

## Heterotopic Ossification in Orthopaedic Trauma

### Definition

The formation of lamellar bone through enchondral ossification within extra-skeletal soft tissues

### Clinical settings

In periarticular tissues after fracture or fracture/dislocation (hip, elbow)

In blast injuries, particularly those resulting in amputation

Following burns or electrocution

Following head or spinal cord trauma

### Prophylaxis – Acetabular fracture surgery

Incidence – Is prophylaxis necessary and when?

Surgical approach

Other risk factors

### Options

Diphosphonates

NSAIDs and radiation

Pros and cons

comparisons

Combination

### Treatment: Surgical excision

Timing

Risks

Post-op regimen

### New Understandings of the source and mechanism

Osteogenic precursors in sensory peripheral nerves

Neuroinflammatory Response

Substance P, CGRP

Migration through the blood nerve barrier

Transient brown adipose tissue role, MMP9

Mast cells

Tissue resident macrophages

Bone matrix proteins

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