

## **CASE STUDY 2**

**ABSTRACT:** Patient is a 45 y.o. female referred to PT for treatment of facial numbness and tingling which is much improved with treatment techniques of neural manipulation.

**KEY WORDS:** Numbness, neural manipulation, pain

**Date:** 02/12/2018

**HISTORY:** Patient reports that she began to have some pain into her face as well as into her arms on July 3, 2017 without injury. She progressed to having constant numbness in the face. She was seen by a PT and was treated with postural correction, work station ergonomic assessment, new computer glasses, and some Neural Manipulation of ulnar nerves which resolved most of the arm symptoms. She was referred to this treating therapist due to the pain and numbness which was chiefly in the face, around the eyes, and into both the maxilla and mandible. Surgical history includes Lt. knee ACL repair 1991 and L4/L5 microdiscectomy will still infrequent sciatic/leg pain. Patient has been seen by a neurologist, orthopedist and has had a brain scan and x rays.

### **OBJECTIVE ASSESSMENT:**

**Posture:** Patient stands with a pronounced forward head/rounded shoulder posture with anterior angulation of C6 on C7 and C7 on T1. Increased tone is evident in ant. Neck muscles and the Lt. clavicle is elevated at SC jt. and also at AC jt. Scapulae are elevated and abducted. Patient breathes without use of diaphragm and utilizes accessory muscles to breathe.

**Jaw ROM:** Jaw mobility is decreased on left with opening to 25 mm and decreased lateral deviation to Lt. at 5mm; Rt. 7 mm. Lt. side of the mandible moves into the external auditory meatus on jaw closing with a deviation left on opening.

**Sub Cranial ROM:** 0 degrees in forward nod, 5 degrees in side bend Rt. and 0 degrees in side bend Lt.

**Active Cervical ROM:** Forward bending is 3 fingers from chest, Backward bending is 2/3 range Rotation Rt. is 55 degrees and Lt is 45 degrees Right side bending is 20 degrees and Lt is 10 degrees. Seated thoracic rotation is stiff and limited to 10 degrees Rt. and Lt. Active trunk motion into forward bending is limited by dural restriction at 30 degrees.

**Neuro:** DTR's are 1+ bilat at Biceps with tension in brachial plexus at Scalenes.

**Sensation:** facial numbness, burning and tingling V2, V3 and into mandible and maxilla

**STRENGTH:** Weakness noted in deep neck flexors at 3/5; Scapular stabilizers: Rt. 3+/5 lower trap on Rt. and tightness in Lt. shoulder does not allow her to even get into position for testing

on Lt. Rhomboids: Rt: 5-/5 Lt. 4+/5; Mid traps,4/5 Rt. and 4-/5 Lt. Scapular dyskinesia due to overuse of upper traps/lev. Scap. in function.

**Listening at Vertex:** Trigeminal Ganglion

**Chief problems:**

1. Lt.-sided facial numbness V2 and V3 distribution which is constant.
2. Popping in jaw and stiffness Lt>Rt.

**Pain:** 2/10 at best to 7/10 at worst 3/10. Neck and thoracic spine stiffness and pain. Pain was 4/10 at best to 7/10 at worst.

Functional Outcome Measure: Custom care Connection for Cx/T was 78%. Patient's chief complaint was inability to sit and read for pleasure.

**TREATMENT:** Patient was seen for eight 60 minute visits from her initial evaluation on 11/16/2017 until her re-evaluation on 02/12/18. Prior to treatment on each session, the patient received a General Listening assessment with the same done at the end of the session to ensure a change had been made. Next, a supine listening at the vertex as done at each session prior to treatment of a neural/cranial structure with a second listening done after treatment to determine if a change had occurred and also direct next intervention. As appropriate, listening at the RCPM, sacrum, and UE's, LE's guided treatment. Patient received neural manipulation to the Trigeminal ganglion and branches into V1, 2, and 3 distribution as well as into Vagus, Facial branches and Phrenic nerves. Falx Cerebri and Tentorium were released as well as Dura at RCPM and along the dural restrictions into sacrum and coccyx. Neural manipulation treatment of occipital nerves, cervical plexuses and brachial plexuses Lt>Rt was added as treatment progressed. All treatment was guided by general listening followed by listening at the Vertex and listening at the RCPM and eventually listening at sacrum with checking of the witnesses (Frontal bone for osseous restrictions, saggital suture line for membranous restrictions, and Coronal suture line for sutural restrictions.) Patient also received exercises for neural gliding and dural mobilization as well as exercises for mobility and stability.

**Reassessment:** Patient was re-evaluated on 02/12/18 and had much improvement in her facial numbness with treatment. She still has production of symptoms at times but she is now able to adjust her position and decrease her symptoms due to her training in PT. For example, she was skiing and she realized she was getting the facial numbness and she adjusted her posture and the symptoms disappeared. She has much more awareness of her neural restrictions and how her postures can affect her neural symptoms. Pain is 0/10 and never gets above a 2/10 in neck/jaw. Jaw opening does not cause pain and movement of mandible stays midline. Thoracic spine rotation increased to 30 degrees Rt. and Lt. Facial numbness is not present

constantly and she can go 2-3 days sometimes without production of symptoms in her face. Subcranial nod increased to 5 degrees and Lt. side bend to 5 degrees. Active cervical ROM increased in Forward bend to 2 fingers short of chest, backward bend: 2/3 range; rot Rt. 55 degrees and Lt. 50 degrees ; Rt and Lt. side bend 20 degrees. Strength was also improved in deep neck flexors to 3+/5 and shoulder improved to allow her to get into position to begin to use her lower trap in function with 3+/5 strength. Patient will continue in PT to address her ongoing strength and stiffness issues in neck and back with the goal of 0 facial numbness in 3 months. The dural restriction in the lumbar spine from the microdiscectomy will be the focus of future treatment as this dural restriction limits her spinal mobility and has provoked facial pain with functional activities involving LE's. She has core weakness which will be addressed along with the ongoing scapular weakness as the mobility of her neural tissues improve and allow new range in which she can strengthen associated musculature for stability. Functional Outcome Care Connection increased to 86%. Patient is thrilled that she can now sit and read a book for 4 hours without production of facial numbness which was her chief goal. She reports she feels much better overall and has returned to exercise and skiing.

**Conclusion and Recommendations:** This patient presented with significant neurological symptoms manifesting as facial numbness in V2 and V3 which were significantly impacting her daily life as a Physician. She had complete medical work ups from Orthopedics and Neurology without help with her symptoms. Her initial PT referral was to a therapist that had some beginning level courses in Neural Manipulation (NM1 and 2) and she was helped some with Neural Manipulation techniques. The therapist was aware of the Barral program and made the appropriate referral to another PT with more extensive training to address remaining issues. The patient is quite pleased with her progress thus far and will be seen for follow up as needed in the future to work with remaining postural/visceral and neural tensions as found with Listening techniques.

**Treating Therapist:** Linda Keahey- Oberdorfer, PT

**References:**

1. Barral Institute Neural Manipulation Course Workbooks from NM1-4, 2002-2016
2. Barral & Croibier. Manual therapy for Cranial Nerves. Palm Beach Gardens FL: Barral Productions; 2013
3. Barral & Croibier. Manual Therapy for the Peripheral Nerves. Palm Beach Gardens FL: Barral productions: 2013
4. Barral & Croibier. Trauma an Osteopathic Approach. Seattle WA: Eastland Press Inc.; 1999