

### Introduction

Common Peroneal Nerve (CPN) neuropathy is the most common entrapment neuropathy of the lower extremities. Patients present with sensory loss along the anterolateral leg and dorsum of the foot, or weakness of the foot dorsiflexors and evertors. The diagnosis is confirmed by electrophysiological studies.

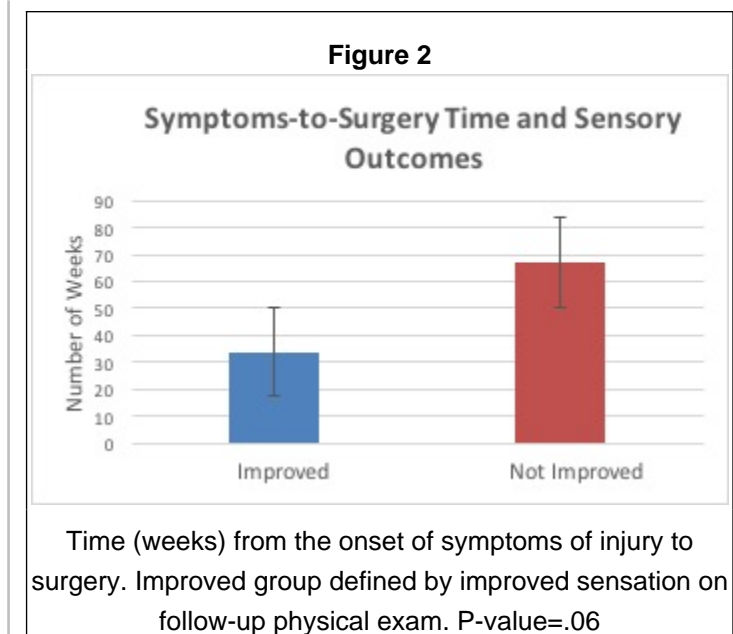
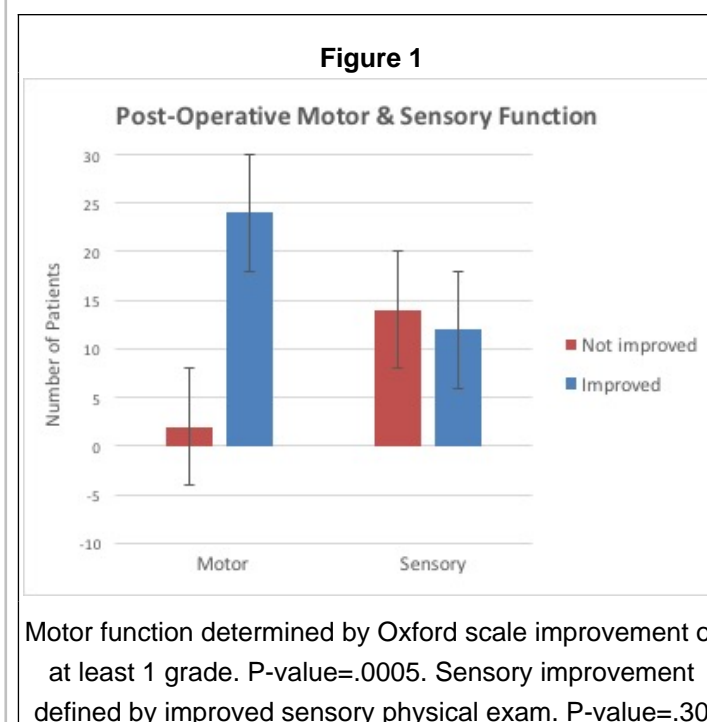
### Methods

This is an IRB-approved retrospective review of a prospectively maintained database of patients who underwent decompressive surgery for CPN neuropathy with a minimum of 3 months follow up at Loyola University Medical Center over the past 10 years. The indication for surgery was intractable pain or motor deficit. Demographic and clinical information, body-mass index (BMI), and time-to-surgery were obtained. Motor scores were totaled using the Oxford Scale. Improvement was defined as at least one of the following: resolution of pain, sensory improvement, or improvement in motor score by at least a 1-grade.

### Results

30 patients met the above criteria; 19 were male and 11 female. The average age was 44 years. 14 patients presented with left-sided, 14 with right-sided, and 2 with bilateral CPN neuropathy. The average BMI was 31.5, with a range of 15-49.6. Numbness in the distribution of the CPN was reported at presentation by 14 patients, but 26 patients had loss of sensation on clinical examination. Pain was reported by 16 patients, while 26 patients had weakness. A positive Tinel's sign at the lateral fibular neck was noted in 12 patients. In 29 patients, a precipitating event was reported; trauma in 14 patients, 12 had a previous surgical procedure, 2 had a mass lesion, and 1 followed a local infection.

The average time between onset of symptoms and surgery was 123 weeks, and the average time from initial visit to surgery was 21 weeks. The average total operating room time was 170 minutes and the average skin-to-skin time was 91 minutes. Postoperative complications were noted in 1 patient. Of the 26 patients who presented with abnormal lower extremity motor scores and had a 3-month follow up, 24 had at least 1 grade improvement in motor scores, and 2 experienced no change. 26 patients presented with lower extremity decreased sensation, and 12 of these patients reported improved sensation, while 14 patients reported no change in sensation. Patients who presented with weakness had a significant trend towards motor improvement ( $p=.0005$ ) as opposed to patients presenting with sensory deficits (*Figure 1*). Patients with an increased time to surgery had a non-significant trend towards worse sensory outcomes ( $p=.06$ ) (*Figure 2*).



### Conclusions

Surgical decompression of the CPN at the lateral fibular neck is an effective and safe procedure. Patients presenting with sensory loss did not show a significant trend towards improvement with surgery, while patients presenting with motor deficits had a significant improvement with surgery. There was a trend of worse outcomes with a symptoms-to-surgery time greater than 67 weeks.

### References

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