

# Upper Cervical Chiropractic Management of Trigeminal Neuralgia.

## A Case Series.

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### Introduction:

Trigeminal Neuralgia (TN) is a debilitating facial pain condition with an uncertain aetiology, though it has established criteria for diagnosis. Upper cervical spinal kinematic dysfunction has been implicated; in particular, the chiropractic neuro-musculo-skeletal (NMS) based subluxation hypothesis.

Clinical observation supports this, particularly chiropractors claiming to normalise functional capacity of the upper cervical joint complex. However, no extensive scientific data on these observations exists, excepting specific case reports, and the fact that close anatomical relationship exists between Trigeminal nerves and the cervical spine.

Subjects within this group demonstrated various levels of prior intervention - pharmacological, surgical, complementary - including other forms of chiropractic technique.

Goals of this study were to assess change in pain perception with diagnosed chronic TN over the course of chiropractic care, and any change in medication dependency or functional capacity.

### Methods:

Three patients were sourced from the Sydney Support Group of the Trigeminal Neuralgia Association of Australia, two others were referrals to this authors' office. They were placed on a program of chiropractic care if they met established criteria of TN diagnosis, and pro-

ocols pertaining to Atlas Orthogonal Chiropractic (AOC) spinal adjustment procedures. That is, the patient had to exhibit concurrent upper cervical spinal kinematic dysfunction to be included.

Outcome measures included pre and post adjustment radiographs and McGill and Visual Pain scales. Correction of upper cervical malalignment used vectors calculated via sagittal, frontal and horizontal plane radiographic views. Vectors were then applied to the side-lying patient (figure 1) at the level designated to be in line with the atlas transverse process on the superior side of atlas tilt (figure 2), using a low-force and amplitude percussion atlas adjusting instrument (figure 3). Adjustments were performed until rectification of atlas malalignment was corrected according to AOC subluxation diagnostic protocols, being:

- static sub-occipital palpatory pain improvement of neuromuscular structures and digitally palpable tissue compliance changes
- visual improvement of postural supine leg length inequality
- structural/postural realignment toward *orthogonal* of the cranio-cervical junction, measured on radiographs
- analysis of symptomatic changes reported via the patient

A maximum of 16 visits were conducted, depending on need for adjustment. Case 2 discontinued at visit nine and case 5 has only needed 11 visits in one year.

### Results:

All but one patient reported decreased pain values. However, they did report other functional improvements such as neck pain reduction. The majority of subjects displayed no complete cessation of perceived TN pain, but decreased medication dosages were recorded. Subjective reports and objective findings of NMS related improvements are also discussed (See "outcomes" column in table below). Pre and Post radiographs (only the Frontal view is shown here) indicate that in all cases the cranio-cervical relationship resembled a more orthogonal (right angled) relationship. The theory that a subluxation being reduced to affect pain, posture and function is therefore explored. (NB: post x ray unavailable for case five)

### Conclusions:

Four of five subjects in this study demonstrated decreased perception of pain, which was often directly related to decreased medication intake. Two experienced complete pain cessation for the first time in years. The results suggest a correlation between applied, specific, directional mechanical forces to the upper cervical spine and TN pain. The mechanisms of action, though widely hypothesised, are largely unknown. Credible support for a NMS connection with TN could only be forthcoming with larger, longer-term studies. Questions on sustained pain relief and other benefits are also raised.

Perceived Pain Graph: Blue = maximum; Purple = minimum	Case	outcomes	pre radiograph	post radiograph
	<p><b>One</b></p> <ul style="list-style-type: none"> <li>• Female</li> <li>• 52 years of age</li> <li>• TN since 1998 abdominal surgery</li> <li>• Tried Tegretol®, vitamins, heat</li> <li>• Triggers: weather/breezes</li> <li>• Other: neck, low back pain, headaches, hearing loss</li> </ul>	<ul style="list-style-type: none"> <li>• no sustained reduction of pain</li> </ul>		
	<p><b>Two</b></p> <ul style="list-style-type: none"> <li>• Male</li> <li>• 64 years of age</li> <li>• TN 3 years, worsening</li> <li>• Triggers: swallowing, posture, stress</li> <li>• Tried tooth extraction to no avail</li> <li>• Relieved by movement, Tegretol®</li> <li>• Other: Shoulder pain</li> </ul>	<ul style="list-style-type: none"> <li>• Reduction in perceived pain</li> <li>• Shorter periods of pain duration</li> <li>• Cut morning dose of Tegretol</li> <li>• Patient discontinued at 9th visit for unknown reasons</li> <li>• Helped shoulder in course of care</li> </ul>		
	<p><b>Three</b></p> <ul style="list-style-type: none"> <li>• Female:</li> <li>• 72 years of age</li> <li>• TN 15 years</li> <li>• Tried surgery</li> <li>• On occasion disappeared for months</li> <li>• Trigger: eating, weather</li> <li>• Other: neck &amp; shoulder pain, chronic asthma</li> </ul>	<ul style="list-style-type: none"> <li>• Sustained pain reduction from 1st visit</li> <li>• No TN pain for duration of study</li> <li>• At 12 months follow-up was still under AOC care</li> </ul>		
	<p><b>Four</b></p> <ul style="list-style-type: none"> <li>• Female</li> <li>• 60 years of age</li> <li>• TN 16 years</li> <li>• Tried medication, various chiropractors</li> <li>• Also low back pain, head ache, tinnitus</li> </ul>	<ul style="list-style-type: none"> <li>• No significant reduction in TN symptoms</li> <li>• Patient continued care for belief it had other non-TN related neuromuscular benefits</li> </ul>		
	<p><b>Five</b></p> <ul style="list-style-type: none"> <li>• Female</li> <li>• 68 years of age</li> <li>• TN 18 years</li> <li>• Sudden onset reading in bed</li> <li>• Can not sustain 48 hrs without medication</li> <li>• Tegretol® 1200mg, Tryptanol 75mg, Nurotin gave severe side effects</li> </ul>	<ul style="list-style-type: none"> <li>• Cessation of pain over a year</li> <li>• Tegretol dose 1200mg down to 400mg in 2 months, currently 200mg for 6 months</li> <li>• Discontinued Nurotin after 1st visit</li> <li>• Upon experiencing neck pain, TN pain elevates, quickly remedied by AOC adjustment</li> <li>• post x ray unavailable</li> </ul>		

