

**CLINICAL PEARL**

# Antibiotic Prophylaxis in Pediatric Trauma

INJURY TYPE	RECOMMENDED AGENT	RECOMMENDED IV DOSING/FREQUENCY	ALTERNATIVE AGENT (severe beta-lactam allergy)	DURATION
<b>ORTHOPEDIC (open fractures)</b>				
Gustilo grade I and II	Cefazolin	30 mg/kg/dose (usual max 2000 mg; weight >120 kg, max 3000 mg) q 8 hrs	Clindamycin	24 hours
Gustilo grade III	Ceftriaxone + Vancomycin	<b>Ceftriaxone:</b> 50 mg/kg/dose (max 2000 mg) q 24 hrs <b>Vancomycin:</b> 15 mg/kg/dose (max 1000 mg) q 6 hrs	Levofloxacin + Clindamycin	48 hours
All open fractures with gross environmental contamination	Cefepime + Metronidazole	<b>Cefepime:</b> 50 mg/kg/dose (max 2000 mg) q 8 hrs <b>Metronidazole:</b> 10 mg/kg/dose (max 500 mg) q 8 hrs	Levofloxacin + Metronidazole	72 hours
Open pelvic fractures not involving bowel/internal injury	Cefazolin	30 mg/kg/dose (usual max 2000 mg; weight >120 kg, max 3000 mg) q 8 hrs	Clindamycin	24 hours
Open pelvic fractures with laceration to bowel or vaginal wall	Ceftriaxone + Metronidazole	<b>Ceftriaxone:</b> 50 mg/kg/dose (max 2000 mg) q 24 hrs <b>Metronidazole:</b> 30 mg/kg/dose (max 1500 mg) q 24 hrs	Ciprofloxacin + Metronidazole	72 hours
<b>NEUROSURGICAL</b>				
Open skull fractures without dural involvement	Cefazolin	30 mg/kg/dose (usual max 2000 mg; weight >120 kg, max 3000 mg) q 8 hrs	Clindamycin	x1 with washout
Open skull fractures with dural involvement	Cefazolin	30 mg/kg/dose (usual max 2000 mg; weight >120 kg, max 3000 mg) q 8 hrs	Clindamycin	24 hours
Open skull fractures with dural involvement AND gross environmental contamination	Ceftriaxone + Metronidazole	<b>Ceftriaxone:</b> 50 mg/kg/dose (max 2000 mg) q 24 hrs <b>Metronidazole:</b> 10 mg/kg/dose (max 500 mg) q 8 hrs	Levofloxacin + Metronidazole	24 hours
<b>BITES (human/cat/dog)</b>				
No dural involvement	Ampicillin/sulbactam	50 mg ampicillin/kg/dose (max 2000 mg ampicillin) q 6 hrs	Levofloxacin	5 days
Dural involvement	Ceftriaxone + Metronidazole	<b>Ceftriaxone:</b> 50 mg/kg/dose (max 2000 mg) q 24 hrs <b>Metronidazole:</b> 10 mg/kg/dose (max 500 mg) q 8 hrs	Levofloxacin + Metronidazole	5 days
<b>PENETRATING TRAUMA</b>				
Maxillofacial	Ampicillin/sulbactam	50 mg ampicillin/kg/dose (max 2000 mg ampicillin) q 6 hrs	Clindamycin	24 hours
Thoracic	Cefazolin	30 mg/kg/dose (usual max 2000 mg; weight > 120 kg, max 3000 mg) q 8 hrs	Clindamycin	24 hours
Abdominal (includes blunt trauma with concern for hollow viscous injury)	Ceftriaxone + Metronidazole	<b>Ceftriaxone:</b> 50 mg/kg/dose (max 2000 mg) q 24 hrs <b>Metronidazole:</b> 30 mg/kg/dose (max 1500 mg) q 24 hrs	Ciprofloxacin + Metronidazole	24 hours
Abdominal with spinal cord injury	Ceftriaxone + Metronidazole	<b>Ceftriaxone:</b> 50 mg/kg/dose (max 2000 mg) q 24 hrs <b>Metronidazole:</b> 30 mg/kg/dose (max 1500 mg) q 24 hrs	Vancomycin + Ciprofloxacin	24 hours

**Alternative agent dosing:**

Ciprofloxacin: 10 mg/kg/dose (max: 400mg/dose) IV q 8 hours

Clindamycin: 10 mg/kg/dose (max 900 mg) q 8 hours

Levofloxacin: 10 mg/kg/dose (max 500 mg) q 12 hours (< 5 years old), q 24 hours (≥ 5 years old)