Appendicitis Management Pathway

Introduction

This pathway is for use with children aged 2-18 years old with no underlying disease or co-morbidity who have a confirmed diagnosis of appendicitis (either non-perforated or perforated) by the General Surgery Team who require a surgical appendectomy or medical management. Patients are to be removed from this pathway if there are significant postoperative complications (eg. bowel obstruction or prolonged TPN) or a change in diagnosis.

Target Users

- General Surgery Surgeons, Residents, Fellow, Nurse Practitioners, and nurses on the inpatient units

Definitions

- **Non-perforated appendicitis** - Appendix is normal, injected, inflamed or suppurative. Presence of cloudy fluid +/- local fibrinous exudate, or gangrenous appendicitis but with no visible hole in appendix, abscess or free fecalith
- **Perforated appendicitis** - Visible hole in appendix, free fecalith, diffuse peritonitis with fibrinous exudate or abscess
- **Appendectomy** - Surgical removal of the appendix
- **Fever** - A fever is defined as any temperature reading greater than 38°C
Appendicitis Management Pathway

Recommendations - Printable Version

**Appendicitis Algorithm**

1. **ED with confirmed diagnosis of Appendicitis on ultrasound**
   - ED to consult General Surgery team and initiate ED Appendicitis pathway.

2. **Are there signs of perforation on ultrasound?**
   - Yes: Initiate medical management of perforated appendicitis with IV ceftriaxone/metronidazole, using Epic order set. **Refer to guideline**.
   - No: Proceed with perforation surgery.

3. **Is perforation seen on ultrasound?**
   - Yes: Admit patient to General Surgery for further management.
   - No: Discharge child home if discharge criteria met.

**Post-op:**
- Convert to oral antibiotics when child is able to take fluids for at least 24 hours.
- Switch to oral antibiotics when child is able to tolerate a minimum of 48 hours of oral intake and tolerating oral hydration.
- Continue IV ceftriaxone/metronidazole until drain is removed.

**Additional Considerations:**
- **Ceftriaxone** is recommended for 7 days of oral antibiotics.
- **Abdominal wall abscess** should be considered if there is evidence of perforation.
- **Antimicrobial therapy** should be reconsidered if there is evidence of perforation.
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**Notes:**
- If the patient is clinically worse, consider an additional IV antibiotic (e.g., Piperacillin/Tazobactam).
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# Inpatient Non-Perforated Appendicitis Care Pathway

## Pre-Operative
- 1. Hydration maintained
- 2. Adequate pain control
- 3. Patient prepared for OR
- 4. CHILD/Animal are advised of pre-op bath. Wipes to be used upon arrival. Refer to procedure document

## Physical Exam
- Obtain history
- Complete physical exam
- Assess vital signs
- Complete pain assessment (refer to Pain Assessment Guidelines)
- Obtain accurate in and out

## Post-Operative
- 1. Allopurinol
- 2. Adequate pain control
- 3. Antibiotics
- 4. Able to tolerate diet (clear fluids to regular diet)
- 5. Incision intact, no draining, dry and intact

## Physiological
- Complete pain assessment every 4 hours
- Ensure child has adequate pain control (refer to Pain Management Guidelines)
- Maintain vital signs as per Bedside Pecs (see Inpatient General Pathway)
- Obtain accurate in and out
- Complete abdominal assessment

## Resource
- Ensure that patient is NPO
- Administer D50 and 0.9 NaCl with 20mm HCl at maintenance
- Order as indicated
- Refer to Fluid and Electrolyte Guidelines

## Medication
- Consider acetaminophen 1 mg/kg Q6h for pain
- Ketorolac or bupivacaine as needed for pain management
- Morphine IV bolus PRN

## Activity
- Diet: Advance diet as tolerated
- Pain: Acetaminophen and ibuprofen (if not contraindicated) for 48 hours then as needed
- Review need for pain management

## Activity Education
- Inclusion care:
  - Leaks sterile-skin until fall off or removed after 10 days
  - Once sterile-skin removed, may wash incision gently with soap and water
- Signs and symptoms of wound infection:
  - Fever
  - Redness around incision
  - Drainage from incision
  - Increasing pain around incision
- Follow-up:
  - May shower or bathe, 48 hours after surgery
  - Activity:
    - Ambulate in hallway
    - May return to daily activities as patient feels able
# Inpatient Perforated Appendicitis Care Pathway

## DAY OF ADMISSION
1. **Hydration maintenance**
2. **Adequate pain control**
3. **Patient prepared for OR if surgical management required**
4. **Catheterized if pre-op bed bath. Viper to be used upon arrival. Refer to **appendectomy department**

## DAY #1
1. **Abdrel**
2. **Adequate pain control**
3. **Antibiotics**
4. **Able to tolerate clear liquids (immediately post-op)**
5. **Increase intake, no drainage dry and intact**
6. **If Nasogastric Tube present, advance from intermittent suction to straight drainage**

## DAY #2 - #3
1. **Abdrel**
2. **Adequate pain control**
3. **Antibiotics**
4. **Able to tolerate regular diet**
5. **Incision dry and intact**
6. **If drainage present, advance from straight drainage to stoma and remove**

## DAY #4
1. **Abdrel**
2. **Adequate pain control**
3. **Antibiotics**
4. **Able to tolerate regular diet**
5. **Incision dry and intact**
6. **Child and family understand discharge teaching**
7. **Able to tolerate oral antbiotics**

## RELATED DOCUMENTS
- **E-formulary**
- **Sepsis Pathway**
- **Pain Management Guidelines**
- **Pain Assessment Guidelines**
- **Fluid & Electrolyte Guidelines**

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Related Documents

E-formulary
Sepsis Pathway
Pain Management Guidelines
Pain Assessment Guidelines
Fluid & Electrolyte Guidelines
References

6. Children's Hospital of Philadelphia: Appendicitis without Known GI Disease Clinical Pathway- Emergency
7. Children's Hospital of Philadelphia: Appendicitis Clinical Pathway- Inpatients
8. Cincinnati Children's Hospital: Emergency Appendectomy Clinical Pathway
14. Inpatient and Surgical Care: Appendectomy for Ruptured Appendix with Abscess or Generalized Peritonitis Care Guideline
28. University Hospitals of Cleveland: Pediatric Appendicitis/Simple Laparoscopic/Open Technique Care Path
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Attachments:
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appendicitis algorithm.pdf
Non perforated appy pathway.pdf
Non perforated appy pathway.rtf
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