

Guidelines for Open Fracture Antibiotics within 60 minutes

DMC Prophylactic Antibiotic Recommendations for Open Fractures in Adults

Antibiotics should be administered as soon as possible and within 1 hour of patient arrival.

Gustilo Open Fracture Classification	Prophylaxis Regimen Prior to Surgery (Transition to DMC Surgical Prophylaxis When Going to OR)		Duration
	No Allergy	Severe β -lactam Allergy	
I or II	Cefazolin ^B 2 gm IV Q8hours	Vancomycin ^C	24 hours
III	Ceftriaxone 2 gm IV Q24hours	Aztreonam ^B 2 gm IV Q8hours + Vancomycin ^C	24 hours
If fecal or farm contamination add:	Penicillin ^B 4 MU IV Q4hours	Metronidazole 500 mg IV Q8hours	24 hours

^AContact orthopedic surgery on call if guidance is needed for proper staging of fracture type

^BDose adjusted per DMC renal dosing guidelines

^CVancomycin Pharmacy Dosing per Protocol

Gustilo Anderson Open Fracture Grading

Type	Wound size	Contamination	Fracture	Vascular injury Requiring repair	Soft tissue coverage
I	<1 cm	Minimal	Minimal comminution; no periosteal stripping	No	Adequate
II	>1 cm	Moderate	Moderate comminution; minimal periosteal stripping	No	Adequate
IIIA	Any size	Severe	Severe comminution or segmental fractures; periosteal stripping	No	Adequate; may become inadequate w/ debridement
IIIB	Any size	Severe	Severe comminution or segmental fracture; periosteal stripping	No	Inadequate, rotation flap or free flap
IIIC	Any size	severe	Severe comminution or segmental fracture; periosteal stripping	Yes	Inadequate, rotation flap or free flap

References:

- Rodriguez L, Jung HS, Goulet JA *et al.* Evidence-based protocol for prophylactic antibiotics in open fractures: improved antibiotic stewardship with no increase in infection rates. *J Trauma Acute Care Surg* 2014;77(3):400-408.
- Garner MR, Sethuraman SA, Schade MA *et al.* Antibiotic prophylaxis in open fractures: evidence, evolving issues, and recommendations. *J am Acad Orthop Surg* 2020;28(8):309-315.