left shoulder tip pain
  - Indicative of splenic injury, ruptured ectopic
Seven Abdominal Signs

• Ballances Sign
  • O/E percussion over the LUQ is dull
  • Indicative of splenic injury, accumulation of blood

• McBurneys Point
  • The patient has pain in the RLQ, 1/3 the distance from the anterior ileac crest to the umbilicus
  • Indicative of appendicitis
Rovsing’s sign – pressure over the descending colon produces rebound tenderness in the RLQ.
## Diagnostic Tests

- Depend on the findings of the Abdominal Examination

<table>
<thead>
<tr>
<th>Common blood tests</th>
<th>Normal range</th>
<th>Significance in abdominal pain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haemoglobin</td>
<td>13.1-18 (males) 11.5-16.5 (females)</td>
<td>May be lowered with acute or chronic blood loss</td>
</tr>
<tr>
<td>White blood cells</td>
<td>4-11</td>
<td>May be raised in the presence of infection</td>
</tr>
<tr>
<td>Platelets</td>
<td>150-400</td>
<td>May be lowered in blood loss. If abnormal, clotting levels should also be checked</td>
</tr>
<tr>
<td>Sodium</td>
<td>135-145</td>
<td>Abnormalities of electrolytes may be present during vomiting and diarrhoea</td>
</tr>
<tr>
<td>Potassium</td>
<td>3.5-5.0</td>
<td></td>
</tr>
<tr>
<td>Urea</td>
<td>3.0-6.5</td>
<td>Urea and creatinine may be raised in renal impairment. Urea alone may be raised in severe dehydration</td>
</tr>
<tr>
<td>Creatinine</td>
<td>60-125</td>
<td></td>
</tr>
<tr>
<td>Amylase</td>
<td>0-160</td>
<td>Raised in pancreatitis. May also be raised with a perforated ulcer</td>
</tr>
</tbody>
</table>


- Cole et. al. (2006)
Diagnostic Tests

- B. hcg – females in child bearing age
- Urine analysis
  - Blood – infection/renal stones
  - Protein – infection
  - Nitrates – infection
  - Leukocytes – infection
  - Bilirubin – hepatic/biliary disease
  - Ketones – anorexia/vomiting/DKA
Analgesia

• True surgical cases will not be masked by analgesia
• Early pain relief is essential
• Decision - IV analgesia or oral analgesia with a sip of water – will depend on the patients degree of pain
• Evaluate effectiveness of analgesia
## Types and Locations of Abdominal Pain

- **Disorder**
- **Pain**
- **Referred Pain**

<table>
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<tr>
<th>Disorder</th>
<th>Pain</th>
<th>Referred Pain</th>
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<tbody>
<tr>
<td>Abdominal Aortic Aneurysm</td>
<td>Central Abdominal &amp; Back Pain</td>
<td>Back</td>
</tr>
<tr>
<td>Appendicitis</td>
<td>Periumbilical pain to RLQ pain</td>
<td>Right shoulder pain</td>
</tr>
<tr>
<td>Bowel Obstruction</td>
<td>Epigastric or periumbilical pain</td>
<td></td>
</tr>
<tr>
<td>Cholecystitis</td>
<td>Middle epigastric pain</td>
<td>Right shoulder/scapula pain</td>
</tr>
<tr>
<td>Diverticulitis</td>
<td>LLQ pain</td>
<td></td>
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<tr>
<td>Pancreatitis</td>
<td>Middle epigastric pain or periumbilical pain</td>
<td>Back, left flank and left shoulder</td>
</tr>
<tr>
<td>Pelvic Inflammatory disease</td>
<td>Lower abdominal pain</td>
<td></td>
</tr>
<tr>
<td>Ectopic Pregnancy</td>
<td>One side lower abdominal pain</td>
<td>Shoulder tip pain</td>
</tr>
</tbody>
</table>
Red Flags

- Change in vital observations – increased RR, hypotension
- Pain that changes location
- Pain that awakens the patient from sleep
- Weight loss
- Pain that persists for longer than 6 hours
- Pain post vomiting
- Elderly
- Diabetics
- Immunocompromised patients
- Anyone you are concerned about
References & Acknowledgement

References

- Connick K (2010) Unraveling the Cases of Abdominal Pain and Developing a Nursing Plan of Care, Nursing Consult – CIAP

Developed with thanks

- Carlie Tighe, ED CNC Sydney LHN