Subjective Findings and History:
- A herniated lumbar intervertebral disc is the most common cause of radicular pain to the lower extremities.
- A herniated nucleus pulposus is most commonly seen in those patients from twenty to fifty years of age.
- Macro trauma: Onset of pain and paraspinal muscle spasm begins either immediately after the injury or gradually over the next 24 hours. Micro trauma: Repetitive traumatic events not singularly capable of producing injury.
- The acute manifestation of a symptomatic herniated nucleus pulposus is a segmental neurologic deficit secondary to root compression.
- The radicular nature of the pain is aggravated by motion of the spine, coughing, sneezing, or any mechanism that causes increased pressure to the root.
- Compression of the root may also cause paresthesias, loss of a deep tendon reflex, and weakness of specific muscle groups.
- Back pain, radicular limb pain (dermatomal).
- Weakness, sensory disturbance in lower limb(s).
- Possible gait disturbance (heel toe walk)
- Bowel and bladder dysfunction, sexual dysfunction possible.

Objective Findings:
- Postural evaluation reveals: antalgia, decrease/loss of normal spinal curvature
- Orthopedic/neurologic examination directed at differentiating neurogenic from scleratogenous pain, and identifying the level of the disc involvement.
- Nerve compression signs (e.g. muscle weakness, atrophy, loss of reflex, loss of sensation in dermatomal pattern, dermatomal pain distribution, Dejerine’s triad)
- Nerve stretch signs positive, e.g. SLR, Braggard’s, Bowstring, cross-SLR, Fajerstein’s.
- Decrease/loss of normal spinal ROM.
- Palpation: Segmental joint dysfunction/subluxation Tenderness with pressure and/or percussion over involved tissues and vertebrae, muscle spasm or tautness of paravertebral muscles.
- Radiographic examination: depending on age and history of prior episodes (see radiographic guidelines).

Assessment:
Rule out red flags of cauda equina. The differential diagnoses should include epidural abscesses, tumors, spinal meningiomas, and neurofibromas. Bony compression resulting from osteoarthritis and rheumatoid arthritis (RA) may also compress isolated nerve roots. Diabetes and herpes zoster may also cause radiating symptomatology. The clinical impression should indicate the specific anatomical structures involved and clinically correlate them with the mechanism of injury, history, subjective complaints, and objective findings.

Plan:
Passive Care:
- Bed rest limited to 2 days.
- Spinal Manipulation (with caution).
• Physical Therapy Modalities.
• Braces/supports: acute and post-acute bracing, cane, crutches.
• Medications: analgesic and NSAIDS.
• Nutritional supplementation, herbal anti-inflammatories, anti-spasmodics, analgesics.

Active Care
• Active exercise/stretches for mobility and strength.
• Ice/heat application at home.
• Home traction.
• Activities/work restrictions, if appropriate.

Length of Treatment:
• Conservative therapy: 3-6 months.
• Risk factors for chronicity: Significant trauma, co-morbidity (degenerative disc disease, spondylolisthesis, segmental instability, osteoporosis, spine deformity), age, socio-economic factors.

Referral Criteria:
• Referral to an appropriate specialist may be appropriate after 1-2 weeks of care without symptomatic or functional improvement or upon worsening neurologic deficits.
• Referral for advanced imaging: MRI, NCV, EMG, CT if MRI cannot be tolerated.

REFERENCES


Clinical Pathway Feedback
CHP desires to keep our clinical pathways customarily updated. If you wish to provide additional input, please click on the email address listed below and identify which clinical pathway you are referencing. Thank you for taking the time to give us your comments.

Chuck Simpson, DC, CHP Medical Director: csimpson@chpgroup.com