



# Specific wound healing complications assessment and interventions: Osteomyelitis

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# Definition

**Osteomyelitis** is bone infection (Mary E. Groll, Timothy Woods, Richard Salcido, 2018)

*oste* (meaning bone) and *myelo* (relating to myeloid bone marrow)



Osteomyelitis of the lower extremity (ankle, heel, forefoot, and metatarsals) is a common challenge for patients with diabetes that risk for foot amputation.

Pathogen : most common is **Staphylococcus aureus**







# Classification

**Acute OM** infection develops within 2 weeks of onset of signs and symptoms

**Sub-acute OM** infection develops within 1–2 months of onset of signs and symptoms

**Chronic OM (COM)** infection starts at least 2 months after an injury, initial infection.







# Risk factors

- A weakened immune system : CA, malnutrition, dialysis
- diabetic foot infections, peripheral arterial disease
- A deep puncture wound or Open fracture
- Surgery to replace or repair bones
- Surgical sites, and penetrating wounds





# Signs and symptoms

They commonly include:

- Severe pain, swelling, redness, and tenderness in the affected area
- Irritability, lethargy, or fatigue
- Fever, chills, and sweating

Drainage from an open wound

The symptoms of chronic osteomyelitis are not always not obvious







# Diagnosis

- Sign and Symptoms
- ulcer that measures more than 2 cm<sup>2</sup>.
- a positive **probe-to-bone test** (Exposed bone in the wound bed)
- An ESR greater than 70 mm/h
- Plain films show reactive bone formation and periosteal elevation
- Bone biopsy confirms osteomyelitis and identifies the specific pathogen





# Prevention

1. Assessment signs of OM in DM Foot, Open fracture, Hip and knee arthroplasty, low immune every time of change dressing
2. Appropriate wound dressing especially infective wound use topical agent
3. Get rid of infection- Antibiotics
4. Nutrition support
5. Blood sugar control







# Treatment

- requires 6 weeks of appropriate antibiotics
- Surgical debridement and culture
- aggressive wound management (topical antimicrobial dressings, absorbent dressings )
- off-loading strategies for any plantar foot wound
- Negative pressure wound therapy may be used for post-surgical open wounds with adequate vascular supply
- hyperbaric oxygen therapy for patients with diabetes







# CASE STUDY

## Case 1

Female 64 years old Dx. COM Lt. heel underlying DM



1 wk

3 wks

4 wks

7 wks

Total time 52 days





# Case 2

Female 37 years old Dx. COM Lt. Leg  
Wound size 1.3x3.5x2 cm. expose bone moderate exudates







# Summary

Prevention of Osteomyelitis is very important especially **infective DM foot**





Thank You

