APPENDICITIS PATHWAY

EMERGENCY DEPARTMENT



Exclusion Criteria:

- Children < 4 years
- Toxic appearance
- Hemodynamic instability
- Neurologic changes
- Previous appendectomy
- Pregnancy
- History of IBD
- Trauma patients CT done at OSH
- Ongoing treatment for malignancy
- History of organ transplant
- Severe developmental delay

Acute appendicitis can occur in ANY of above excluded patient populations, but likely require different considerations in evaluation

Imaging Grading:

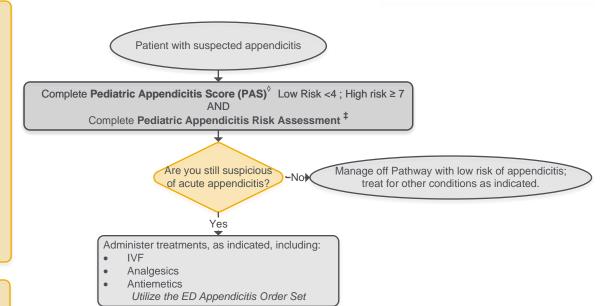
Category 0: Examination nondiagnostic/poor visualization due to habitus

Category 1: Appendix seen and normal

Category 2: Appendix not fully seen but no secondary signs of appendicitis

Category 3: Appendix not seen or not fully seen but concerning RLQ findings/ inflammation

Category 4: Positive for appendicitis



Obtain laboratory evaluation^A as indicated Perform US for appendicitis

- Consider Pelvic US & Sexually Transmitted Infection (STI) testing in adolescent girls
- Consider MRI as first-line imaging in patients >9yo with z-score >2.5

 It is appropriate to defer imaging and obtain surgical consultation for elective appendectomy if patient has classic history and exam

What were results

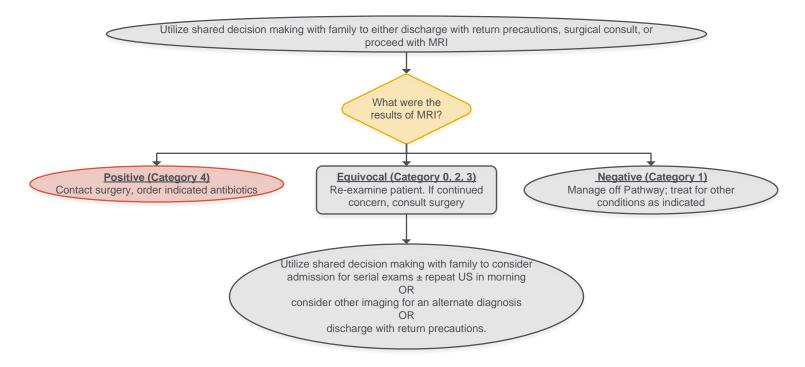
of imaging? **Equivocal** Positive (Category 4) Negative (Category 1) US graded category 0, 2, or 3 Contact surgery, order indicated Treat for other conditions as antibiotics® indicated Re-examine Manage off Pathway; treat for other Patient. Still concerned conditions as indicated for appendicitis? Yes Does patient have Utilize shared decision making with family to Category 3 on US ± abnormal Contact surgery, consider MRI either discharge with return precautions, laboratory evaluation and/or surgical consult, or proceed with MRI PAS?



Disclaimer: Pathways are intended as a guide for practitioners and do not indicate an exclusive course of treatment nor serve as a standard of medical care. These pathways should be adapted by medical providers, when indicated, based on their professional judgement and taking into account individual patient and family circumstances.

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Patient Risk Assessment [‡]		
High probability acute appendicitis	Symptoms <48hrs	
	Migration of pain from periumbilical region to RLQ	
	Anorexia, nausea, vomiting	
	Pain preceding vomiting	
	Pain with movement (cough, car ride, jumping, heel tap)	
	RLQ tenderness with or without tenderness	
Equivocal acute	Presenting with focal abdominal tenderness (usually right sided)	
appendicitis	w ith some of the features of high probability acute appendicitis	
Suspicious for	Systemic toxicity (also exclusion criteria)	
complex appendicitis (perforation/abscess)	Fever	
	Prolonged symptoms >48-72hrs	
	Urinary or rectal urgency	
	Palpable RLQ mass	
	WBC, ANC, CRP consistent with marked inflammation	

Pediatric Appendicitis Score [♦] Low Risk <4; High Risk ≥7		
Nausea/vomiting	1	
Anorexia	1	
Migration of pain to RLQ	1	
Fever	1	
Pain with movement	2	
RLQ tenderness	2	
WBC >10,000	1	
ANC >7,500	1	
An experienced physician's clinical impression performs comparably to this score		



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Preoperative Antibiotics®

Indicated for ALL patients with Acute Appendicitis (to be given at time of category 4 diagnosis or in discussion with Surgeon)

Healthy non-allergic patients without suspicion of	Cefoxitin IV 40mg/kg/dose (max 2,000mg)	
perforation, abscess or phlegmon	(Must be adjusted in renal impairment)	
Healthy patients without suspicion of perforation, abscess or phlegmon with cephalosporin allergy	Levofloxacin IV 6 month to < 5 years: 10mg/kg/dose BID (max 750mg) ≥ 5 years: 10mg/kg once daily (max 750mg) AND Metronidazole IV 30mg/kg/dose once daily (max 1,500mg)	
Patients with suspicion of perforation, abscess or	Piperacillin/Tazobactam IV 100mg/kg/dose (max 3,000mg)	
phlegmon	(Must be adjusted in renal impairment)	
Patients with suspicion of perforation, abscess or phlegmon with severe penicillin allergy	Levofloxacin IV 6 month to < 5 years: 10mg/kg/dose BID (max 750mg) ≥ 5 years: 10mg/kg once daily (max 750mg) AND Metronidazole IV 30mg/kg/dose once daily (max 1,500mg)	
Patients who are immunocompromised or very ill	Piperacillin/Tazobactam IV 100mg/kg/dose (max 3,000mg) (Consider Infectious Disease consult)	

Laboratory Evaluation^A

May choose to defer blood tests in patients without other	CBC w ith ANC ¹
	CRP ²
	UA ³
As clinically indicated	CMP
	Lipase, amylase
	Urine HCG (all female patients >11yrs/or menstruating females)
	Urine GC/Chlamydia, vaginal swab for Trichomonas
III patients	Blood Culture
	Coagulation Studies
	Lactate
	Procalcitonin
	Type and Screen (not indicated for routine appendectomy)

1.2WBC >11,000 **AND/OR** CRP >1.0 is found in 95% of non-perforated appendicitis and 100% of perforated, abscess or phlegmon appendicitis

Therefore, if both are normal, consider an alternate diagnosis

If one or the other is elevated, it adds little value to the diagnostic evaluation beyond PAS score

²UA in appendicitis may occasionally demonstrate sterile pyruia

Leukouria w ithout bacteria or nitrates present should not dissuaded one from the diagnosis of appendicitis

