

# **Dance Related Injuries: Spine**

## Low Back Strain

### **Kissing Spines-interspinous sprain**

#### 1. Definition:

- Condition in which the spinous processes of adjacent vertebrae are touching
- Also known as Bastrup's disease

#### 2. Causes:

- Traumatic injuries involve sudden, forceful flexion of spine
- Degenerative changes in interspinous ligaments along tips of spinous processes of vertebrae

#### 3. Symptoms:

- Pain and limitation with both flexion and extension
- Can affect cervical vertebrae but most commonly affects lower lumbar vertebrae in dancers

#### 4. Treatment:

- Conservative therapy with ice, rest, NSAIDs
- Physical therapy to help dancer regain strength and mobility of deficits
- Education of dancer in proper body mechanics during everyday tasks to prevent unnecessary stress or re-injury
- Symptoms usually decrease after three days. Should subside between 1-6 weeks
- Dancers may return to full class or performance when pain free

### **Scheuermann's Disease**

#### 1. Definition:

- Osteochondrosis that presents as an abnormality of the vertebral epiphyseal growth plates
- Marked by an increase convexity of the back in thoracic area
- Sometimes known as "round back"
- Scheuermann's kyphosis is rigid

#### 2. Symptoms:

- Pain is generally gradual, located over spinous processes and worst at end of day

#### 3. Diagnosis:

- Visual inspection
- Range of motion of the spine
- Leg length discrepancy
- Gait
- Thorough neurological and musculoskeletal exam
- Radiographic findings may include:
  - Vertebral wedging of five degrees or more on three adjacent vertebral bodies
  - End-plate changes
  - Disk-space narrowing

#### 4. Treatment:

- Rest, NSAIDs, physical therapy for muscle strengthening and flexibility
- Bracing may be helpful
- Surgical fusion of the spinal column in severe cases

## **Spondylolysis**

1. Definition:
  - Stress fractures of pars interarticularis of spine
2. Causes:
  - May occur in dance as a result of repetitive microtrauma during extremes of flexion, extension, and rotation
3. Symptoms:
  - Activity related back pain exacerbated by hyperextension of lumbar spine
4. Physical exam:
  - Hyperlordotic posture
  - Limited range of motion
  - Hamstring tightness
  - Tenderness or pain in during single-leg hyperextension - "stork" test
5. Imaging studies
  - X-rays:
    - Classic appearance on oblique view "Scotty dog" with "collar appearance"
  - Lumbosacral Bone Scan with SPECT if diagnosis uncertain after obtaining radiographic images
6. Treatment:
  - Relative rest
  - Physical therapy
  - Possible bracing until healing and dancer is asymptomatic
    - May take up to three months

## **Spondylolisthesis**

### **Herniated Disc**

1. Can see with trauma-falls or repetitive strain of lumbar spine with dance

### **Sacroiliac Joint Sprain**

1. Causes:
  - Prolonged bending and lifting
2. Physical exam:
  - FABER Test (consisting of hip flexion, abduction and external rotation) causes pain in sacroiliac joint
    - Specific for sacroiliac joint pathology
    - Place ipsilateral ankle on contralateral knee in supine patient and put gentle downward pressure on the knee
3. Treatment:
  - Rest, NSAIDs, physical therapy to assist with joint mobilization, stretching and strengthening

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