Novel Treatment for Trigeminal Neuralgia: January, 2022

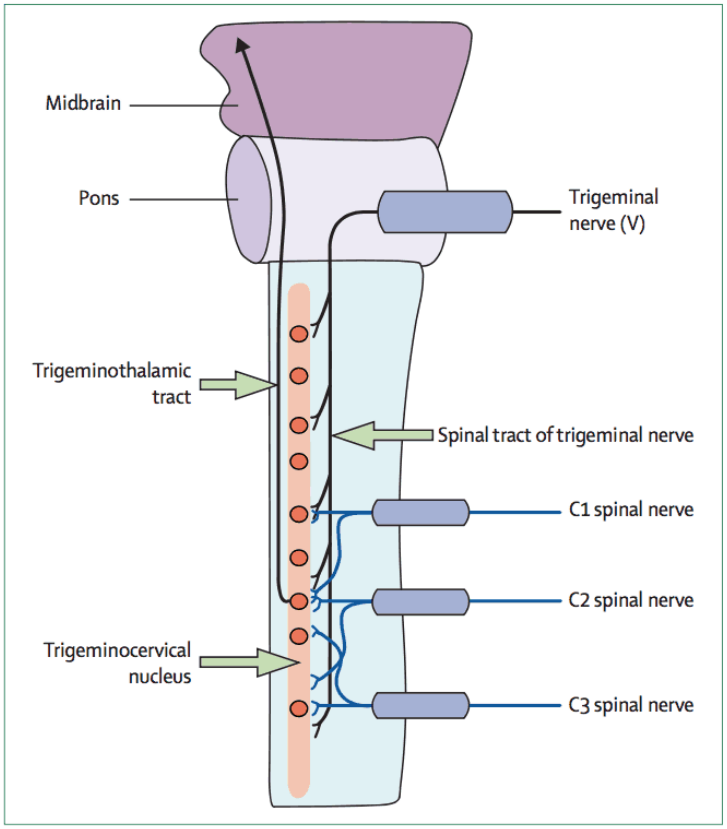
At Lifestyle Therapies we have observed encouraging results with a novel treatment for Trigeminal Neuralgia. To date, there have been no clinical trials using Q magnets, but we have written up a number of case studies. Trigeminal Neuralgia is a debilitating condition and tragically many sufferers are not diagnosed for years.

The Australian Trigeminal Neuralgia Association provides a useful description of the condition and symptoms at their website… http://tnaaustralia.org.au/ . If you have similar symptoms and have not been diagnosed, you should consult your GP as soon as possible. The diagnosis should be confirmed by a neurologist.

If you have been diagnosed with Trigeminal Neuralgia by a medical specialist, then you will understand that the symptoms and side-effects of the treatment can be extreme. Patients like Bob, who also had multiple sclerosis and had suffered severe sharp suicidal pain episodes intermittently for 4 years. Bob had also spent $8,000 with a dentist removing amalgam fillings and tried at least 6 medications with little or no effect. You can read about Bob's Case Study at the following link… Click Here for case studies contained in page 2 of our medico newsletter.

Correct placement for Trigeminal Neuralgia:

For serious pain, it's often important to treat the origin of the pain and follow the dermatomes back to the nerve root.



The trigeminal nerve root inserts towards the brain stem at the pons, which can be accessed by a magnetic field from the base of the skull at the occiput.

Just a little lower is the trigeminocervical nucleus. This is where the trigeminal nerve and the upper three cervical spine levels C1-C3 share a common convergence.

Both positions can be trialled. The occiput or C1-3 which is just under the occiput, in the hair line.

The two main placements for Q magnet therapy for Trigeminal Neuralgia are:

1. The HF20-3 or even QF20-3 over the TMJ or slightly higher over the semilunar/trigeminal ganglion which provides the best access to the Trigeminal Nerve. This is the soft tissue just above the TMJ and in front of the tragus (the triangular shaped cartilage in the ear). One or both sides, depending on the symptoms.
2. The QF28-3 over C1-3 which is at the top of the cervical spine just in the hair line. Or over where the Trigeminal Nerve insets into the pons, which is over the occiput.

Duration: We recommend wearing the devices for at least 2-3 days straight without removing them. If the pain diminishes significantly, remove the magnets and allow the body to accommodate to this pain level without the magnets. If symptoms return, repeat the process and monitor the response.

Some individuals have also found it effective to just apply the magnets at night, while sleeping and experience a carry over effect during the day.

Device Selection: We recommend the HF20-3 over the trigeminal ganglion and the QF28-3 which penetrates deep enough and is round enough for the magnetic field to capture C1-3 or the pons part of the brain stem.

To purchase, click on the links…

https://qmagnets.com/product/qf28-3/ and https://qmagnets.com/product/hf20-3/

Innovative ways some users have found to attach the magnets.

7 points to support the hypothesis of a novel non-invasive and non-pharmacological treatment for trigeminal neuralgia.

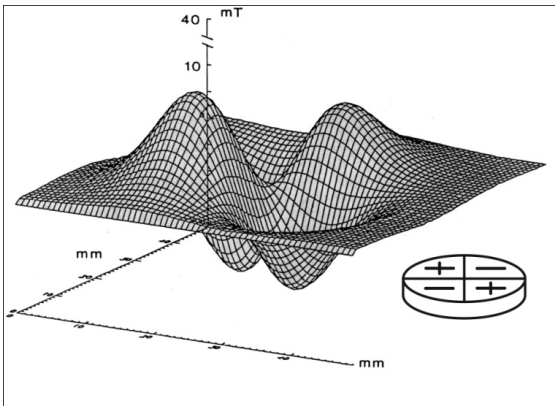
- It is likely that TN is caused by vascular compression of the trigeminal nerve leading to demyelination and aberrant or atypical neural discharge. Results from experimental studies suggest that demyelinated axons are prone to abnormal action potential generation (Love and Coakham 2001).
- Recent studies (Zhou, Kong et al. 2007) have shown acupuncture can be effective at relieving the symptoms of TN with the acupuncture point ST7 which is located at the TMJ the most important point.
- Central Sensitization which is the amplification of the excitability of neurons within the spinal cord is a major cause of pain hypersensitivity. It has been recently hypothesized that atypical TN could be a consequence of Central Sensitization seeing it is less responsive to conventional treatment than typical TN (Hu, Zhang et al. 2010).
- From this information, the two most important areas to target for treatment with Q magnets are over the trigeminal ganglion, which will also cover the TMJ and C1-3 which can be accessed just below the occiput to the base of the hairline at C4. A trigger point locator can also be used to identify additional trigger points along the branches of the trigeminal nerve.
- **Peripheral sensitisation:** where the nerves have a lower threshold to painful stimuli. This means that less pressure/movement /stretch of nerves is required before the nerve will 'fire off' resulting in increased input into the nervous system.
  Central sensitisation: increased cell excitability in the spinal cord (ie. Where the peripheral nerves synapse/relay their information about pain) resulting in increased and easier input travelling to the brain about pain.
- The research into quadrapolar magnets and the inhomogeneous fields that they generate has been quite significant with cell studies, animal studies and randomised controlled trials.
- In a foundational study, (McLean, Holcomb et al. 1991) compared the effects of a range of magnetic fields on action potential firing. The quadrapolar array had a dramatic effect on blocking action potential firing after 3-4 minutes with a carryover effect after removal of the field.

What makes Q magnets different?

A Q magnet is a quadrapolar static magnet with four alternating poles or quadrants within the one magnetic body. They have a magnetic stainless steel flux plate on top to drive the field deeper into the body and shield the field to reduce the strength away from the body.

Q magnets are listed with the TGA as a Class I Medical Device ARTG 132324 used for the temporary relief of minor ached and pains.

Image 1: Computer generated rated magnetic field map of the Quadrapolar array. Static Magnetic Fields for the treatment of Pain. McLean MJ et al.



Q magnets are a world first in that they combine an extremely strong magnetic flux density which can penetrate up to 50mm, with a steep magnetic field gradient within a single magnetic body.

The main applications for Q magnet therapy are sprains and strains sports type injuries and for the temporary relief of minor aches and pains.

The image to the left shows the effects of Q magnets on a haematoma or bruise after one day.

Teams like the Super Rugby's Western Force and Queensland Reds and the AFL's Brisbane Lions and Fremantle Dockers regularly use Q magnets for soft tissue injuries and haematomas.

Observations such as these show that the physiologic effects of Q magnet therapy cannot be simply put down to placebo.

How do Q magnets work?

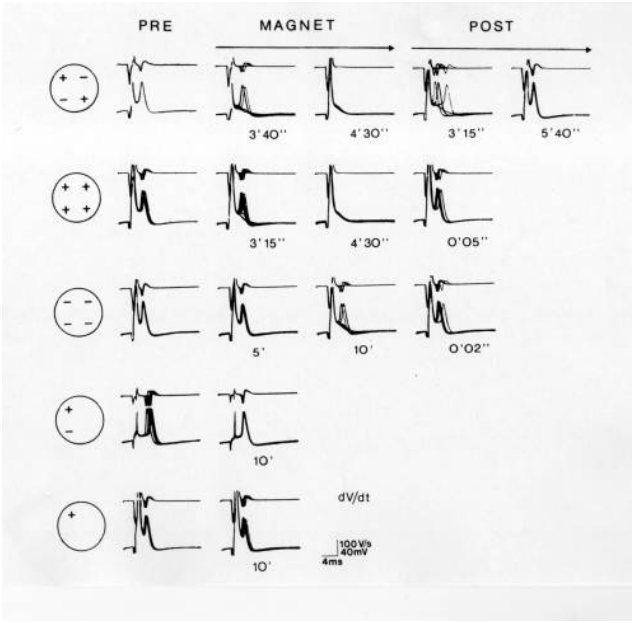
Ten years of research by neurologists at Vanderbilt Medical University showed that the determining factor in the therapeutic value of static magnets is the magnetic field gradient and not the field strength.

This is in contrast to the common bipolar magnets whose effectiveness is the subject of much debate. The field from bipolar magnets is spatially uniform and there is negligible field gradient, so while they can have a strong magnetic field, they lack the properties that give static magnetic fields their therapeutic properties.

While the precise mechanism of action is unknown, studies have shown that the most biologically effective region is located at the boundary between adjacent poles (Engstrom et al., 2002; McLean et al., 2002), where the field gradient is steepest. See article for more detailed explanation.

The research suggests that the most likely mechanism of action is that the steep field gradients generated by the Quadrapolar magnetic field is altering nerve excitability as a result of changes in membrane permeability to sodium and calcium ions (McLean et al., 1995; Cavopol et al., 1995). The quadrapolar array only seems to work on abnormally firing action potentials (from hypersensitive nerves) so it is imperative to find the correct placement where these sensitized nerves are located.

Image 2: Comparison of five different magnetic field arrays on dorsal root ganglion neuron. McLean, M.J., Holcomb, R.R., Wamil, A.W., Pickett, J.D.: Effect of steady magnetic fields on action potentials and sodium currents of sensory neurons in vitro. Environmental Medicine, 8: 36-45, 1991.



The research also showed that the Quadrapolar array works most effectively on unmyelinated C-fibres. Often times Trigeminal Neuralgia onset comes after the demyelination of the trigeminal

nerve, which is particularly common with MS sufferers. This is in contrast with TENS which works more effectively on the myelinated A-Delta nerve fibres.

Image 3 shows the original design by neurologist Dr Robert Holcomb with four bipolar magnets arranged into a quadrapolar array.

Image 3: Original design Q magnet Q magnet through magnet viewer

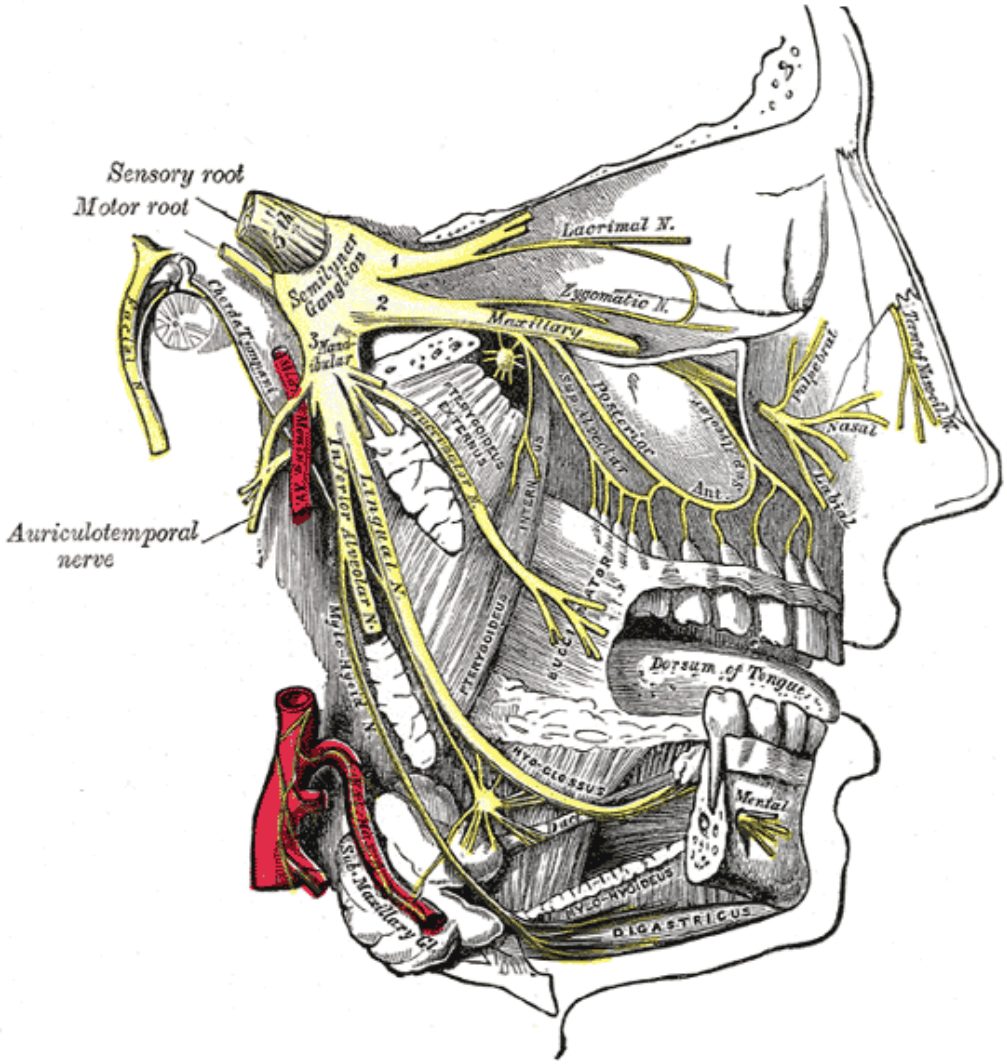
The steep field gradient exists between the four quadrants. This can be seen as the crossed hair lines in the Q magnet on the right as seen through the magnet viewer. See article for more detail.

Response to treatment:

The response to treatment is not consistent, but this is not uncommon with most treatments for chronic pain. On occasions the pain has reduced over time, sometimes minutes, other times hours or days. While at times it was only necessary to wear the devices for a few days and the pain did not return.

Ideally if the Q magnets work, it would be ideal to wear them at night while sleeping and not during the day. More research needs to be done to get a better overall picture of Q magnet therapy treatment times and responses. We appreciate any and all feedback provided to us.

1918 Gray's Anatomy – Trigeminal Nerve



Dr Mark Thibert, M.D. (Plastic Surgeon)
"Although I, along with many, cannot be certain as to the precise biological explanation surrounding the physiology of Q magnet action, it is irrefutable in my case that they were, nevertheless, highly effective.

For now, we have theories, like so many demonstrable events in nature. These answers may come with further research. Until then, Q magnets are a viable option for pain relief and the possible healing of stress fractures that is simple, effective, and unlike many other remedies, is without complications."

Case Study from a doctor from the United States.

Lucretia Diplan:
Lucretia Diplan is a retired doctor from Maryland in the US, this is her documented experience in using Q magnets to treat her daughters MS-induced trigeminal neuralgia.

I ordered the magnets for my 45-year-old daughter who has been suffering from Multiple Sclerosis for 15 years. As part of the nerves demyelination process characteristic of this terrible autoimmune non-curable disease, she developed last year trigeminal neuralgia with excruciating pain firing along the mandibula.

The first placement did not work.

I applied first the two tiny magnets (MiniQ's; now Q6-1.5) along her jaw, one up next to the ear and the second on the spot where the pain is originating. She kept the magnets on her skin day and night for a full week with no relief whatsoever. For another 10 days she wore the two medium magnets on the same spots on her jaw as the first ones. No result, not even a slight alleviation. We are strong believers in the therapeutic action of magnetic fields. The neurologist who sees my daughter suggested we try therapeutic magnetic and he gave us your website where we ordered them. Unfortunately they did not work for my daughter although she was so hopeful that they will at least blunt the trigeminal neuralgia.

Physiotherapist and Clinical Educator for Q magnets, Dianne Hermans suggested the following placements.

I have had two patients with this exact condition that the ProQ's (now QF28-3) have worked wonderfully for them. You seem to have placed them in the right position, you will need to use the Pro's for the best effect, the MiniQ's (now Q6-1.5) will be too small for the job.

Place one over the temperomandibular joint which should be the main access to the trigeminal nerve.

One other placement I could suggest is to place one ProQ (now QF28-3) over the temperomandibular joint and the other at the base of the skull at the occiput over the basilar artery. You can use the MiniQ (now Q6-1.5) over the area where the pain originates, but the larger Pro's should be used over the larger nerve structures.

You could even try moving the one over the TMJ around a little to see if you get a better effect. If they are in the right place and are going to work, the effects should be felt almost immediately or at the most a day. Don't feel you have to leave them on for days at a time without changing the position.

Here was the response from Lucretia a few weeks later.

I have excellent news. After the original lack of response by using the two tiny magnets, we started on February 5 to use the big ProQ magnets we placed on the TMJ and base of the skull, respectively, per Miss Dianne's instructions. There have been two weeks since **THE TRIGEMINAL PAIN SUBSIDED ALTOGETHER**. The improvement was significant in the first 24 hours and subsequently receded gradually in a few days.

My daughter is currently pain-free after having suffered excruciating and constant pain for over a year.

She took off both magnets 3 days ago but, of course, keep them handy, just in case. Can you believe that not even strong opiates managed to alleviate the pain but for very short periods of time, and my daughter refused, for good reasons, to increase the dosage as she did not want to get dependent on them.

Now, for the first time in a year, my daughter was able to move her tongue in her mouth when speaking without triggering terrible pain along the jaw. Until then she was living on literally huge amounts of Orajel applied locally on the gums every 20 minutes, plus Oxicodon (she deliberately did not want to overuse to avoid dependency). She has not only been pain-free for a week now, but 2 days ago I removed the magnets from her skin to see if she can manage without them and SHE COULD. We keep the magnets in a special box and a safe place for future uses (hopefully not to be needed!!).

God bless you and grant you the best of everything.

FAQ

Do Q magnets work for everyone with Trigeminal Neuralgia?
No. While the results have been promising, there are patients who have not responded to treatment.

How many patients have we used them on?
At this point (March 2022) we have had over 30 people using Q magnets for TN. Some came through our website, others were referred from the MS Society clinic and some from doctors referrals. The results were less reliable with atypical TN, but effects have been roughly divides into thirds. About a third…

- we would have to say have been extremely beneficial to the patient with complete or near complete cessation of pain. The best results were achieved with MS induced TN.
- had varying degrees of success with reduced medication or complete cessation of pain for a time, but then might return after a number of weeks.
- had some effect, but not enough to say it was a benefit.

Are magnets safe to use around the brain?
Q magnets are a static magnetic flux generator and does not create alternating or pulsing fields of energy. The years of research done on static magnetic fields have shown them to be safe. There are no known harmful effects caused by static magnetic fields up to 2 Tesla. The Magnetic Resonance Imaging Machine (MRI) is many times more powerful than rare earth static magnets and this has been deemed safe by the FDA. The WHO and the International Commission on Non-Ionizing Radiation Protection released a report in 2009 titled GUIDELINES ON LIMITS OF EXPOSURE TO STATIC MAGNETIC FIELDS which states that static magnetic fields under 2T or 20,000Gauss are safe for humans. Static magnets, like Q magnets cannot be stronger than 1.3T or 13,000Gauss and the strength of the field quickly falls away from the surface.

Warnings:

- Do not wear Q magnets near sensitive medical equipment or implants such as pacemakers, dorsal column stimulators, infusion pumps, or any other magnetically programmable medical devices.
- Always read the Information & Instructions sheet that comes with the product.
- This product is not a replacement for professional medical treatment.
- If you are uncertain if these contraindications apply to you, consult your health care professional prior to use.
- Use only as directed, if symptoms persist, see your health care professional.
- Do not use during pregnancy as there has not been adequate testing.

DISCLAIMER:
Neither the content in this paper, nor Q magnet technology is intended to be a substitute for any medical treatment that is recommended or prescribed by your doctor or health care professional. IF YOU HAVE chest pain, shortness of breath, or other symptoms of an ischemic attack or heart attack do not use this device until you have been seen by a physician. If you suspect an UNDERLYING MEDICAL PROBLEM, or your pain is severe and cannot be relieved with the use of these devices, please consult your health care provider. Q magnet therapy is not intended to replace medical instructions or prescriptions without first consulting your doctor. No guarantee of effectiveness is made with the use of Q magnet therapy products, as individual results may vary.

FULL DISCLOSURE:
The owners of Lifestyle Therapies are also owners of the company that manufactures Q magnets; Neuromagnetics Australia Pty Ltd. Neuromagnetics Australia offers a 30 day customer satisfaction money back guarantee, which should allow anyone wanting to trial Q magnet devices sufficient time to see if they work for them.

For more information, please contact our clinic at yourhealth@lifestyle.physio
or phone +61 418 723 317.