

# **Sciatica**

## **Background**

### 1. Definition:

- Refers to pain that radiates along path of sciatic nerve
- This nerve runs from nerve roots in lumbosacral spine through buttock and hip area and down back of leg
- Sciatica is not a disease but a symptom that can be caused by several different problems

### 2. Clinical presentation/signs & symptoms

- Back pain
  - Radiating down buttock and leg (hallmark)
- Numbness/tingling in the affected leg (additional)
- Muscle weakness (additional)

### 3. Aggravating factors

- Prolonged standing or sitting
- Coughing or sneezing

## **Pathophysiology**

### 1. Pathology

- Etiology of pain
  - Herniated disk
    - Will usually cause incr in pain with coughing, sneezing or valsalva
  - Spinal stenosis
  - Piriformis spasm
    - Pain will usually not radiate past knee
  - Spondylolesthesis
  - Tumor
  - Trauma
  - Unknown
    - Sometimes no etiology can be found

### 2. Incidence/prevalence

- Low back pain
  - 80% lifetime and 5% annual incidence
- Sciatica
  - 40% lifetime incidence
- Prevalence of sciatica is 1-10% of population

### 3. Population

- Equal male-female distribution
- 25-45 yr age group is most commonly affected

### 4. Duration of symptoms

- Not usually > 6 wks

### 5. Risk factors

- Age > 30
- Occupation
  - Any job that requires heavy lifting, or sitting for long periods of time

- Walking/Jogging
  - Exercise in general does not incr risk
- Genetics
  - Two genes may predispose pt; no conclusive evidence yet (MayoClinic.com, 2006)
- Sedentary lifestyle
  - Sitting for long periods of time
- Diabetes
  - Due to neuropathy

## **Diagnostics**

### 1. History

- Numbness & tingling in affected limb
- Weakness in affected limb
- Pain in affected limb
- Radiation of symptoms from back
  - Down leg
  - Past knee
- Symptoms of pain unilateral

### 2. Physical exam

- Evaluate gait
- Sensory and motor function
- DTR
- Straight leg raising

### 3. Diagnostic criteria

- No specific criteria since sciatica is symptom caused by a specific etiology
- See etiology

### 4. Diagnostic testing

- Labs/radiology
  - Not needed for Dx of sciatica but in order to establish etiology if symptoms do not resolve in 6 weeks of conservative care
  - MRI
    - Perform if "red flag" Sx present
    - Evaluate for disk herniation

## **Differential Diagnosis**

1. Sacroiliac joint derangement
2. Intermittent claudication
3. Thalamic CVA
4. Peroneal palsy
5. Morton's neuroma

## **Treatment**

### 1. Pharmacological

- NSAIDs OTC
  - Ibuprofen
  - ASA

- Prescription NSAIDs
  - Tramadol
  - Celecoxib
  - Ketorolac
  - Diclofenac
- 2. Opiates and others
  - Propoxyphene
- 3. Interventional
  - Epidural injections
    - Especially helpful in short term treatment of sciatica from disc herniation
      - (LOE – 1a, multiple RCT's; SOR A)
    - No shown benefit in long term relief of sciatica
      - (LOE- 1b; SOR B)
  - Surgery
    - American Academy of Orthopedic Surgeons and NIH have agreed that perhaps surgery may be a better option for patients with sciatica lasting > 6 wks
      - (LOE 1b; SOR A)
- 4. Alternative
  - Acupuncture
    - No clear benefit
  - Massage
    - Can help pts use less medication thus is helpful in symptomatic relief
  - OMT
    - Manipulation better than placebo (SOR A)
    - Counterstrain if piriformis syndrome is diagnosed
  - Chiropractic care
    - Spinal manipulation may be helpful especially if centralization phenomenon (of symptoms) is present
- 5. Adjuvant
  - Physical therapy
    - Similar effect to continuing ADLs or bed rest (SOR A)
  - Stretching/exercises
    - McKenzie method of lumbar stretches

## **Follow-Up**

1. Return to clinic
  - Pt should have follow up within a couple of weeks
  - When new symptoms develop
  - Symptoms worsen despite treatment
2. When to refer
  - Pt's with any type of neurological symptoms should be referred immediately as well as anyone whose pain lasts > 6 wks
    - At this point pt should be offered option of surgery vs. continued conservative treatment

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## Evidence-Based Inquiry

1. Treatment of acute sciatica
2. When should an MRI be done for patients with symptoms of sciatica?

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