

Pediatric Extremity Fractures

Orthopedic Trauma Guideline

Injury	Antibiotic selection ^a	Allergy to preferred beta-lactam antibiotic ^b	Antibiotic Duration
Closed extremity fractures	<ul style="list-style-type: none"> Non-operative: no prophylactic antibiotics Surgical antibiotic prophylaxis within 1 hour of incision: Cefazolin 	Vancomycin (alternative for history of severe cutaneous adverse reaction [delayed type IV hypersensitivity] to penicillins or cephalosporins)	No postoperative antibiotics
Open extremity fractures type I and II^c	Cefazolin	Vancomycin (alternative for history of severe cutaneous adverse reaction [delayed type IV hypersensitivity] to penicillins or cephalosporins)	24 hours or less
Open extremity fractures type III^c	Ceftriaxone	Levofloxacin (alternative for history of 3 rd or 4 th generation cephalosporin hypersensitivity)	24 hours or less

^a Consider Pediatric Infectious Diseases consultation for antibiotic recommendations in special circumstances, such as wound contamination (e.g., water, soil, etc.) In cases of severe contamination, antibiotics may continue up to 72 hours after a surgical procedure.

^b Cefazolin and ceftriaxone are safe to use for most patients with allergies to penicillin, amoxicillin, amoxicillin-clavulanate, ampicillin, or cephalexin, unless delayed type IV hypersensitivity. For patients with a history of allergic reaction to beta-lactams (i.e., penicillins, cephalosporins), our [clinical decision support guidance document](#) and [REDCap tool](#) provide guidance on assessing the allergy history and evaluation of cross-reactivity potential.

^c Based on the Gustilo classification system.

References:

- Appelbaum RD, Farrell MS, Gelbard RB, et al. Antibiotic prophylaxis in injury: an American Association for the Surgery of Trauma Critical Care Committee clinical consensus document. *Trauma Surg Acute Care Open*. 2024 Jun 3;9(1):e001304. <https://doi.org/10.1136/tsaco-2023-001304>
- ACS TQIP Best Practices in the Management of Orthopedic Trauma. November 2015. Available at: https://www.facs.org/media/mkbnhqtw/ortho_guidelines.pdf Accessed 20 August 2025.