

# Manual Therapy Interventions in a Complex Case of Upper Quarter Symptoms in a Professional Violinist

**Paul D. Howard, PT, DPT, PhD, OCS, FAAOMPT**

Department of Pathology, Anatomy, and Cell Biology, Sidney Kimmel Medical College, Philadelphia, PA

## Purpose

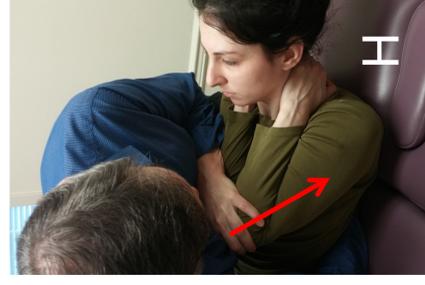
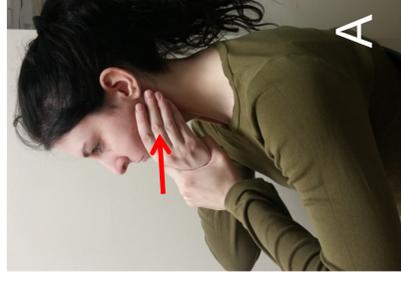
To illustrate how knowledge of clinical anatomy, biomechanics, and orthopaedic manual therapy can be applied to the examination and treatment of a violinist.

## Case Description

- 48-year-old, female, professional violinist, plays violin 4-6 hours per day
- Multiple musculoskeletal symptoms related to playing violin (see table below)
- Prior treatment: chiropractic, massage therapy, acupuncture, Roling, cranio-sacral therapy
- PMH: unremarkable
- PSH: none
- Meds: Lorazepam for performance anxiety
- Imaging: MRI showed mild bulging discs at C4-C5, C5-C6

## Summary of Examination Findings and Interventions

Symptoms	Examination Findings	Interventions
<b>Headache:</b> biw, 6/10, several years	- Posture: forward head - Cervical PA joint play: stiff - Cervical flexion rotation test: (+) - OA nodding: (+)	- Posture correction (A) - Joint mobilization upper cervical spine (B) - Suboccipital release (C)
<b>Left TMJ:</b> Stiff with talking/chewing, 6 months	- AROM: jaw deviated to left with opening, sx reproduced with end range overpressure	- Self stretching into end range opening (D) - Inferior, lateral, and antero-inferior joint mobilization (E)
<b>Cervico-thoracic junction pain:</b> Stiff, 2/10 constant pain, several years	- Palpation: tender - Joint play testing: stiff and increased the sx	- Left first rib mobilization (F) - Deep breathing with rib cage expansion (G)
<b>Interscapular soreness &amp; weakness:</b> while playing violin, several years	- Thoracic spine PA joint play: stiff - MMT rhomboids & lower trapezius: 4/5	- Thoracic manipulation (H & I) - Strengthening of scapular stabilizers (J)
<b>Left lateral arm pain:</b> 3/10 pain while playing violin, several years	- Left Spurling A test: (+) - Cervical distraction test: (+) - ULTT (ulnar nerve bias): (+)	- Cervical spine right lateral flexion joint mobilization (K) - Ergonomics: maintain head more in mid-line when playing violin
<b>Paresthesia of the left 5<sup>th</sup> digit:</b> while playing violin, several years	- ULTT (ulnar nerve bias): (+)	- Sliders for the ulnar nerve (L) - Cervical lateral glides with sliders (M) - Ergonomics – elbow in extension when not playing



## Outcomes

Following four sessions of physical therapy and a home exercise program over a one month period the patient had full resolution of all symptoms. She was able to play violin and perform all other activities symptom-free.

## Discussion

Manual orthopaedic physical therapy and a home program were effective in resolving all symptoms in a complex case involving the upper quarter in a professional violinist. Knowledge of clinical anatomy, biomechanics, and manual therapy can be very helpful in treating violinists. Violinists can develop a multitude of musculoskeletal symptoms due to their long hours of practice.



## References

1. Rana MV. Managing and treating headache of cervicogenic origin. *Med Clin North Am.* 2013;97(2):267-280.
2. Hall TM, Briffa K, Hopper D, Robinson KW. The relationship between cervicogenic headache and impairment determined by the flexion-rotation test. *J Manip Physiol Ther.* 2010;33(9):666-671.
3. Wagner RM, et al. Efficacy of musculoskeletal manual approach in the treatment of temporomandibular joint disorder. A systematic review with meta-analysis. *Manual Therapy.* 2016;21:10-17.
4. Coopieters MW, Butler DS. Do 'sliders' slide and 'tensioners' tension? An analysis of neurodynamic techniques and considerations regarding their application. *Manual therapy.* 2008;13:213-221.
5. Reinold MM, et al. Current concepts in the scientific and clinical rationale behind exercises for glenohumeral and scapulothoracic musculature. *J Ortho Sports PT.* 2009;2:105-117.