

INCLUSION CRITERIA

- Patients ≥ 2 years old, diagnosed with appendicitis.

EXCLUSION CRITERIA

- Immunocompromised
- Appendicitis readmission
- Inflammatory bowel disease

MEASURES

- Order set utilization
- Postoperative length of stay

¹ANTIBIOTIC ALLERGY SELECTION

- Mild penicillin rash (NOT hives)
 - Give ceftriaxone and metronidazole
- **Penicillin allergy** (IgE mediated reaction: hives, anaphylaxis, angioedema, serum sickness, SJS/TEN, EM) **or any Cephalosporin allergy**
 - Give ciprofloxacin and metronidazole

²COMPLICATED APPENDICITIS:

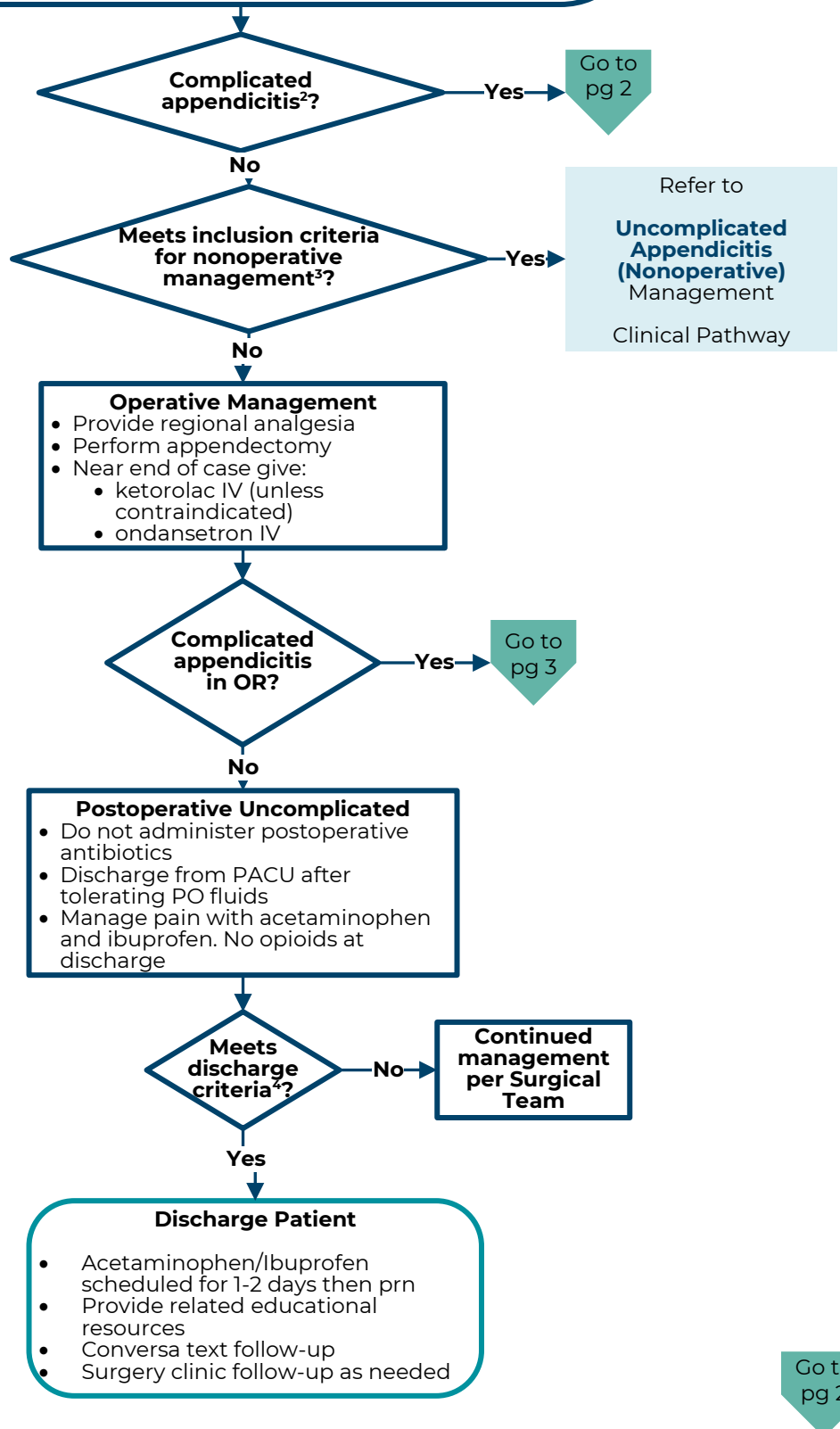
Visible hole in appendix, fecalith in peritoneal cavity, abscess, **or** diffuse fibrinopurulent exudate

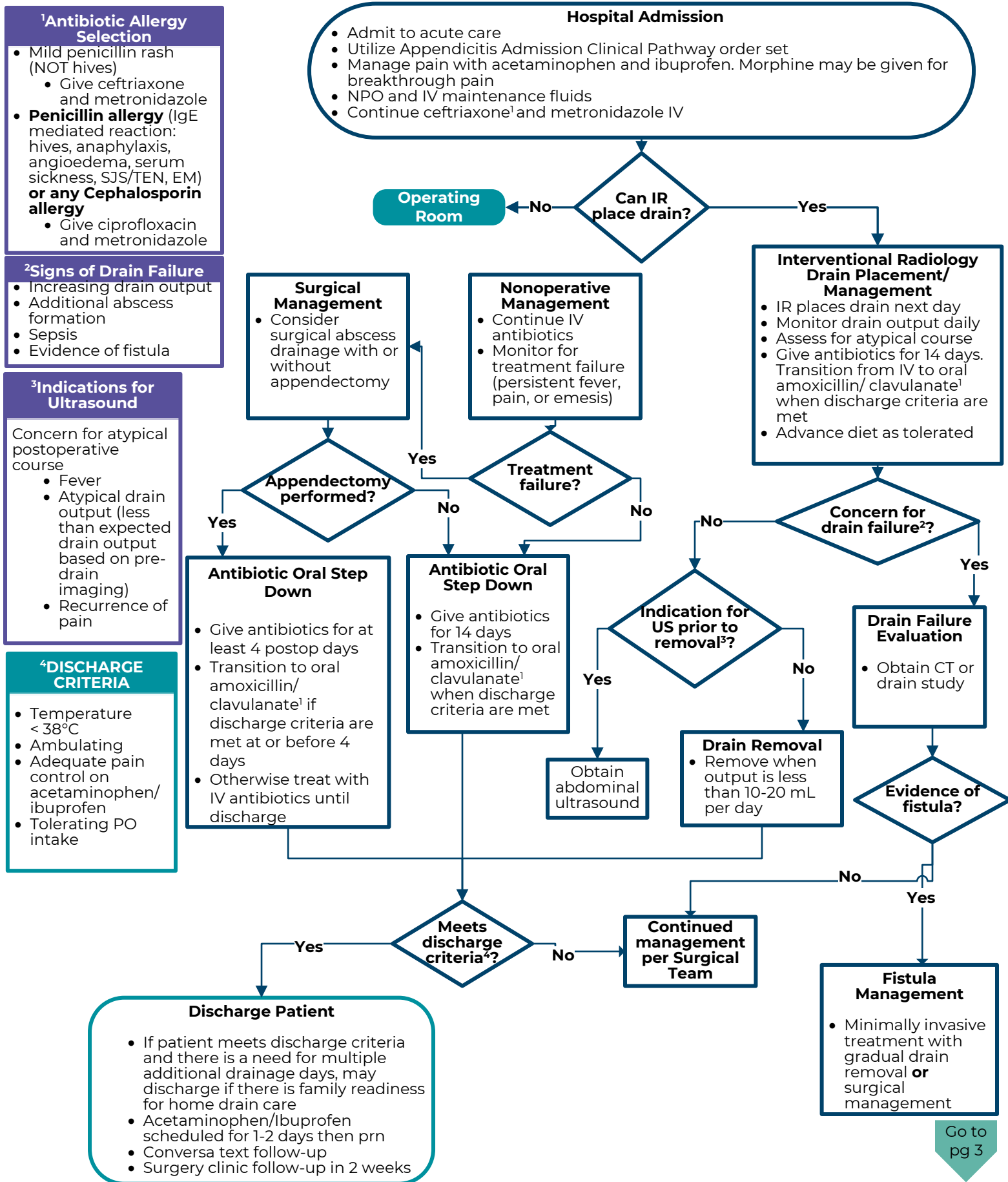
⁴DISCHARGE CRITERIA

- Temperature < 38° C
- Ambulating
- Adequate pain control on acetaminophen/ibuprofen
- Tolerating PO intake

Initial Assessment by Surgical Team

- Utilize Appendicitis Admission Clinical Pathway order set
- Manage pain with scheduled acetaminophen. Morphine may be given for breakthrough pain
- Start IV maintenance fluids
- Give ceftriaxone¹ and metronidazole at time of diagnosis. Repeat daily dosing until appendectomy completed





¹Antibiotic Allergy Selection

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Hospital Admission

- Admit to Acute Care
- Advance diet as tolerated
- Decrease IV maintenance fluids in half
- Manage pain with acetaminophen and ketorolac. Oxycodone may be given for breakthrough pain
- Continue IV antibiotics

Meets discharge criteria within 7 days?

Yes

No

Antibiotic Oral Step Down

- Give antibiotics for at least 4 postop days
- Transition to oral amoxicillin/ clavulanate¹ if discharge criteria are met at or before 4 days
- Otherwise treat with IV antibiotics until discharge

Discharge Patient

- Acetaminophen/ Ibuprofen scheduled for 1-2 days then prn
- Provide Kids Health instructions
- Conversa text follow-up
- Surgery clinic follow-up in 2 weeks

Imaging

- **FL:** Obtain **ultrasound** if not clinically well at 7 days
- **DV:** Obtain **MRI** Abdomen and Pelvis w and w/o contrast
 - If sedation would be needed for MRI, then CT is preferred

Ultrasound/MRI abnormal and/or CT indicated after ultrasound/MRI?

Yes

No

Manage accordingly

CT

- Obtain CT abdomen/ pelvis with contrast
- Manage accordingly

Antibiotics			
Medication	Dosage	Route	Max. per Dose
amoxicillin/clavulanate	Suspension (amoxicillin 400 mg/clavulanate 57mg/5 mL) 22.5 mg/kg/dose of amoxicillin BID	PO	880mg
	Tablet (amoxicillin 875 mg/clavulanate 125 mg per tablet) for weight >= 40kg 875mg of amoxicillin BID	PO	875mg
ceftriaxone	50 mg/kg/dose Q24H	IV	2000 mg
ciprofloxacin	10 mg/kg/dose Q12H	IV	400mg
ciprofloxacin	15 mg/kg/dose BID	PO	500mg
metronidazole	30 mg/kg/dose Q24H	IV	1500mg
metronidazole	10 mg/kg/dose TID	PO	500mg

Analgesics			
Medication	Dosage	Route	Max. per Dose
acetaminophen (Tylenol)	15 mg/kg/dose Q6H	PO/IV	1,000 mg
ketorolac (Toradol)	0.5 mg/kg /dose Q6H	IV	15 mg
Ketorolac Safety Consideration Ketorolac inhibits platelet function and is, therefore, contraindicated in patients with suspected or confirmed incomplete homeostasis and those at high risk of bleeding. Consult Lexicomp for a complete list of contraindications.			
ibuprofen (Motrin)	10 mg/kg/dose Q6H	PO	600 mg
morphine	0.05 mg/kg/dose Q4H PRN	IV	2 mg
oxycodone	0.1 mg/kg/dose Q4H PRN	PO	5 mg

Antiemetic			
Medication	Dosage	Route	Max. per Dose
ondansetron (Zofran)	0.15 mg/kg/dose	PO/IV	4 mg
Ondansetron Safety Consideration Risk of QTc prolongation increases if the patient is on other QTc altering medications, such as cardiac, antimalarial, psychiatric, ADHD, chemotherapy, and diuretics. Consult Lexicomp for a complete list. Caution using ondansetron if: - Child or first-degree family member has been diagnosed with an irregular heartbeat - A family member has ever had sudden death due to or presumed to be due to a heart condition at a young age			

Clinical Pathway Abbreviations	
Abbreviation	Definition
CT (Scan)	Computed tomography (scan)
EM	Erythema multiforme
NPO	Nothing by mouth
PO	By mouth
PRN	As needed
SJS	Stevens-Johnson syndrome
TEN	Toxic epidermal necrolysis
US	Ultrasound

Disclaimer: The clinical pathways are based upon publicly available medical evidence and/or a consensus of medical practitioners at Nemours Children's Health ("Nemours") and are current at the time of publication. These clinical pathways are intended to be a guide for practitioners and may need to be adapted for each specific patient based on the practitioner's professional judgment, consideration of any unique circumstances, the needs of each patient and their family, and/or the availability of various resources at the health care institution where the patient is located.

VERSION MANAGEMENT

- Version 1.0 (10/29/2023): Go Live.
- Version 2.0 (6/22/2026): Medication table changed, added suspension vs PO oral Augmentin tablets, adjusting the maximum dose for amoxicillin/clavulanate suspension to 880 mg.
- Version 3.0 (09/01/2026) Lookback review completed – updated fistula management, medication tables and references.

Questions about this pathway should be directed to clinicalpathways@nemours.org.

AUTHORS & REFERENCES

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- Abdelbaser I, Mageed NA, El-Emam EM, AlSeoudy MM. Comparison of intravenous ibuprofen versus ketorolac for postoperative analgesia in children undergoing lower abdominal surgery: A randomized, controlled, non-inferiority study. *Rev Esp Anesthesiol Reanim (Engl Ed)*. 2022;69(8):463-471. doi:10.1016/j.redare.2022.08.008
- Alsharari AF, Alshammari FF, Salihi D, Alruwaili MM. Postoperative Pain Management in Children Undergoing Laparoscopic Appendectomy: A Scoping Review. *Healthcare (Basel)*. 2023;11(6):870. Published 2023 Mar 16. doi:10.3390/healthcare11060870
- Buss R, Bodnar CA, Somers KK, et al. Same-day discharge after appendectomy for uncomplicated appendicitis in children: Potential barriers to increased utilization. *Am J Surg*. 2022;224(1 Pt B):629-634. doi:10.1016/j.amjsurg.2022.03.051
- Chang RW, Tompkins DM, Cohn SM. Are NSAIDs Safe? Assessing the Risk-Benefit Profile of Nonsteroidal Anti-inflammatory Drug Use in Postoperative Pain Management. *The American surgeon*. 2021;87(6):872-879. doi:10.1177/0003134820952834
- Devin CL, D'Cruz R, Linden AF, et al. Reducing resource utilization for patients with uncomplicated appendicitis through use of same-day discharge and elimination of postoperative antibiotics. *J Pediatr Surg*. 2020;55(12):2591-2595. doi:10.1016/j.jpedsurg.2020.04.003
- Fraser JD, Aguayo P, Leys CM, et al. A complete course of intravenous antibiotics vs a combination of intravenous and oral antibiotics for perforated appendicitis in children: a prospective, randomized trial. *J Pediatr Surg*. 2010;45(6):1198-1202. doi:10.1016/j.jpedsurg.2010.02.090
- Gee K, Ngo S, Burkhalter L, Beres AL. Safety and feasibility of same-day discharge for uncomplicated appendicitis: A prospective cohort study. *J Pediatr Surg*. 2018;53(5):988-990. doi:10.1016/j.jpedsurg.2018.02.031
- Georgiou R, Eaton S, Stanton MP, Pierro A, Hall NJ. Efficacy and Safety of Nonoperative Treatment for Acute Appendicitis: A Meta-analysis. *Pediatrics*. 2017;139(3):e20163003. doi:10.1542/peds.2016-3003
- Gorter RR, The SML, Gorter-Stam MAW, et al. Systematic review of nonoperative versus operative treatment of uncomplicated appendicitis. *J Pediatr Surg*. 2017;52(8):1219-1227. doi:10.1016/j.jpedsurg.2017.04.005
- Hamill JK, Rahiri JL, Liley A, Hill AG. Rectus sheath and transversus abdominis plane blocks in children: a systematic review and meta-analysis of randomized trials. *Paediatr Anaesth*. 2016;26(4):363-371. doi:10.1111/pan.12855
- Huang L, Yin Y, Yang L, Wang C, Li Y, Zhou Z. Comparison of Antibiotic Therapy and Appendectomy for Acute Uncomplicated Appendicitis in Children: A Meta-analysis. *JAMA Pediatr*. 2017;171(5):426-434. doi:10.1001/jamapediatrics.2017.0057
- Ingram MC, Harris CJ, Studer A, et al. Distilling the Key Elements of Pediatric Appendicitis Clinical Practice Guidelines. *J Surg Res*. 2021;258:105-112. doi:10.1016/j.jss.2020.08.056
- Juviler P, Wilson NA, Livingston MH, et al. Value Added from Same-day Discharge after Appendectomy for Children with Simple Appendicitis. *Pediatr Qual Saf*. 2023;8(1):e629. Published 2023 Jan 16. doi:10.1097/pq9.0000000000000629
- Kashyap MV, Reisen B, Hornick MA, Nace GW, Laje P. Same-day discharge after laparoscopic appendectomy for non-perforated appendicitis is safe and cost effective. *Pediatr Surg Int*. 2021;37(7):859-863. doi:10.1007/s00383-021-04880-8
- Kelley-Quon LI, Ourshalimian S, Lee J, et al. Multi-Institutional Quality Improvement Project to Minimize Opioid Prescribing in Children after Appendectomy Using NSQIP-Pediatric. *J Am Coll Surg*. 2022;234(3):290-298. doi:10.1097/XCS.0000000000000056
- Lipsett SC, Monuteaux MC, Shanahan KH, Bachur RG. Nonoperative Management of Uncomplicated Appendicitis. *Pediatrics*. 2022;149(5):e2021054693. doi:10.1542/peds.2021-054693
- Mahida JB, Lodwick DL, Nacion KM, et al. High failure rate of nonoperative management of acute appendicitis with an appendicolith in children. *J Pediatr Surg*. 2016;51(6):908-911. doi:10.1016/j.jpedsurg.2016.02.056
- Mazuski JE, Tessier JM, May AK, et al. The Surgical Infection Society Revised Guidelines on the Management of Intra-Abdominal Infection. *Surg Infect (Larchmt)*. 2017;18(1):1-76. doi:10.1089/sur.2016.261
- Minneci PC, Hade EM, Lawrence AE, et al. Association of Nonoperative Management Using Antibiotic Therapy vs Laparoscopic Appendectomy With Treatment Success and Disability Days in Children With Uncomplicated Appendicitis. *JAMA*. 2020;324(6):581-593. doi:10.1001/jama.2020.10888
- Naseem H-ur-R, Dorman RM, Ventro G, Rothstein DH, Vali K. Safety of perioperative ketorolac administration in pediatric appendectomy. *Journal of Surgical Research*. 2017;218:232-236. doi:10.1016/j.jss.2017.05.087
- Rice HE, Brown RL, Gollin G, et al. Results of a pilot trial comparing prolonged intravenous antibiotics with sequential intravenous/oral antibiotics for children with perforated appendicitis. *Arch Surg*. 2001;136(12):1391-1395. doi:10.1001/archsurg.136.12.1391
- Salminen P, Paajanen H, Rautio T, et al. Antibiotic Therapy vs Appendectomy for Treatment of Uncomplicated Acute Appendicitis: The APPAC Randomized Clinical Trial. *JAMA*. 2015;313(23):2340-2348. doi:10.1001/jama.2015.6154
- Sawyer RG, Claridge JA, Nathens AB, et al. Trial of short-course antimicrobial therapy for intraabdominal infection [published correction appears in *N Engl J Med*. 2018 Jan 25;null]. *N Engl J Med*. 2015;372(21):1996-2005. doi:10.1056/NEJMoat411162
- St Peter SD, Aguayo P, Fraser JD, et al. Initial laparoscopic appendectomy versus initial nonoperative management and interval appendectomy for perforated appendicitis with abscess: a prospective, randomized trial. *J Pediatr Surg*. 2010;45(1):236-240. doi:10.1016/j.jpedsurg.2009.10.039
- St Peter SD, Tsao K, Spilde TL, et al. Single daily dosing ceftriaxone and metronidazole vs standard triple antibiotic regimen for perforated appendicitis in children: a prospective randomized trial. *J Pediatr Surg*. 2008;43(6):981-985. doi:10.1016/j.jpedsurg.2008.02.018
- van Rossem CC, Schreinemacher MH, van Geloven AA, Bemelman WA; Snapshot Appendicitis Collaborative Study Group. Antibiotic Duration After Laparoscopic Appendectomy for Acute Complicated Appendicitis. *JAMA Surg*. 2016;151(4):323-329. doi:10.1001/jamasurg.2015.4236
- Wang C, Li Y, Ji Y. Intravenous versus intravenous/oral antibiotics for perforated appendicitis in pediatric patients: a systematic review and meta-analysis. *BMC Pediatr*. 2019;19(1):407. Published 2019 Nov 4. doi:10.1186/s12887-019-1799-6
- Xu J, Adams S, Liu YC, Karpelowsky J. Nonoperative management in children with early acute appendicitis: A systematic review. *J Pediatr Surg*. 2017;52(9):1409-1415. doi:10.1016/j.jpedsurg.2017.05.003

REFERENCES (UPDATED 2026)

- Allocati E, Gerardi C, Ceresoli M, Salminen P, Starinieri B, Podda M. Nonoperative management of uncomplicated acute appendicitis: A systematic review and meta-analysis of randomized clinical trials comparing antibiotic treatment and appendectomy in children and adolescents. *World J Surg.* 2026; doi:10.1002/wjs.70439
- Kwon J, Zakhary B, Coimbra BC, Costantini TW, Coimbra R. Cost-effectiveness and superior clinical outcomes of appendectomy are evidenced within 6 months of the index admission for uncomplicated appendicitis compared to nonoperative management. *Surgery.* 2026;194:110150. doi:10.1016/j.surg.2026.110150
- Löfgren P, Berge E, de Wijkerslooth EML, Jivegård L, Sjöström S, Wallerstedt SM. Effectiveness and safety of shortened postoperative antibiotic regimens in children with perforated appendicitis: A systematic review and meta-analysis. *Eur J Pediatr Surg.* 2026;36(3):210-216. doi:10.1055/a-2761-5649
- Talan DA, Moran GJ, Machado-Aranda D, et al. Nonoperative treatment of appendicitis and implications for emergency department management: A narrative review. *Ann Emerg Med.* 2026;87(6):735-745. doi:10.1016/j.annemergmed.2025.09.035
- Zouari M, Belhajmansour M, Hbaieb M, Issaoui A, Jarboui O, Dhaou MB, Mhiri R. Diagnostic decision-making in intermediate-risk pediatric appendicitis: A prospective cohort study. *World J Surg.* 2026;50(5):1355-1362. doi:10.1002/wjs.70349
- Ahmed H, Trinh F, Jatana S, et al. Early versus delayed appendectomy for acute uncomplicated appendicitis in adult and pediatric patients: A systematic review and meta-analysis. *J Trauma Acute Care Surg.* 2026;100(5):822-830. doi:10.1097/TA.0000000000004906
- Sulkowski JP, Huerta CT, Tashiro J, et al. Interval appendectomy practices for complicated appendicitis in children: A systematic review from the APSA Outcomes and Evidence-Based Practice Committee. *Pediatr Surg Int.* 2026;42(1):205. doi:10.1007/s00383-026-06445-z
- Lehovsky K, Hall NJ. Is appendectomy outdated in the management of paediatric appendicitis? *Br J Hosp Med (Lond).* 2026;87(4):53108. doi:10.31083/BJHM53108
- Ibrahimoglu H. Appendicitis inflammatory response versus pediatric appendicitis score for grading disease severity in children. *Sci Rep.* 2026;16(1):11003. doi:10.1038/s41598-026-42122-w
- Salminen P, Salminen R, Kallio J, et al. Antibiotic therapy for uncomplicated acute appendicitis: Ten-year follow-up of the APPAC randomized clinical trial. *JAMA.* 2026;335(12):1041-1049. doi:10.1001/jama.2025.25921
- Lee WH, O'Brien S, Mckinnon EJ, Craig S, Dalziel S, Borland ML. Suspected pediatric appendicitis management in the emergency department: A prospective observational study in an Australian pediatric emergency department. *Pediatr Emerg Care.* 2026;42(3):209-217. doi:10.1097/PEC.0000000000003544
- Hong B, Zhao K, Zhu G. Operative and non-operative management of acute appendicitis in children: A narrative review. *Pediatr Surg Int.* 2026;42(1):120. doi:10.1007/s00383-026-06358-x
- Araújo VDC, Lopes BC, Petroianu A, Souza IKF. Complementary computed tomography to inconclusive ultrasonography in children with suspected acute appendicitis: A systematic review and meta-analysis. *Am Surg.* 2026;92(2):576-589. doi:10.1177/00031348251371186
- Arredondo Montero J, Rico-Jiménez M. Post-discharge oral home antibiotic use in complicated pediatric appendicitis: A systematic review and meta-analysis. *World J Pediatr.* 2026;22(1):104-128. doi:10.1007/s12519-025-01008-z
- He BL, Li M, Cheng SB, Liu Y, Tu Z, Xu H, Liu M. Effects of different antibiotic strategies on postoperative inflammatory response and recovery in patients with acute appendicitis: A single-center, prospective, randomized controlled study. *BMC Surg.* 2025;26(1):24. doi:10.1186/s12893-025-03404-8
- Stetson A, Orlas C, Li R, Smith G, Griggs CL, Chang D, Kelleher CM, Masiakos PT. Surgery or no surgery for pediatric uncomplicated appendicitis? A systematic review and meta-analysis to inform management. *Surgery.* 2025;188:109728. doi:10.1016/j.surg.2025.109728
- Zhang S, Zhang HL, Bai YZ, Tang XB. Non-operative management of appendiceal abscess in children: A systematic review. *Ann Med.* 2025;57(1):2566875. doi:10.1080/07853890.2025.2566875
- Lu K, Shu S, Wang J, Mao W, Zhang F, Cheng Y, Yang H. Can antibiotic therapy replace surgery in pediatric acute uncomplicated appendicitis? An updated meta-analysis of randomized controlled trials. *J Pediatr Surg.* 2025;60(11):162565. doi:10.1016/j.jpedsurg.2025.162565
- Becker G, Sukhotnik I, Kurland Y, Ezra RE, Kammar H, Fuhrer AE. Management of simple appendicitis in children: Early appendectomy vs non-operative management with subsequent appendectomy for failure: Does initial approach impact surgical complications? *J Pediatr Surg.* 2025;60(10):162466. doi:10.1016/j.jpedsurg.2025.162466
- Mortazavi M, Dimmer A, Guadagno E, Poenaru D, Emil S. A systematic review of risk stratification for pediatric appendicitis. *Pediatr Surg Int.* 2025;41(1):234. doi:10.1007/s00383-025-06128-1
- Stewart S, Nonnemacher C, Saylors S, et al. Antibiotic monotherapy vs dual-drug therapy in perforated appendicitis: Single-center retrospective review. *Pediatr Surg Int.* 2025;41(1):225. doi:10.1007/s00383-025-06129-0
- Kupietzky A, Gross M, Dover R, et al. Operative outcomes of patients with recurrent uncomplicated appendicitis are similar to patients with acute uncomplicated appendicitis. *J Surg Res.* 2025;308:209-215. doi:10.1016/j.jss.2025.02.034

REFERENCES (UPDATED 2026)

- Kupietzky A, Gross M, Dover R, et al. Operative outcomes of patients with recurrent uncomplicated appendicitis are similar to patients with acute uncomplicated appendicitis. *J Surg Res.* 2025;308:209-215. doi:10.1016/j.jss.2025.02.034
- Akbarpoor F, Blanco K, Masiero BB, et al. Conservative management of pediatric patients with appendicolith appendicitis versus non-appendicolith appendicitis: A systematic review and meta-analysis. *J Pediatr Surg.* 2025;60(4):162175. doi:10.1016/j.jpedsurg.2025.162175
- Patwardhan UM, Kahan A, Eldredge RS, et al. Comparison of postoperative antibiotic protocols for pediatric complicated appendicitis: A Western Pediatric Surgery Research Consortium study. *J Pediatr Surg.* 2025;60(4):162165. doi:10.1016/j.jpedsurg.2025.162165
- Brucchi F, Filisetti C, Luconi E, et al. Non-operative management of uncomplicated appendicitis in children, why not? A meta-analysis of randomized controlled trials. *World J Emerg Surg.* 2025;20(1):25. doi:10.1186/s13017-025-00584-9
- St Peter SD, Noel-MacDonnell JR, Hall NJ, et al. Appendectomy versus antibiotics for acute uncomplicated appendicitis in children: An open-label, international, multicentre, randomised, non-inferiority trial. *Lancet.* 2025;405(10474):233-240. doi:10.1016/S0140-6736(24)02420-6
- Badlis M, Amari K, Alkheshi M, Alolaby K, Alsaid B. Ultrasound and computed tomography in differentiating between simple and complicated appendicitis in pediatric patients. *Pediatr Surg Int.* 2024;40(1):299. doi:10.1007/s00383-024-05880-0
- Spampinato G, Virgillito C, Ghidini F, Ceccarelli PL. How can the surgeon choose preoperatively the most appropriate antibiotic prophylaxis vs therapy in pediatric acute appendicitis? *Pediatr Surg Int.* 2024;40(1):170. doi:10.1007/s00383-024-05753-6
- Selänne L, Haijanen J, Sippola S, et al. Three-year outcomes of oral antibiotics vs intravenous and oral antibiotics for uncomplicated acute appendicitis: A secondary analysis of the APPAC II randomized clinical trial. *JAMA Surg.* 2024;159(7):727-735. doi:10.1001/jamasurg.2023.5947
- Snyder KB, Hunter CJ, Buonpane CL. Perforated appendicitis in children: Management, microbiology, and antibiotic stewardship. *Paediatr Drugs.* 2024;26(3):277-286. doi:10.1007/s40272-024-00630-0
- Cramm SL, Graham DA, Blakely ML, et al. Postoperative antibiotics, outcomes, and resource use in children with gangrenous appendicitis. *JAMA Surg.* 2024;159(5):511-517. doi:10.1001/jamasurg.2023.7754
- Doleman B, Fonnes S, Lund JN, et al. Appendectomy versus antibiotic treatment for acute appendicitis. *Cochrane Database Syst Rev.* 2024;4(4):CD015038. doi:10.1002/14651858.CD015038.pub2
- Fennell J, Territo HM, Telt N, Wrotniak BH, Kozielski R, Pape E, Penque M. The association between C-reactive protein levels and Pediatric Appendicitis Score and the severity of appendicitis in children. *J Emerg Med.* 2024;66(4):e508-e515. doi:10.1016/j.jemermed.2023.11.016
- Lamm R, Kumar SS, Collings AT, et al. Diagnosis and treatment of appendicitis: Systematic review and meta-analysis. *Surg Endosc.* 2023;37(12):8933-8990. doi:10.1007/s00464-023-10456-5
- Gil LA, Deans KJ, Minneci PC. Appendicitis in children. *Adv Pediatr.* 2023;70(1):105-122. doi:10.1016/j.yapd.2023.03.003