A child or adolescent with acute or chronic abdominal pain

Abdominal pain is a common symptom in childhood. The causes of acute abdominal pain include surgical conditions (e.g., appendicitis, intussusception) which can be difficult to diagnose in infancy.

About 20 - 30% of school aged children will suffer from chronic or recurrent abdominal pain at sometime during childhood.

Study focus

During your attachment you need to work toward achieving the following:

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Skills</th>
<th>Attitudes</th>
</tr>
</thead>
<tbody>
<tr>
<td>List the causes of acute abdominal pain in infancy and childhood.</td>
<td>Show how to assess the infant or child presenting with an acute abdomen.</td>
<td>Communicate empathetically with child and caregivers.</td>
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<tr>
<td>List the features that distinguish organic from functional recurrent abdominal pain.</td>
<td>Show how to assess the school-aged child with recurrent abdominal pain.</td>
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<tr>
<td>Know how to perform a HEADS assessment in an adolescent.</td>
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<td></td>
</tr>
</tbody>
</table>

Reading

Abdominal examination

Textbook, page 14

Acute abdominal pain

Textbook, Chapter 29

Chronic abdominal pain

Textbook, Chapter 33

The Starship Hospital Guidelines provide a more detailed account of Recurrent Abdominal Pain. (Note: You are not required to be familiar with this level of detail.)

Viewing

1. Examination example

Watch 'Examination of the abdomen' by Dr Raewyn Gavin. Follow the link to 'Viewing' at the top of this page.

2. DVD: 'Spotting the sick child'
View the section on abdominal pain, available on the ‘Spotting the Sick Child’ DVD. Key background information, history, examination, red flags and headings (peritonitis, intussusceptions, blood in the stools, abdominal masses, vomiting bile).

### 3. Intussusception

View images of pathology:

- Intussusception - surgical view
- Diagram - pathology
- Ultrasound scans

### 4. Lumps in the groin in infancy

1. Watch ‘Examining the groin’. Dr Udaya Samarakkudy, Paediatric Surgeon, Waikato Hospital, examines the groin of a very young infant.

2. View the images illustrating groin lumps.

3. Watch ‘Hernia reduction’ - a video clip demonstrating the reduction of a hernia in an infant.

(These are all available on the viewing page for this section.)

### 5. HEADSS Assessment

View the presentation entitled ‘Adolescent consultation: Confidentiality and HEADSS assessment’ on the viewing page for Headaches.

### Critical practice points

Though gastroenteritis is the commonest cause of acute abdominal pain always consider surgical conditions.

**Intussusception**

Sudden onset of screaming and pallor with pain free intervals in an infant 3-18 months of age. Passage of blood per rectum is a late sign indicative of gut ischaemia. Careful abdominal examination sometimes reveals a sausage shaped mass. Diagnosis is confirmed by ultrasound. Failure to diagnose this can lead to gangrene of the gut and peritonitis.

**Appendicitis**

More common after 5 years of age. Features similar to adults. It is particularly difficult to diagnose in infants and young children. If suspected or can’t be excluded clinically referral for specialist assessment is essential.

Some conditions presenting with abdominal pain in children are due to non-gastrointestinal conditions e.g. urinary tract infections, pneumonia, diabetic ketoacidosis.
Consider gynaecological causes in teenage girls (dysmenorrhoea, pelvic inflammatory disease, ovarian cyst and haematocolpos).

**Clinical assessment**

**Red flags for chronic or recurrent abdominal pain**

When any of the following are present, functional chronic or recurrent abdominal pain of childhood is unlikely:

- Pain not confined to periumbilical area (the further the pain is from the umbilicus the less likely it is to be functional).
- Pain at night / waking from sleep
- Change in bowel habit or blood in the stools
- Vomiting
- Intermittent fever
- Weight loss
- Lethargy
- Poor growth
- Involvement of other system e.g. rash, joint pain
- Anaemia or raised acute phase reactants

Read the text to see what other conditions should be considered when the features above are associated with recurrent abdominal pain. See text pages 82 and 83.

**Management**

See text for management of specific conditions.

See [Case example - Mark](#) for management of recurrent abdominal pain.
The videos have been suppressed for demonstration purposes!
Case example - David

7 year-old boy with recurrent abdominal pain

David is a 7 year-old boy who has had abdominal pain almost daily for 3 months. Take a history and perform a physical examination to present to your registrar with whom you are working in clinic.

Q What questions would you ask David and his mother?

Click here to view their responses

The pain is situated around the umbilicus. It starts in the morning shortly after getting up.

It is never associated with vomiting and has never woken him at night. He has the pain most days of the week and it usually lasts til mid morning. He has a reasonable appetite and has no change in bowel habit. He opens his bowels daily. He has no other symptoms. He remains active playing sport regularly. On average he is missing 2 days of school each week. There is no family history of bowel disease. He has a bother aged 9 with difficult to manage ADHD.

Q What else do you want to know?

Click here to view what else you find out

School:

- Academic progress, any change?
- Peer relationships: does he have a good friend, any change in friends?
- Is there bullying at his school?
- Does he feel mostly happy or sad?
- How would he rate his mood on a scale of 1 - 10 where 1 is very happy and 10 is very sad.
- Does he sleep well at night?

How much attention does David get from his parents relative to that they give to his brother?

What diseases are David and his mother concerned that he may have?

Q What investigations would you request?

Click here for recommended investigations

FBC, ESR or C reactive protein

Physical exam is normal

Q What further information should you seek?

Click here to view the further information provided

David is making good academic progress at school. He is a popular boy with many friends.

There are no symptoms to suggest depression.

David's mother was particularly worried that he might have leukaemia after seeing a programme on TV.

You are able to reassure his mother based on the normal physical examination and the normal full blood count and ESR.

Q How would you manage David?

Click here to view recommended mangement
David's mother or father should devote 10 minutes of quality time to David each evening. This is time that his parents spend with him where they are not interrupted by his brother.

Management of school absenteeism.

When the pain is severe David can be given paracetamol and lie down. As soon as his pain starts to improve mid morning he is taken to school.

If his pain recurs during class he can go to the sickbay to lie down and as soon as his pain starts to improve he returns to class.

David should be reassessed by his GP in 2 weeks to monitor progress. Sometimes keeping a diary of the pain is helpful.

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**Practice points**

- It is important to emphasise to parents that recurrent abdominal pain without an obvious cause is common in childhood.

- Recurrent abdominal pain in childhood is often related to changes in the child's environment.

- Parents sometimes worry that their child has a serious disease which is being missed. You need to specifically ask about this as parents will rarely volunteer this information.

- Parents need guidance on how to get their child back to school. It is important to enlist the help of the teacher to manage the pain at school.
Case example - Mark

10 year-old boy with intermittent abdominal pain

Mark is a 10 year-old boy who has had intermittent abdominal pain for 6 months.

Q Take a history and perform a physical examination to establish what should be done.

Click here for the history

Mark's pain is ill-defined but has stopped him from playing his favourite sports. His appetite has diminished and his father thinks he has lost weight. He often complains of lethargy and has difficulty concentrating at school. He has had 3 episodes of diarrhoea with blood and mucus. He occasionally has painful joints. There is no family history of note.

Click here for findings on examination

Mark is pale. He looks thin and has very little subcutaneous fat. He has ill-defined abdominal tenderness. Inspection of his anus reveals no fissures or ulcers.

Q What investigations would you request and why?

Click here for recommended investigations

- FBC, ESR or CRP
- Platelet count
- Albumin
- Iron studies

Mark is likely to have chronic inflammatory bowel disease – most likely Crohn's disease. This presents very non-specifically and is usually associated with raised acute phase reactants, iron deficiency anaemia, a low serum albumin and an increase in the platelet count.

Red Flags

What red flags in the history and examination make recurrent abdominal pain of childhood unlikely?
Case example - Mary

14 year old girl with abdominal pain for two weeks

Mary is a 14 yr old girl who attends her GP with a 2 week history of abdominal pain. She attends with her mother. Both seem anxious and Mary is very reticent and avoids eye contact.

Q How would you approach the assessment?

Click here for how to proceed

After introducing yourself and finding out the purpose of the visit you explain to Mary and her mother that it is your practice to see all teenagers by themselves and that they are entitled to confidential health care.

You also explain the limits of confidential health care with both Mary and her mother and the need for safety, i.e. if there were any concerns about Mary’s or anybody else’s safety you would need to talk with her mother and/or whoever else may be appropriate.

Q What would you ask Mary?

Click here to see what you need to establish

You will need to establish the details of her abdominal pain.

Her period is 2 weeks overdue

You perform a HEADS assessment and establish that she has been having sex with her boyfriend and is concerned she may be pregnant. She is worried that her mother may find out as her mother is unaware that they have been sexually active.

Q What do you do now?

Click here for next steps

You perform a pregnancy test and this is negative. You check a urine sample for infection including STI’s.

Mary seems very much happier once she knows that she is not pregnant. You explain to Mary the need for contraception with ideally both condoms and an oral contraceptive to prevent both pregnancy and sexually transmitted infections. You arrange to get Mary back in a week to discuss the results and further contraception choices.

Practice point

Unless adolescents are seen by themselves and assured of confidentiality they are unlikely to disclose important medical information.
Case example - from text

Work through Case 9 on page 142 and page 146 of your text.