

Aim: To standardize antibiotic prophylaxis administration for patients with open fractures

Non-Contaminated (In-To-Out) Open Fractures			
Type of Fracture	Standard Prophylaxis	Severe Beta-Lactam Allergy or Known MRSA Colonization	Duration of Antibiotics
Type I (skin opening < 1 cm) or Type II (skin opening > 1 cm)	IV Cefazolin 30 mg/kg IV q8h (max: 2000 mg per dose) ----- Oral Cephalexin 30 mg/kg PO q8h (max: 1250 mg per dose)	Vancomycin 15 mg/kg IV q6h (max: 1000 mg per dose)	24 hours
Contaminated (Out-To-In) Open Fractures			
Type of Fracture	Standard Prophylaxis	Severe Beta-Lactam Allergy or Known MRSA Colonization	Duration of Antibiotics
Contaminated (outdoor injury where skin/bone/injury may have been exposed to the environment-soil, water) Type I (skin opening < 1 cm) Or Type II (skin opening > 1 cm)	Piperacillin-tazobactam 80 mg piperacillin/kg IV q8h (max: 4000 mg piperacillin per dose)	Vancomycin 15 mg/kg IV q6h (max: 1000 mg per dose) PLUS Ciprofloxacin 15 mg/kg IV q12h (max: 400 mg per dose) PLUS Metronidazole 10 mg/kg IV q8h (max: 750 mg per dose)	24 hours
Type III (significant skin compromise [> 10 cm] or high energy/comminuted fracture)	Piperacillin-tazobactam 80 mg piperacillin/kg IV q8h (max: 4000 mg piperacillin per dose)	----- Oral Agents: TMP-SMX 5 mg TMP/kg PO q12h (max: 160 mg TMP per dose) PLUS Ciprofloxacin 20 mg/kg PO q12h (max: 750 mg per dose) PLUS Metronidazole 10 mg/kg PO q8h (max: 750 mg per dose)	<ul style="list-style-type: none"> Discontinue antibiotics 24 hours after definitive closure. If there is concern to continue antibiotics longer than 24 hours after definitive closure, ID consultation is recommended to determine antibiotic duration and route.
Penetrating (Non-Bite)	Piperacillin-tazobactam 80 mg piperacillin/kg IV q8h (max: 4000 mg piperacillin per dose)		
Open Fractures Associated with Human or Animal Bites (Dog, Cat, Other Mammal)	Ampicillin-sulbactam 50 mg ampicillin/kg IV q6h (max: 2000 mg ampicillin per dose) ----- Oral Agent: Amoxicillin-clavulanate (7:1 formulation) 22.5 mg amoxicillin/kg PO q12h (max: 875 mg amoxicillin per dose)	TMP-SMX 5 mg TMP/kg IV q12h (max: 160 mg TMP per dose) PLUS Clindamycin 10 mg/kg IV q8H (max: 900 mg per dose) ----- Oral Agents: TMP-SMX 5 mg TMP/kg PO q12h (max: 160 mg TMP per dose) PLUS Clindamycin 10 mg/kg PO q8H (max: 600 mg per dose)	<ul style="list-style-type: none"> ID consultation is recommended to determine antibiotic duration.

Disclaimer: This guideline is designed for general use with most patients; each clinician should use their own independent judgment to meet the needs of each individual patient. This guideline is not a substitute for professional medical advice, diagnosis or treatment.

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NOTES

- If a patient with a **contaminated** open fracture received cefazolin at an outlying facility, administer the appropriate antibiotic as recommended by the table above as soon as possible and without regard of the cefazolin timing.
- **In addition to** the antibiotics recommended by the table above, **pre-operative** antibiotic prophylaxis is recommended when:
 - Patient received cefazolin, piperacillin-tazobactam, or ampicillin-sulbactam greater than 1 hour before the incision. A pre-operative dose of cefazolin 30 mg/kg/dose (max 2000 mg) IV should be administered within 1 hour from incision.
 - Patient received vancomycin greater than 2 hours before the incision. A pre-operative dose of clindamycin 10 mg/kg/dose (max 900 mg) IV should be administered within 1 hour from incision.
 - Patient received clindamycin greater than 1 hour before the incision. A pre-operative dose of clindamycin 10 mg/kg/dose (max 900 mg) IV should be administered within 1 hour from incision.

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