

# Madigan Army Medical Center

## Referral Guidelines

### Shin Splints/Tibial Stress Fractures

#### Pathophysiology

- Inflammation/Periostalgia due to repetitive stress of the broad proximal portion of any of the musculotendinous units originating from the tibia.
- Symptoms of overuse injury are precipitated by initiation of training, an increase in training intensity or a change in surface or equipment. The mechanism for overuse injury is overload of forces on the muscle, tendon, or bone, which leads to an inflammatory reaction.

#### Initial Diagnosis and Management

- **History and physical examination:** Activity related pain. In severe cases pain at rest. Tenderness over the posteromedial distal 1/3 of tibia.
- **Ancillary studies:**
  - **Obtain Xrays of both legs if pain occurs with simple weight bearing.**
  - **Obtain bone scan for chronic shin splint pain**
- **Differential diagnosis:**
  - Exertional Compartment syndrome
  - Tibial Stress fracture
- **Treatment:**
  - Rest of the affected muscle-tendon bone unit
  - Use of crutches, bracing or casts as needed
  - NSAIDs may be beneficial
    - Adults - 200 to 400 milligrams (mg) every four to six hours as needed for up to 2 weeks. Example: Ibuprofen
    - Take tablet or capsule forms of these medicines with a full glass (8 ounces) of water.
    - Do not lie down for about 15 to 30 minutes after taking the medicine. This helps to prevent irritation that may lead to trouble in swallowing.
    - To lessen stomach upset, these medicines should be taken with food or an antacid.
  - Encourage active range of motion.
  - Appropriate restrictions of activity.

#### Ongoing Management and Objectives

- Rest is individualized depending upon severity
- Immobilization should be utilized if simple weight bearing (walking) is painful.
- The duration of rest varies from 1-2 days for mild shin splints to several months for severe stress fractures.
- Ice for 10 to 15 mins with hourly reapplication.
- Elevate leg frequently with compressive wraps.
- Slow and sustained active stretches when no pain is present

## **Indication a profile is needed**

- Any limitations that affect strength, range of movement, and efficiency of feet, legs, lower back and pelvic girdle.
- Slightly limited mobility of joints, muscular weakness, or other musculo-skeletal defects that may prevent moderate marching, climbing, timed walking, or prolonged effect.
- Defects or impairments that require significant restriction of use.

## **Specifications for the profile**

- Weeks 1-8
  - No running and jumping
  - No rucking
  - Walking to tolerance
  - Swimming recommended
- Weeks 8-12 progress profile to bike/run at own pace and distance.

## **Patient/Soldier Education or Self care Information**

- See attached sheet
- Demonstrate deficits that exist
  - Describe/show soldier his/her limitations
- Explain injury and treatment methods
  - Use diagram attached to describe injury, location and treatment.
- Instruct and demonstrate rehab techniques
  - Demonstrate rehab exercises as shown in attached guide
  - Warm up before any sports activity
  - Participate in a conditioning program to build muscle strength
  - Do stretching exercises daily
- Ask the patient to demonstrate newly learned techniques and repeat any other instructions.
- Fine tune patient technique
- Correct any incorrect ROM/stretching demonstrations or instructions by repeating and demonstrating information or exercise correctly.
- Encourage questions
  - Ask soldier if he or she has any questions
- Give supplements such as handouts
- Schedule follow up visit with primary care
  - If pain persists or worsens
  - The pain does not improve as expected
  - Patient is having difficulty after three days of injury
  - Increased pain or swelling after the first three days
  - Patient has any questions regarding care

## **Indications for referral to Specialty Care**

- To Physical Therapy: Routine referral for rehabilitation.
- In the rare instance when there is a visible fracture line on plain radiographs – Orthopaedic consultation is appropriate.

## **Referral criteria for Return to Primary Care**

- Completed specialty care.
- For MEB if symptoms persists for > 6 months despite above treatment.
- MEB to be initiated by primary care and referred to MEB section at MAMC PAD for completion.

Last Review for this Guideline: **April 2012**

Referral Guidelines require review every three years.

Maintained by the Madigan Army Medical Center - Quality Services Division  
Clinical Practice and Referral Guidelines Administrator