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 (e.g. 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

Recommendations - Printable Version

Appendicitis Management Pathway
## Inpatient Non-Perforated Appendicitis Care Pathway

<table>
<thead>
<tr>
<th>Goal</th>
<th>Pre-Operative</th>
<th>Post-Operative</th>
<th>Discharge: Within 24 hours Post-Op</th>
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</thead>
<tbody>
<tr>
<td><strong>PHYSICAL EXAM</strong></td>
<td>Obtain history • Complete physical exam • Assess vital signs • Complete pain assessment (refer to Pain Assessment Guidelines) • Obtain accurate in and out</td>
<td>Complete pain assessment every 4 hours • Ensure child has adequate pain control (refer to Pain Management Guidelines) • Monitor vital signs as per Bedside Orders • Refer to Fluid and Electrolyte Guidelines</td>
<td>1. Algesia 2. Adequate pain control 3. Ambulating 4. Able to tolerate diet (clear fluids to regular diet) 5. Incision intact, no drainage, dry and intact</td>
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<tr>
<td><strong>L/S</strong></td>
<td>Ensure that patient is NPO • Administer 500 ml and 0.9% NaCl with 20mm Hg CO2 at maintenance • Bolus as indicated • Refer to Fluid and Electrolyte Guidelines</td>
<td>Clear fluids to regular diet as tolerated • IV to maintenance, TKPO once adequate oral fluid intake • Bolus as indicated • Refer to Fluid and Electrolyte Guidelines</td>
<td>1. Algesia 2. Adequate pain control 3. Ambulating 4. Able to tolerate diet 5. Incision dry and intact 6. Child caregiver teaching</td>
</tr>
<tr>
<td><strong>MEDICATION</strong></td>
<td>Ceftriaxone/Metronidazole IV if allergy then Clindamycin or Ciprofloxacin &amp; Metronidazole. Refer to e-formulary • Pain medication as needed, morphine acetaminophen NSAIDs. Refer to the e-formulary</td>
<td>Acetaminophen as needed for pain/fever • Ketalud or Buclizine as needed for pain management • Morphine IV bolus PRN</td>
<td></td>
</tr>
<tr>
<td><strong>ACTIVITY/REHAB</strong></td>
<td>Activity as tolerated • Consent for surgery • Pre-op procedures for child and caregiver • Review parental involvement in care (pre and post-operatively)</td>
<td>Diet: • Advance diet as tolerated • Pain: • Acetaminophen and ibuprofen (if not contraindicated) for 48 hours then as needed • Review need for pain management Infection care: • Leave ster-strips until fall off on own or remove after 10 days • Once ster-strips 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</td>
<td>When to call surgeon’s office: • Wound infection • Vomiting • Fever • Pain Follow-up: • Confirm need for follow-up with Primary Surgeon • Family doctor/pediatrician in 1-2 weeks</td>
</tr>
</tbody>
</table>

**Activity:** • Ambulate in hallway • May return to normal daily activities as patient feels able
**Inpatient Perforated Appendicitis Care Pathway**

**DAY #1**
1. Admit
2. Adequate pain control
3. Anticipate
4. Able to tolerate oral fluids (immediately post-op)
5. Incise, drain, no drainage, dry and intact
6. If Nasogastric Tube present, advance from intermittent suction to straight drainage

**DAY #2 - #3**
1. Admit
2. Adequate pain control
3. Anticipate
4. Able to tolerate oral fluid diet
5. Incise dry and intact
6. If drainage from suction drains, advance from irrigate and stamp and remove

**DAY #4**
1. Admit
2. Adequate pain control
3. Anticipate
4. Able to tolerate regular diet
5. Incise dry and intact
6. Child and family understand discharge planning
7. Anticipate oral antibiotics

**DAY #5**
1. Admit
2. Adequate pain control
3. Anticipate
4. Able to tolerate regular diet
5. Incise dry and intact
6. Child and family understand discharge planning
7. Anticipate oral antibiotics

**Pre-operatively:**
- Pain medication as needed (morphine / acetaminophen)
- Start IV (dressing of IV catheters and me too dressing) (Refer to E-formulary for dosing)

**Post-operatively:**
- Antibiotic as needed for pain
- Morphine IV as required
- Please check with Primary Surgeon if NSADs can be prescribed (Ketorolac vs. ibuprofen)
- IV fluid of IV catheters and me too dressing (Refer to E-formulary for dosing)
- Ambulate to chair daily
- Progress to ambulating in hallway (if patient tolerates)

**Activity**
- When diet will be started
- Need for pain management
- Need for mobilizing
- Potential involvement in care

**Incision care:**
- Leave suture strips until fall off on own or remove after 10 days
- Incisions removed, may wash incision with soap and water
- Signs and symptoms of wound infection:
  - Fever
  - Redness around incision
  - Drainage from incision
  - Increasing pain around incision

**Bathing:**
- May shower or bath, 48 hours after surgery

**Follow-up:**
- Confirm need for follow-up with Primary Surgeon
- Family doctor/medication in 1-2 weeks

**Related Documents**
- E-formulary
- Sepsis Pathway
- Pain Management Guidelines
- Pain Assessment Guidelines
- Fluid & Electrolyte Guidelines

**Printable Version**

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References

6. Children’s Hospital of Philadelphia: Appendicitis without Known GI Disease Clinical Pathway- Emergency perforated Hospital of Philadelphia: Appendicitis Clinical Pathway- Inpatients
7. Cincinnati Children’s Hospital: Emergency Appendectomy Clinical Pathway
13. Inpatient and Surgical Care: Appendectomy for Ruptured Appendix with Abscess or Generalized Peritonitis Care Guideline
27. University Hospitals of Cleveland: Pediatric Appendicitis/Simple Laparoscopic/Open Technique Care Path
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