

Sural Nerve Neuritis in athletes

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Narrative: The author discusses *sural* nerve dysfunction seen in athletes. Professional Applied Kinesiology (PAK) methods for diagnoses of *sural* nerve problems are presented based on the authors experience.

Indexing terms: Chiropractic; Professional Applied Kinesiology; Sural Nerve Neuritis, Sural Nerve Entrapment.

Introduction

Lateral *sural cutaneous nerve* (LSCN) neuritis can occur in athletes from shoe pressure on the nerve or from direct physical impact trauma during contact sports. The nerve can be treated with conservative chiropractic and myofascial therapy (MFT) aided with PAK diagnosis. (1, 2)

Context

This condition can result in significant numbness, tingling, and/or pain along the lower lateral leg and foot. Sensitivity to touch and pressure over the nerve can be very intense. *Tinel's sign* may be positive over the nerve, which is commonly entrapped by scar tissue and adhesions. Achilles tendon, foot, and ankle problems can be confused with the *sural* nerve symptoms or concurrent. It can develop over time after an athlete has been kicked or stepped on numerous times or from tight footwear. Thus, it is often undiagnosed. (1, 2)

The LSCN provides only sensory and has no motor component. However, it does contribute to the overall afferent bombardment to cord and brain from lower lateral leg, ankle, and foot. If the extremity involved is chronically symptomatic, then it is one more opportunity for the PAK practitioner to help the athlete improve and perform better by cleaning up the related nociception and sensory signals from the area.

The author has used numerous methods to help the nerve heal including chiropractic, MFT, acupuncture, low-level laser, ice, and anti-inflammatory remedies. If there is no improvement from conservative treatment the patient may need referral to rule out other potential medical issues.

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Chiropractic treatment recommendations

- ▶ Challenge and treat nerve origin and other areas that can affect the nerve (3)
 - L5 and S1 subluxation
 - Piriformis syndrome
 - Fibular head subluxation
 - Usually posterolateral
 - May need taping below fibula head to stabilise fibula and knee (see fig 1)
 - Assess lateral and medial hamstrings and popliteus
 - Talus subluxation (see fig 2)
 - Usually medial, often lateral after inversion sprain, can also be anterior
 - 5th metatarsal subluxation (see fig 3)
 - Adjust for dropped 5th met head



Figure 1

Left: Fibula taping
Below: Fibula adjustment



Figure 2: Medial talus adjustment



Figure 3: Met head adjustment



Myofascial Therapy considerations

- ▶ Directionally challenge the skin over the following locations
 - Distal Biceps Femoris, popliteal fossa, and the area from posterior middle calf to posterolateral malleolus, lateral foot
 - Treat fascia in direction of strength to patient tolerance with slow, deep passes (see figs 4, 5)
- ▶ Additional treatments especially if local scars in the area from previous surgery or trauma
 - Laser, neural therapy injections, fascial flush, acupuncture, Essential Oils of helichrysum, peppermint, lavender
- ▶ Nerve flossing (see fig 6)
 - Supine with leg at about 90° hip flexion, fully invert ankle, then plantar and dorsiflex ankle approximately 10-20 times



Figure 4: Releasing surface fascia

Figure 5: Deeper fascia layers



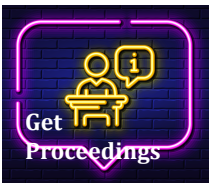
Figure 6: Sural nerve flossing

Conclusion

We have seen this approach to *sural* nerve symptoms provide significant improvement in comfort during training and competition.

Therefore, it is an opportunity for the PAK practitioner to help the athlete improve and perform better by cleaning up the related nociception and sensory signals related to this often excruciating and undiagnosed condition.

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Cite: Stark BA. Sural Nerve Neuritis in athletes. Asia-Pac Chiropr J. 2023;4.2. URL apcj.net/ak-proceedings-papers/#StarkSuralNerveNeuritis

References

1. www.Wikipedia.com, Sural nerve.
2. The Sural Nerve, Anatomy and entrapment. Functional Anatomy. November 26, 2009.
3. Leaf D, Applied Kinesiology Flowchart Manual, 3rd ed. Section EX 5; Privately published, Plymouth, MA; 1995.