

TRAUMA SERVICES
DEPARTMENTAL GUIDELINES AND
PROCEDURES

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TITLE: ORTHOPEDIC TRAUMA ANTIBIOTIC GUIDELINE

PURPOSE: To provide a guideline for the utilization of antibiotics in orthopedic trauma at the Hospital.

I. DEFINITIONS:

Open Fracture: A broken bone that is in communication through the skin with the environment. The amount of communication can vary from a small puncture wound in the skin to a large avulsion of soft tissue that leaves the bone exposed.

Closed Fracture: A broken bone that does not break the skin

II. GUIDELINES/ RATIONALE:

Open Fractures

In open fractures, the following applies:

- 1) Antibiotics should be continued for the first 48 hours of admission (*exception for trans-colonic gunshot injury to the spine*)
- 2) Antibiotics should be continued for 7 days from admission for trans-colonic gunshot injury to the spine
- 3) Thereafter, antibiotics should be continued for 24 hours peri-operatively for each subsequent debridement and upon definitive fixation

The antibiotic choice should include:

- 1) Grade I or II open fracture: Cefazolin (Clindamycin if Penicillin allergic)
- 2) Grade III open fracture (or a fracture associated with a gunshot wound): Vancomycin and Cefepime
- 3) Trans-colonic gunshot injury to the spine: Vancomycin, Cefepime and Metronidazole

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- 4) Soil contamination: Add a single dose of Penicillin G
- 5) Marine contamination: Add Levaquin to the aforementioned regimens

Closed Fractures:

In closed fractures, the following applies:

- 1) Antibiotics should be given within one hour of incision and for 24 hours peri-operatively
- 2) The antibiotic of choice is Cefazolin (Clindamycin if Penicillin allergic)

Antibiotic Doses:

- Cefazolin 1 g IV q8h (<80 Kg)*
- Cefazolin 2 g IV q8h (>80 Kg)*
- Cefepime 1 g IV q12h*
- Clindamycin 600 mg IV q8h
- Levaquin 750 mg IV q24h*
- Metronidazole 500 mg IV q8h
- Penicillin G 2.4 million units
- Vancomycin 15 mg/kg IV q12h*

*Renal adjustment necessary for CrCl <50 ml/min

NOTE THAT THIS GUIDELINE IS BASED ON BEST EVIDENCE AND LOCAL EXPERT OPINION. IT IS NOT TO BE UNDERTAKEN IN THE ABSENCE OF CLINICAL JUDGMENT. IF YOU ARE TO STRAY FROM IT, PLEASE DOCUMENT IN THE MEDICAL RECORD AS TO WHY.

REFERENCES/BIBLIOGRAPHY:

DEPARTMENT OF PRIMARY RESPONSIBILITY:

Trauma Services

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REVISION HISTORY:

Effective Date	Version # (If Applicable)	Review or Revision Date (Indicate Reviewed or Revised)	Reviewed or Approved by: (Directors, Committees, Managers, and Stakeholders etc.)
10/30/15	1		Trauma Guideline Committee
8/25/16	2	Revision – 8/25/16	Trauma Guideline Committee