Dynamic Chiropractic

DIAGNOSIS & DIAGNOSTIC EQUIP

Palpation for Sciatica

Warren Hammer, MS, DC, DABCO

According to a recent study, palpation of inflamed sciatic, tibial and common peroneal nerves can be another procedure added to the slump test and the straight leg raise (SLR), for example, to determine if there is neural involvement.[1] The study by Walsh and Hall states that nerve palpation is one of the key factors in the classification of low-back related leg pain.[2,3] Of the three nerves palpated, the sciatic nerve exhibited the greatest accuracy followed, in order, by the tibial and common peroneal nerves. A negative finding of no positive palpation sites thus indicates that the target condition (sciatic nerve mechanosensitivity) can be ruled out. Two or more positive palpation sites had the greatest overall diagnostic accuracy, so it is important to palpate all three sites.

The sciatic nerve is best palpated at the midway point of a line from the ischial tuberosity to the greater trochanter of the femur; the tibial nerve where it bisects the popliteal fossa at the mid-point of the popliteal crease; and the common peroneal nerve where it passes behind the head of the fibula to wind around the fibula neck. It is best palpated more distally to the tendon of the biceps and over the neck of the fibula.[4]

However, while the above tests help to determine that the nerve is involved, determining the source of the pain is another matter. Schafer, et al.,[2] proposed four general classifications for low back-related leg pain: central sensitization, denervation, peripheral nerve sensitization and musculoskeletal. Briefly, the symptoms and signs for central sensitization are distal pain, hyperesthesia, hyperalgesia and paresthesia, along with the signs accompanying denervation and peripheral sensitization (see signs as follows). For denervation, the symptoms are segmentally distributed distal pain, hypoesthesia, weakness and palsy, and the signs are diminished light touch and pinprick, diminished or absent reflexes, muscle weakness and minimal signs of peripheral nerve sensitization.

For peripheral nerve sensitization, the symptoms are pain anywhere in the leg and pain associated with movements that elongate the nerve trunk; the signs are nerve sensitivity to elongation and pressure, and reduced active movements corresponding to nerve mechanic-sensitivity. Therefore, in peripheral nerve sensitivity there would be sensitivity to neural provocation such as nerve palpation, the slump test and the SLR, but there would not necessarily be any hard neurological signs.

Finally, for musculoskeletal causative lower extremity pain due to discs, facet joints, sacroiliac joints and muscles (and fascia) or a combination thereof, pain is usually worse in the proximal portion of the hip and lower extremity with normal neurological signs. The nerves may not be sensitive in the musculoskeletal classification. So, it is evident that although we can determine that a nerve is sensitive, the cause is not always apparent.

References

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