Dance Related Injuries: Foot and Ankle
See also Foot Injuries in Athletes

Dancer's Fracture
1. Definition:
   - Spiral fracture of fifth metatarsal usually in distal third of shaft
2. Causes:
   - May occur while rolling off point or jumping on an inverted foot
   - May involve a lateral ankle sprain

Sesamoiditis
1. Definition:
   - Inflammation and swelling around sesamoid bones and of flexor hallucis brevis tendon
2. Cause:
   - Excessive weight bearing
3. Symptoms:
   - Pain on weight bearing, pain with dorsiflexion of great toe, pain with direct palpation
4. Treatment:
   - Conservative: rest, ice, NSAIDs, shoe padding/inserts
   - Surgical removal of sesamoid bone if conservative measures fail

Hallux Valgus and Bunion

Hallux Rigidus
1. Treatment:
   - Rest, ice, NSAIDs
   - Stretching of foot
   - Taping of great toe to restrict full demi-pointe

Plantar Fasciitis

Metatarsalgia
1. Definition:
   - Pain from heads of metatarsal bones which worsens with weight bearing or palpation
2. Causes:
   - Instability in joints of smaller toes secondary to repeated strains or overstretched ligament
3. Symptoms:
   - Pain over the ball of foot with weight bearing
4. Treatment:
   - Rest, ice, NSAIDs
   - Physical therapy to strengthen the muscles that control toe flexion
   - Metatarsal pads
Achilles Tendonitis

**Trigger Toe/Flexor Hallucis Longus Tendonitis**

1. **Definition:**
   - Inflammation of the flexor hallucis longus tendon sheath

2. **Causes:**
   - Repetitive extreme plantar flexion

3. **Symptoms:**
   - Clicking or catching of great toe while flexing
   - Swelling, pain, tenderness posterior to medial malleolus

4. **Treatment:**
   - Conservative: rest, ice, NSAIDs
   - Stretching of great toe
   - Surgical release of the ligamentous portion of FHL sheath and repair of tendon if conservative measures fail

**Posterior Impingement Syndrome**

1. **Mechanism:**
   - Impingement of posterior capsular structures of ankle

2. **Cause:**
   - Presence of large os trigonum (accessory bone posterior to talus) or enlarged posterior tubercle of talus

3. **Symptoms:**
   - Pain or discomfort at back of heel when toe is pointed or in relevé
   - Tenderness, swelling, crepitus in posterior ankle

4. **Treatment:**
   - Conservative:
     - Rest, ice, NSAIDs, physical therapy to strengthen ankle during inversion and eversion
   - Surgical excision of os trigonum or tubercle if conservative measures fail

**Anterior Impingement Syndrome**

1. **Mechanism:**
   - Impingement of anterior lip of tibia on neck of talus

2. **Cause:**
   - Development of an osteophyte from repetitive dorsiflexion

3. **Symptoms:**
   - Pain or weakness with extreme dorsiflexion
   - Tenderness and swelling between lateral malleolus and extensor digitorum

4. **Treatment:**
   - Conservative:
     - Rest, ice, NSAIDs, physical therapy to strengthen ankle during inversion and eversion
   - Surgical removal of osteophytes

**Lateral Ankle Sprain**
**Stress Fracture**

1. Definition:
   - Small fracture that occurs from repetitive use injury that exceeds intrinsic ability of bone to repair itself

2. Most common in tibia or metatarsal bones

3. Symptoms:
   - Tenderness over site or pain with activity

4. Treatment:
   - All stress fractures (conservative therapy)
     - Modified rest for 6-8 weeks or until pain-free for 2-3 weeks (SOR:A)^2
     - Activities of daily living and limited walking are permitted
     - NSAIDs, ice
     - Stretching and flexibility exercises
     - Cross-training (non-weight-bearing exercise)
   - Tibial stress fractures
     - Aircast splinting severe symptoms or not resolved with conservative treatment (SOR:A)^3
     - Casting for mid-shaft fractures until pain-free and radiographic evidence of healing
     - Surgery (intramedullary nailing and/or grafting) if no improvement after 6 months of treatment or for some elite athletes (SOR:B)^4
   - Metatarsal stress fractures
     - Wood-soled shoe or casting for 4-6 weeks
     - Special attention with fifth metatarsal fractures to prevent nonunion
   - Fibula stress fractures
     - Usually heal in 4-6 weeks with conservative therapy
     - Rarely require surgery
   - Navicular stress fractures
     - 6 weeks of short leg non-weight-bearing cast
     - Followed by 4-6 weeks of transitional weight bearing cast cast
     - Gradual return to full weight bearing with semi-rigid shoe
     - Intramedullary nailing if nonunion or delayed union
     - Return to activities in 16-20 weeks
   - Femoral stress fractures
     - Conservative therapy for compression fractures
     - Return to activities in eight to 14 weeks
     - Internal fixation for tension-type fractures

**References**


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