Decompression of the Lateral Sural Cutaneous Nerve to Relief Chronic Exertional Lower Leg Pain After More Than 30 Years - Rare or often Overlooked?

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**Introduction:** The Lateral sural cutaneous nerve (LSCN) derives from a variable network of both the tibial nerve and the common fibular nerve and supplies the upper lateral aspect of the lower limb below the knee (Fig. 1). Isolated entrapment of this nerve has only been reported very rarely.

**Case report:** - 65-yo male, severe bilateral exertional lower leg pain since more than 3 decades
- during jogging > 20 min - not during normal walking.
- Localized stabbing / burning pain of lateral calf with irradiation into his lateral foot.
- Cutaneous sensitivity, tenderness and positive Tinel sign over LSCN, motor function and reflexes normal.
- Multiple conservative treatments, including local injections and bilateral surgical fasciotomies (to treat exercise-induced compartment syndrome) failed
- Painfree after 2 infiltrations of the LSCN with Lidocain 2%

**Results:** - Preoperative marking of LSCN tender point over lateral calf (Fig. 2), nerve derived from the common peroneal nerve bilaterally and was decompressed by cutting a strong fibrinous band (deep fascia extending into the gastrocnemius and peroneus longus muscle) (Fig. 3).
- Fading of symptoms and patient completely painfree since about 1 month postoperatively, healing uneventful (Fig. 4).

**Discussion:** - Only 4 reports of LSCN entrapment published to date, the first case in 1998 - only 2 progressed to surgery and this may first bilateral occurrence succesfully treated by surgical decompression.
- Diagnosis of entrapment difficult due to variable innervation in lateral calf and the obscurity of this nerve compressed by local tumors (cysts), tendons or fascial structures.

**Conclusion:** The LSCN is a little-known and cutaneous sensory nerve with high anatomic variability. Mononeuropathy of this nerve should be considered in pure sensory symptoms at the lateral calf. Due to difficult diagnosis, entrapment of the LSCN may be more common than its rare description in literature. Surgical neurolysis may resolve pain and paraesthesia if conservative measures have failed.

![Fig. 1: Anatomy of the Lateral sural cutaneous nerve (LSCN)](image)

![Fig. 2: Tender points marked preoperatively over lateral calf.](image)

![Fig. 3: Decompression by cutting strong fibrinous band (extension of deep fascia extending into gastrocnemius / peroneus longus muscle).](image)

![Fig. 4: Inconspicuous scar 3 months postop at lateral calf](image)