Violinist with Chronic Cervical Neck Pain Treated with Third Occipital Nerve, C3, and C4 Medial Branch Radiofrequency Ablation

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INTRODUCTION

- Violinists have unique occupational demands that place them at greater risk for chronic neck pain
  - Prevalence > 50%[1]
  - More common in women[1]
  - More commonly on the left side[1]
  - Greater reps → greater risk[1]
- Related to repetitive and prolonged asymmetric neck rotation/flexion[1]
- Several neck musculoskeletal pathologies commonly seen in violinists, two of the more common that can at times be difficult to distinguish are:
  - Myofascial Pain
  - Facet Mediated Pain

METHODS

Patient informed consent was obtained for submission of a case report. All patient protected health information has been de-identified. As the case report is devoid of patient identifiable information, it is exempt from IRB review requirements as per Mount Sinai Hospital policy.

CASE REPORT

- **45 y/o F violinist** presented with **years of left sided neck pain**, worsening over the past year
  - **Pain:** Sharp, 9/10, radiated to base of the skull, left shoulder, and left trapezius muscle. Limited her ability to play the violin.
  - **Denied:** numbness, tingling, weakness
  - **Aggravating factors:** playing violin for prolonged periods, neck flexion
  - **Physical Exam Pertinent Positives:** TTP left cervical articular pillars, TTP left cervical paraspinals, TTP left trapezius, pain-limited cervical ROM, pain with cervical facet loading on the left.
  - **Failed Conservative Management:** topicals, acetaminophen, NSAIDs, Physical Therapy, Trigger Point Injections
  - **MRI of Cervical Spine:** showed left facet degenerative hypertrophy with degenerative marrow edema at C2-C3
- **Underwent Fluoroscopically-guided TON, C3, and C4 Medial Branch Blocks x2**
  - Achieved >80% pain relief with each MBB that lasted approximately 1-2 weeks
- **Ultimately Underwent Fluoroscopically-guided TON, C3, C4 Radiofrequency Ablation**
  - **At one month follow-up:** she reported persistent 90% pain relief, improved QOL, and an ability to return to playing the violin relatively pain-free

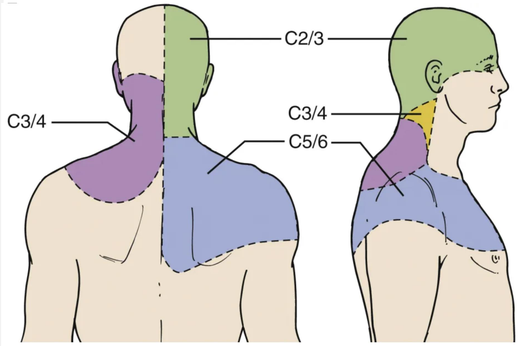


Figure 1. Cervical Dermatomes[2]

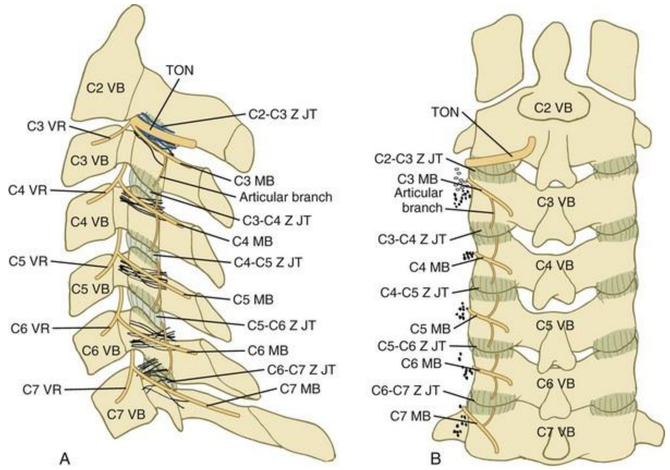


Figure 2. Anatomy of Cervical Spine Zygapophysial Joints & Innervations[3]

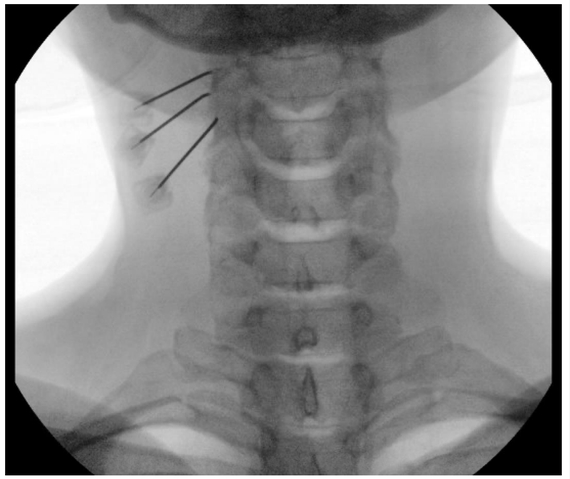


Figure 3. Fluoroscopy-guided TON, C3, C4 RFA (Original)

DISCUSSION

- The Third Occipital Nerve (TON) is a superficial medial branch of C3 that supplies the C2-C3 facet joint.[4]
  - Important target for patients with evidence of facet-mediated pain at this levels
- Targeting adjacent medial branches can improve outcomes in those with more broadly affected cervical dermatomes.
- Violinists have occupational pre-dispositions to facet-mediated neck pain
- RFA of TON, C3, and C4 may be a good treatment option in these and similar cases.

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