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
Recommendations - Printable Version

Appendicitis Algorithm

Recommendations:

1. **Child in ED with confirmed diagnosis of Appendicitis on ultrasound:**
   - ED consult General Surgery team and initiate ED Appendicitis underet.

2. **Are there signs of perforation on ultrasound?:**
   - Yes: Initiate surgical management.
   - No: Continue medical management of perforated appendicitis with IV colostrum/metronidazole, using Epic order set. Refer to #Dormitory.

3. **Is perforation present on ultrasound?:**
   - Yes: Initiate medical management of perforated appendicitis with IV colostrum/metronidazole, using Epic order set. Refer to #Dormitory.
   - No: Continue medical management of perforated appendicitis with IV colostrum/metronidazole, using Epic order set. Refer to #Dormitory.

4. **Are there drainable collections on ultrasound?:**
   - Yes: Continue medical management of perforated appendicitis with IV colostrum/metronidazole, using Epic order set. Refer to #Dormitory.
   - No: Discharge child home if abdominal distension has further diminished.

5. **Post-op:**
   - Continue IV colostrum/metronidazole, using Epic order set. (Refer to #Dormitory)
   - Convert to oral antibiotics when child is afebrile for a minimum of 48 hours, tolerating oral diet and maintaining oral hydration. Abdominal pain managed/improving.

6. **Switch to a second Consult (pediatrician/obstetrician) to emphasize additional 7 days of oral antibiotics (days 1-7) if patient stays on oral antibiotics. (Refer to #Dormitory)

**Notes:**

- If the patient clinically worsens, consider upgrade to IV pyelography/V映egraphy. If no ultrasound within the past 2-3 days, repeat in order to evaluate for drainable collection.
- **Alternative oral antibiotic therapy with Ciprofloxacin and Metronidazole may be considered in settings of confirmed beta-lactam allergy.**
- **Antibiotic therapy should be reassessed based on any available microbiological data (i.e., if cultures are obtained from an abdominal abscess aspiration).**
- **A fever is defined as any temperature reading greater than 38°C (refer to Severe Clinical Pathway).**
## Inpatient Non-Perforated Appendicitis Care Pathway

### Pre-Operative

1. Hydration maintained
2. Adequate pain control
3. Fasted prepared for OR
4. Child and family are advised of pre-op bath. Wipes to be used upon arrival. Refer to procedure document

### Post-Operative

1. Antibiotics
2. Adequate pain control
3. Antiemetic
4. Able to tolerate diet (clear fluids to regular diet)
5. Incision sutured, no drainage, dry and intact
6. Child caregiver teaching

### Goals

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

### Physiological

- Ensure that patient is NPO
- Administration D5W and 0.9 NaCl with 20mm KC1 at maintenance
- Bowels as indicated
- Refer to Fluid and Electrolyte Guidelines

### Medication

- Ceftriaxone/Nafcilisazolyl IV, if allergy then Cilindimicin or Ciprobactam & Metronidazole. Refer to the e-formulary
- Pain medication as needed, morphine
- Acetaminophen as needed for pain
- Naproxen PRN

### Activity

- Activity as tolerated
- Consent for surgery
- Procedures for child and caregiver
- Review parental involvement in care (pre and post-operatively)

### Diet

- Advance diet as tolerated

### Pain

- Acetaminophen and ibuprofen (if not contraindicated) for 48 hours then as needed
- Review need for pain management

### Signs and symptoms of wound infection:

- Fever
- Redness around incision
- Drainage from incision
- Increasing pain around incision

### Follow-up

- Confirm need for follow-up with Primary Surgeon
- Family doctor/education in 1-2 weeks

### Date: ____________________
Inpatient Perforated Appendicitis Care Pathway

DAY 1

1. Hydration maintained
2. Adequate pain control
3. Patient prepared for CR if surgical intervention required
4. Gastrostomy are avoided of any other surgical. Vipers to be used upon arrival. Refer to the appropriate department

DAY #1 - 3

1. Alkalosis
2. Adequate pain control
3. Anticholinergics
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 #4

1. Alkalosis
2. Adequate pain control
3. Anticholinergics
4. Able to tolerate regular diet
5. Incision dry and intact
6. Start to advance on oral intake

DAY #5

1. Alkalosis
2. Adequate pain control
3. Ambulation
4. Able to tolerate regular diet
5. Incision dry and intact
6. Child and family understand discharge planning
7. Allow to tolerate oral antibiotics

Inpatient Perforated Appendicitis Care Pathway

1. Hydration maintained
2. Adequate pain control
3. Patient prepared for CR if surgical intervention required
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6. If nasogastric tube present, advance from intermittent suction to straight drainage

DAY #4

1. Alkalosis
2. Adequate pain control
3. Anticholinergics
4. Able to tolerate regular diet
5. Incision dry and intact
6. Start to advance on oral intake

DAY #5

1. Alkalosis
2. Adequate pain control
3. Ambulation
4. Able to tolerate regular diet
5. Incision dry and intact
6. Child and family understand discharge planning
7. Allow to tolerate oral antibiotics

Printable Version

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: Appendixectomy for Ruptured Appendix with Abscess or Generalized Peritonitis Care Guideline


28. University Hospitals of Cleveland: Pediatric Appendicitis/Simple Laparoscopic/Open Technique Care Path


Appendicitis Management Pathway
Guideline Group and Reviewers

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Attachments:
appendicitis algorithm.docx
appendicitis algorithm.pdf
Non perforated appy pathway.pdf
Non perforated appy pathway.rtf
Perforated appy pathway.pdf
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