



A collaboration among the University of Minnesota,
University of Minnesota Physicians and Fairview Health Services

Trauma Care Guideline

Optimal Timing for Washout and the Use of Prophylactic Antibiotics for Open Fractures

Purpose:

To communicate evidence-based guidelines related to the timing of washout and the use of prophylactic antibiotics of open fractures

Guidelines:

Based on recommendations from EAST.

Recommendation for Washout:

The general recommendation for washout of open fractures is within 24 hours of injury and antibiotics should be given upon presentation to the Emergency Department.

Exceptions include open fractures with grossly contaminated wounds (dirt, grass, gravel, etc.) and possibly wounds larger than 1cm which should be washed out ASAP.

Recommendation for Antibiotics:

- Systemic antibiotic coverage directed at gram-positive organisms should be initiated as soon as possible after injury.

Additional References:

- Additional gram-negative coverage should be added for type III fractures.
- High-dose penicillin should be added in the presence of fecal or potential Clostridial contamination (e.g., farm-related injuries).
- Fluoroquinolones offer no advantage compared with cephalosporin/aminoglycoside regimens. Moreover, these agents may have a detrimental effect on fracture healing and may result in higher infection rates in type III open fractures.





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- In type III fractures, antibiotics should be continued for 72 hours after injury or not >24 hours after soft tissue coverage has been achieved.
- Once-daily aminoglycoside dosing is safe and effective for types II and III fractures.

Open Fractures—Gustilo Classification

Type I	Open fracture with a skin wound <1 cm in length and clean.
Type II	Open fracture with a laceration >1 cm in length without extensive soft tissue damage, flaps, or avulsions.
Type III	Open fracture with >10 cm wound with extensive soft tissue injury or a traumatic amputation (special categories in Type III include gunshot fractures and open fractures caused by farm injuries).
III A	
III B	Adequate soft tissue coverage.
III C	Significant soft tissue loss with exposed bone that requires soft tissue transfer to achieve coverage.
	Associated vascular injury that requires repair for limb preservation.

Reference: Eastern Association for the Surgery of Trauma Practice Management Guidelines Committee (2014). Open Fractures, Prophylactic Antibiotic Use in – Update.

Retrieved from: <https://www.east.org/education/practice-management-guidelines/open-fractures-prophylactic-antibiotic-use-in-update>

