CLINICAL PRACTICE GUIDELINE: Open Fracture Guideline

STANDARD:

There must be protocols in Level I and II Centers for the following orthopedic emergencies: 1) the type and severity of pelvic and acetabular fractures that will be treated at the institutions as well as those that will be transferred out for care; 2) the timing and sequence for the treatment of long bone fractures in multiply injured patients; and 3) the wash out time for open fractures. These protocols must be included as part of the PIPS process. (CD 9-14)

DEFINITIONS:

Open Fracture: Is one in which the fracture fragments communicate with the environment through a break in the skin. The presence of an open fracture either isolated or as part of a multiple injury complex increases the risk of infection and soft tissue complications.

GUIDELINES:

1. The Orthopedic Consult should occur within 30 minutes of notification of the request.

2. The fracture should be stabilized.

3. The patient's tetanus status should be determined and updated as necessary.

4. Wound management:

    a. Washout and debridement within 24 hours
    b. Flap closure within 7 days.

5. Determine the type of fracture utilizing Gustilo Classification

6. Type I & II: antibiotic coverage for gram positive organisms started within 60 minutes and continue for 24 hours after successful skin closure.

7. Type III: antibiotic coverage for both gram positive and negative organisms started within 60 minutes and continue for 72 hours subsequent to injury or 24 hours after successful skin closure.

8. High dose penicillin should be added for any open fracture with presence of fecal or potential clostridial contamination.

Type I	Open fracture with as 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 segmental 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	Adequate soft tissue coverage
III_B	Significant soft tissue loss with exposed bone that requires soft tissue transfer to achieve coverage.
III_C	Associated vascular injury that requires repair for limb preservation

MONITORING PERFORMANCE IN PI PROGRAM

1) Average antibiotic timing for open fractures tracked on Trauma Dashboard
2) Time to ORIF tracked on Trauma Dashboard
3) PI Indicators in place:
   - ORIF > 24 hours after arrival
   - Open fractures with no antibiotics within 60 min
   - No ortho surgery arrival within 30 minutes of consult for level 1 and 2 trauma activations

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