PAEDIATRIC ACUTE CARE GUIDELINE	
Right Iliac Fossa Pain	
Scope (Staff):	All Emergency Department Clinicians
Scope (Area):	Emergency Department

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Right Iliac Fossa Pain

A guide to right iliac fossa pain and appendicitis.

General

- Appendicitis is one of the most common surgical conditions of the abdomen
- Although today it is regarded as a simple disease, it remains the most commonly misdiagnosed surgical emergency
- Appendicitis usually results from luminal obstruction of the appendix, followed by infection

Assessment

- Appendicitis, when it presents in the “classic” way, is easy to diagnose clinically
- However, appendicitis is notorious for its protean manifestations, and no single symptom, sign or diagnostic test is reliable on its own in making the diagnosis
- In children, the mainstay of the diagnosis of appendicitis is a good history and repeated physical examinations
- Other than urinalysis to exclude a UTI, special investigations are usually not indicated

History

- The “classic” progression of symptoms is:
    - loss of appetite

    - dull periumbilical pain followed by nausea
    - migration of the pain to the right iliac fossa (RIF)
    - vomiting
    - occasionally loose stools
- However, very young children with appendicitis may lack this history of progression and migration of pain and have a tendency towards early perforation and systemic illness
- Likewise, the differential diagnostic possibilities are increased in the adolescent female who has started menses

Examination

A good approach to the diagnosis of appendicitis is to look for evidence of the following things:

- **Infection**: This may include low-grade fever
- **GIT upset**: This includes anorexia, nausea, vomiting and occasionally loose stools
- **RIF involvement**: Pain, tenderness, localised peritonitis (guarding, rebound tenderness)
    - **Rovsing sign** (RIF pain when palpating the LIF)
    - **Psoas sign** (RIF pain on hyperextension of the right hip)
    - **Obturator sign** (RIF pain on internal rotation of the flexed right hip)
- These signs are more relevant in older children

- The typical picture in the infant is the septic appearing child who has generalised abdominal tenderness
- If generalised peritonitis develops, then guarding and rebound tenderness also becomes generalised
- An inflamed appendix adjacent to the urinary bladder or a ureter may give rise to irritative urinary symptoms, pyuria and haematuria
- Vomiting which precedes abdominal pain is unlikely to be due to appendicitis
- Non-abdominal features of the examination – such as ability to hop, move around, climb onto the trolley undistressed may help to support or refute the likelihood of appendicitis

Investigations

Urine:

- In all cases where appendicitis is suspected, a urine should be checked to exclude urinary tract infections
- Remember that appendicitis, as well as fever itself may give rise to mild pyuria or haematuria

Other Tests:

These should only be done in cases where diagnosis is uncertain and if they will change management and can include:

- **Abdominal X-Ray:** is unhelpful in diagnosing appendicitis. It does have a place however in cases where perforation or generalised peritonitis are suspected. Look for RIF air-fluid levels or faecolith.
- **U&E:** These should only be checked if the child has had profuse vomiting and is thought to be dehydrated. Electrolyte abnormalities and dehydration need to be corrected before surgery.
- **Ultrasound / CT:** These modalities are increasingly being used to aid in the diagnosis of appendicitis, and are helpful in excluding other causes of abdominal pain. They should only be ordered on the request of the surgeon or Senior ED Doctor, following his/her assessment of the patient.
- **FBC / CRP:** Literature is inconsistent as to the WBC parameters in children with appendicitis. Although a raised WCC / CRP suggests infection, it is neither sensitive nor specific for appendicitis.

Initial management

- Keep patient NBM (insert a nasogastric tube (NGT) if vomiting is continuous)
- If shocked, **resuscitate**:
    - Insert IV cannula
    - Bloods: FBC, U&E, Group and Hold
    - IV fluid bolus 0.9% saline – 20mL/kg and repeat if required
- Rehydrate over 8 hours if dehydrated
- Maintenance IV fluids alone if otherwise well. See ED Guideline: Fluids – Intravenous Therapy.
- Electrolytes: Correct significant abnormalities if indicated
- Analgesia: Usually IV morphine is required. See ED Guideline – Analgesia.
- **Antibiotics**: IV antibiotics may be requested by the General Surgical Team. Use Piperacillin/Tazobactam 100mg/kg (maximum dose 4g piperacillin). See ED Guideline – Antibiotics.

Further management

If the diagnosis is uncertain:

- In some cases where a clinical diagnosis of appendicitis could not be made or definitely excluded, the child should have a review by the General Surgical Team
- Some of these children will need to be admitted under a surgeon and observed for a period of 12-24 hours in a centre where surgery can be performed
- During this observation period they may be kept nil by mouth, given appropriate IV fluids and adequate analgesia, and have regular abdominal examinations
- In children with non-localising signs or very recent onset of symptoms (unlikely appendicitis), it may be reasonable to discharge the child home with clear instructions for parents to represent to the Emergency Department if the symptoms progress

Nursing

- Keep patient nil by mouth (NBM) until advised otherwise by the General Surgical Team
- Apply EMLA cream (but if unwell IV cannula may be inserted immediately)
- Minimum of hourly observations – HR, RR, BP, Temp
- Minimum of hourly pain score
- Strict fluid balance chart

Tags

abdo, abdomen, abdominal, acute, anorexia, appendicitis, appendix, diarrhoea, febrile, fever, git, guarding, haematuria, infection, loose stools, nausea, obturator sign, pain, peri umbilical, peritonitis, periumbilical, psoas sign, pyuria, rebound, RIF, right iliac fossa, right iliac fossa pain, right lower quadrant, rlq, rovsing sign, septic, stomach, tenderness, vomiting

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