Sciatica

Sciatica is a type of pain caused by compression or damage to the sciatic nerve. The shooting sensation goes along the sciatic nerve and extends from the lower back to the foot. The straight-leg raising test is conducted to determine the presence of sciatica. Drug therapy includes anti-inflammatories and steroid injections. Intradiscal electrothermoplasty (IDET) may be done to denervate the small nerve fibers for pain relief.

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Cause

Compression or Damage to Sciatic Nerve
Compression and Damage to Scythe Nerve
Sciatica is caused by compression or damage to the sciatic nerve located in the lower back. The sciatic nerve travels along the thighs, down the legs, and extends to the toes. Sciatica is caused by lower back or hip conditions such as spinal disc herniation, degenerative disc disease, and lumbar spinal stenosis.

Herniated Disc
Herniated Disc
Spinal disc herniation is a common cause of damage to the sciatic nerve. A tear in the spine's outer fibrous ring allows the soft central portion of the spine to bulge out and compress surrounding spinal nerves. The tear in the outer fibrous ring may also activate the release of inflammatory chemical mediators. A herniated disc may be caused by age-related degeneration, trauma, injuries related to lifting, or straining.

Assessment

Shooting Pain
Shooter causing Pain-bolt
The patient with sciatica experiences a quick, shooting sensation along the course of the peripheral nerve down their leg. The pain may originate from the joints or muscles of the lower back. Other symptoms include numbness, weakness, or tingling in the patient's leg or foot. The pain may worsen with prolonged sitting or standing, sneezing, coughing, laughing, or bending backwards. Assess the patient's pain by asking them to describe the pain's onset, location, intensity, and quality.

Lower Back Down to Thigh
Lower Back to Thigh
Sciatica is a type of radicular pain caused by irritation of a nerve root. The pain caused by sciatica travels along the sciatic nerve. The patient may experience pain extending from the back of the thigh and along the leg. Sometimes, the shooting pain may extend to the foot. The pain found in sciatica is often isolated to one side of the body.

Interventions

Anti-Inflammatories
Ant-tie-fire-extinguisher
Treating the underlying cause of sciatica helps provide symptom relief. Since the condition may involve the release of inflammatory chemical mediators, anti-inflammatories are administered to provide pain relief. The drugs minimize symptoms of pain and inflammation by decreasing chemical signals along the sciatic nerve. Common anti-inflammatories include NSAIDs or oral steroids [refer to the Picmonic on "Ibuprofen (NSAIDS)"].

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Steroid Injections

Steroid-stairs Syringe

Steroid injections are recommended for patients with severe cases of sciatica. A corticosteroid is injected into the spinal column to decrease inflammation and provide short-term pain relief. Risks of epidural steroid injections include infection, excessive bleeding, and nerve damage. To avoid serious side effects, the patient with sciatica is only allowed a limited number of injections each year.

IDET (Intradiscal Electrothermoplasty)

In-disc Electrode

Intradiscal electrothermoplasty (IDET) is a minimally invasive outpatient procedure indicated to help relieve pain associated with sciatica. Guided by x-ray, a heated needle is inserted into the disc to denervate small nerve fibers causing the shooting pain. By partially melting the outer portion of the spine, IDET also triggers the body to generate new reinforcing proteins in the outer portion of the spine.

Considerations

Straight-leg Raising Test

Straight-leg Raising Test

The straight-leg-raising test is used to determine the presence of sciatica. The patient is in the supine position and the suspected leg is passively raised to a 60 degree angle. If the patient complains of pain along the sciatic nerve, the test is positive and indicates nerve root irritation from the intervertebral disc prolapse and herniation. The irritation typically occurs at the level of L4-L5 or L5-S1.

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