Clinical Guideline

ABDOMINAL PAIN IN CHILDREN

SETTING	Primary and Secondary Healthcare Institutions in the Western Cape which refer to Red Cross War Memorial Children's Hospital (RCWMCH)
FOR STAFF	Primary and Secondary Doctors and Nurses who refer patients to RCWMCH
PATIENTS	Patients under the age of 13 years old with abdominal pain

Introduction

Abdominal pain accounts for at least 10% of presentations to the health service and a clear diagnosis is often not identified. It is the role of the medical professional caring for the patient at first contact to differentiate patients with serious pathology from those with non-serious pathology.

It is the goal of this guideline to assist doctors and nurses working in the primary and secondary setting in making this differentiation confidently and to then undertake the correct management and refer when appropriate.

Background

Although appendicitis is the first diagnosis that comes to mind when one thinks of abdominal pain in children, it is, in fact, only responsible for 1% of presentations with abdominal pain to the general practitioner.

The following is a list of the 10 most common causes of abdominal pain, listed in order of frequency:

1. Non-specific abdominal pain (unknown cause)
2. Gastroenteritis
3. Constipation
4. Urinary tract infection
5. Viral infection
6. Appendicitis: (~1% of general practitioner visits for abdominal pain)
7. Streptococcus Pharyngitis
8. Pharyngitis
9. Pneumonia
10. Otitis Media

As you can see, many of these can be identified on clinical assessment and appropriately managed at the primary level of care.

Important details on history

What is the duration and severity of the abdominal pain?
What is the character of the pain: cramping (coming and going, pulling pain) vs stabbing (severe sharp pain, worsens when moving)?
Has the child had a similar episode of pain before? What happened that time?
Are there any associated symptoms such as vomiting, constipation diarrhoea or dysuria?
If there is GIT upset, did this start prior to the pain or was the pain the initial symptom that the patient complained of?

Is there a history of recent viral illness or symptoms of an respiratory tract infection (cough, sore throat, ear pain)?
If the child is a female ≥10-years-old, routinely ask about menarche, menstrual symptoms and sexual activity.
Confirm comorbidities and any recent trauma.

Important details on examination

Evaluate for signs of dehydration and haemodynamic instability
General examination (petechiae, cellulitis, rash jaundice etc)
Full ENT examination: especially tonsilitis and otitis media
Respiratory examination:

- Careful assessment to exclude pneumonia (especially left lower lobe pneumonia which classically presents with abdominal pain)

Abdominal examination:

- Abdominal tenderness, distension or a mass?
- Assess for organomegaly
- Describe pain according to its location and the presence or absence of peritonism

Universal investigations

Urine dipstick is non-negotiable in every patient with abdominal pain.
Pregnancy test is **all** females ≥10 years old.
FBC, CRP and cultures in all patients with a fever ≥ 38°C
U&E in all patients a significant history of vomiting, poor feeding or dehydration

Management and referral guidance

Patient with the following **RED FLAGS** should be resuscitated and then referred for urgent surgical assessment in a unit which has the capacity to undertake surgical management as needed:

- Vital signs abnormal: especially tachycardia >100 bpm
- Skin/ peripheries: cool & clammy, suggesting poor perfusion
- Pain that wakes patient up at night
- Associated gastrointestinal symptoms, especially if the pain preceded the GI symptoms.
- Abdominal tenderness of >6 hours with associated gastrointestinal and inflammatory signs and symptoms/ acute abdomen (i.e. peritonitis on percussion or palpation of abdomen)?
- Vomiting bile or blood, or blood per rectum

Patient should receive ivi access, baseline bloods should be sent and ivi fluid should be initiated.
NGT should be placed on free drainage if vomiting is a feature
Analgesia should be initiated in all patients with abdominal pain

Please do not initiate antibiotics unless the patient is in septic shock, as this will interfere with feature assessment and investigation. Patients with signs of septic shock may be initiated on broad spectrum ivi antibiotic (such as Co-amoxiclav) after appropriate bloods and cultures have been taken.

Non-surgical diagnosis	Clinical features	Management

Gastroenteritis	- Diarrhoea and vomiting are the initial features with abdominal pain becoming a feature later in the disease process. - Abdominal pain is cramping in character. - NO concerns of tenderness or peritonism on abdominal examination.	Fluids and reintroduction of diet as per general paediatric protocol
Constipation	- Longstanding history of constipation associated with intermittent mild cramping pain. - Faecaloma may be palpable. - No concerning clinical finding to suggest sepsis. - No peritonism or tenderness on abdominal examination. - If bloods are done, inflammatory markers should be normal.	Please see constipation guideline for management protocol of constipation
Urinary tract infection	- Suprapubic pain - History of dysuria - Raised nitrites and WBC on urine dipstick - No concern for peritonism on abdominal examination. - NOTE: WBC on urine alone is not diagnostic of a urinary tract infection and can be present in the case of appendicitis.	Please see guideline on the diagnosis, investigation and management of UTI
Viral infection	- Symptoms of viral infection preceding abdominal pain - May have high fever - Abdominal examination shows no tenderness or peritonism - Infective markers not significantly raised	Symptomatic management of viral illness
Pharyngitis and Otitis Media	- Identified on standard ENT examination done in all patients presenting with abdominal pain - Abdominal examination shows no peritonism	Please see alternative guidelines from paediatrics or ENT
Pneumonia	- Features of lower respiratory infection on clinical examination - Confirm the diagnosis with CXR	Management as per LRTI

Safety-netting and danger signs

Atypical presentations of surgical conditions are well known, and it is important that parents are given information on what to look out for and what to do if symptoms don't settle.

All patients who present with abdominal pain who are not referred for further assessment should receive clear instructions on what to do should their symptoms persist, recur or worsen.

Please advise patients to return in the following circumstances:

- Pain gets worse
- New or recurrent pyrexia
- Worsening vomiting and diarrhoea
- Any of the above **RED FLAGS** become evident
- Child is not back to their usual baseline within 48 hrs

In the case of re-presentation, it is wise to reassess in full and consider a low threshold for further investigation and referral for assessment by paediatrics or surgery depending on the findings of your reassessment.

Please see the Standard treatment guidelines for paediatric in hospital care for assessment of recurrent abdominal pain.

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