ISAEC Inter-professional Spine Assessment and Education Clinics

Sciatica/Lumbar Radiculopathy

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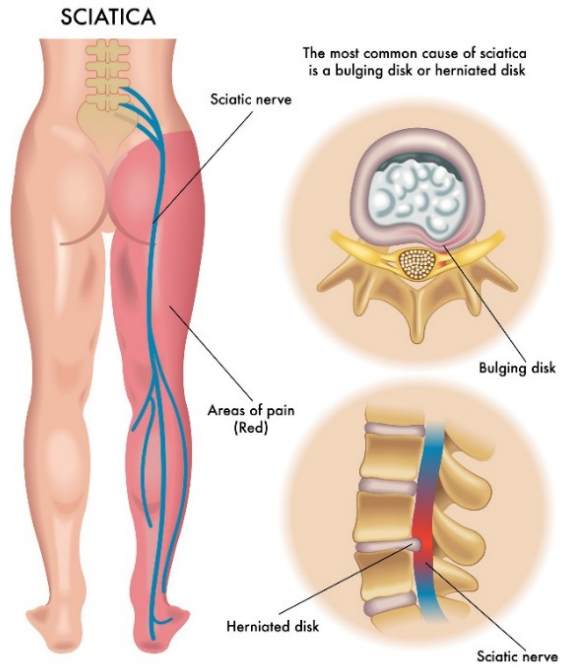
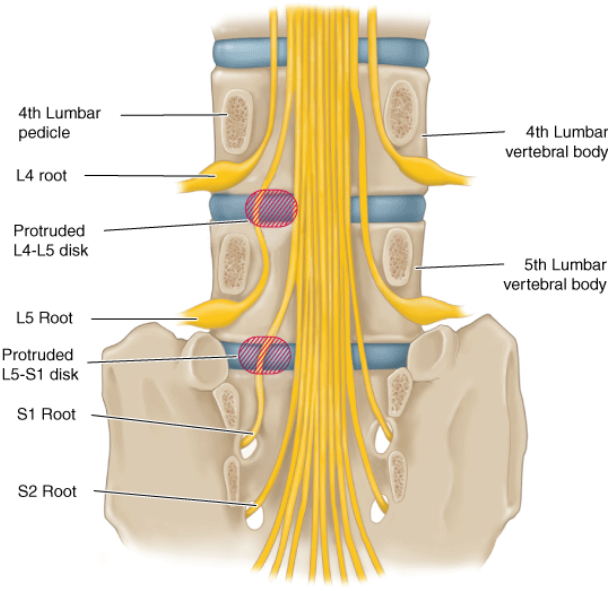
Sciatica/lumbar radiculopathy is usually the result of an acute herniated disc which leads to the chemical and mechanical irritation of the associated nerve root. In addition, to the pain experienced from the chemical irritation, it is also believed that the pain is mediated by inflammatory mechanisms as the body mounts an immune response to the herniated material. Together, this leads to the constant leg dominant symptoms (buttock and leg) that are often associated with a disc herniation that affects a particular nerve root. Rarely, are these radicular symptoms caused by more sinister pathologies (i.e. tumour). However, if the disc herniation is significantly large enough, Cauda Equina Syndrome may result. This syndrome is associated with the urge to urinate but an inability to initiate, with eventual overflow incontinence and/or fecal incontinence and/or saddle anesthesia. Should these signs and symptoms be present, an immediate referral to the emergency department is required. Thankfully, Cauda Equina Syndrome like sinister pathologies is rare. By far the most common type of disc herniation is a posteriolateral disc herniation. This type of injury usually affects the nerve root associated with the lower vertebral segment (i.e. a right posteriolateral L5/S1 disc herniation would result in a right S1 radiculopathy). These patients will present with leg dominant symptoms that are aggravated with sitting and flexion activities along with positive nerve root irritation tests (i.e. positive SLR) that will reproduce their typical leg dominant symptoms. Additionally, these patients could have associated conduction loss (motor weakness, sensory deficit or loss of reflexes). Another example of a disc herniation that can occur is a lateral disc herniation. This type of herniation usually affects the exiting nerve root in the foramen (i.e. a left lateral disc herniation at L4/L5 would cause a left L4 radiculopathy). On presentation, these patients often have difficulty with both extension and flexion as either position will aggravate their leg dominant symptoms. As well, these patients could have a positive SLR or conduction loss.





Source: Fauci AS, Kasper DL, Braunwald E, Hauser SL, Longo DL, Jameson JL, Loscalzo J: *Harrison's Principles of Internal Medicine*, 17th Edition: http://www.accessmedicine.com

As painful as this condition can be the natural history of most radicular presentations is favourable as 80 – 90% tend to resolve within 6-12 weeks with conservative management (NSAIDS, Lyrica or Gabapentin and an appropriate directional preference exercise program). Additionally, conservative management can include a selective root block (a cortisone injection in the lumbar spine to the affected nerve root). Neurological deficits such as drop foot, absent reflex, motor weakness and altered sensation that may accompany a radiculopathy can take up to 3 – 12 months to resolve. However, at one year most patients reach their maximum recovery. For those patients that do not recover through conservative means or continue to find their condition functionally limiting, surgery may be an option.

80% of discogenic leg dominant symptoms will start to resolve within a 3 month time-frame. Surgical intervention is a successful option for those whose symptoms do not resolve with conservative care.