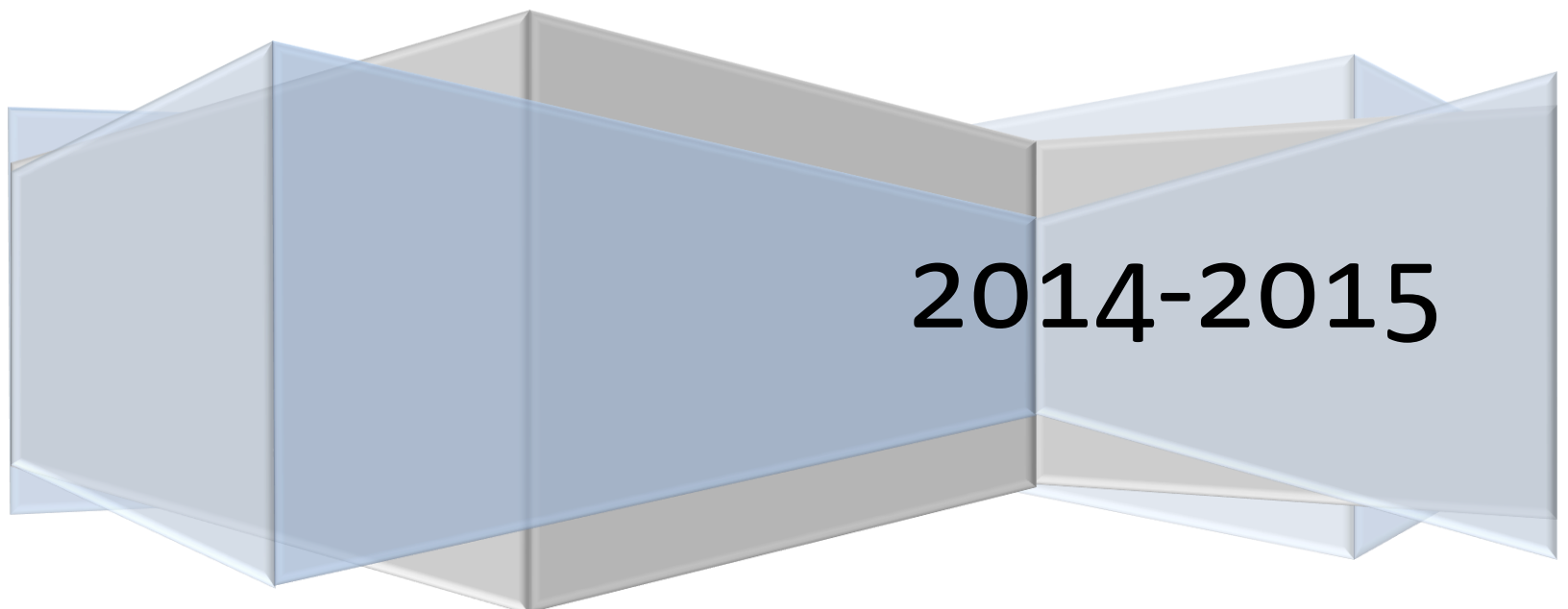


PREPARED FOR AMIR KAZEMI

Management of Migraines using Manual Osteopathy

YOUNIS Y CHUGHTAI



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Management of Migraines Using Manual Osteopathy

Submitted By: Younis Y Chughtai

Osteopathy is a highly effective treatment for headaches and migraines. Headaches are unfortunately very common and there are many types and causes. Some people can suffer from more than one type.

Definition of Migraine:

A migraine in the majority of cases, is a painful sometimes disabling headache that is preceded or accompanied by a sensory warning sign (aura), such as flashes of light, blind spots or tingling in your arm or leg . Migraine pain can be excruciating or even incapacitating for hours or even days. A migraine is also often accompanied by other signs and symptoms, such as nausea, vomiting, and extreme sensitivity to light and sound.

There are mainly two main types of headaches. Primary and secondary headaches

Primary Headaches:

Primary headaches are those in which headache and its associated features are the disorder in itself, results in considerable disability and a decrease in the patient’s quality of life.

Secondary Headaches:

Secondary headaches are those caused by exogenous disorders.

Primary Headache		Secondary Headache	
Type	%	Type	%
Tension-type	69	Systemic infection (common cold)	63
Migraine	16	Head injury	4
Idiopathic stabbing	2	Vascular disorders	1
Exertional	1	Subarachnoid hemorrhage	<1
Cluster	0.1	Brain tumor	0.1

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Primary Headaches Syndromes.

1- Tension-Type Headache: bilateral tight, band like, discomfort, builds slowly, fluctuates in severity, and may persist for many days (present >15 days per month). Long term muscle tension in the shoulder and or neck may result in a tension headache. Tension headache are often associated with stress, worry, overwork and anxiety. Even more debilitating are migraines.

Underlying Mechanism: unknown

Management: Analgesics, behavioral therapy.

2- Migraine: is an episodic headache plus sensitivity to light, sound, or movement; nausea and vomiting. Affects 15% of women and 6% of men.

Activation of cells in the trigeminal nucleus results in the release of vasoactive neuropeptides, with the involvement of serotonin and dopaminergic.

Diagnosis: At Least 2 of the Following Features: (Unilateral pain, Throbbing pain, Aggravation by movement, Moderate or severe intensity)

Plus at Least 1 of the Following Features: (Nausea/vomiting, Photophobia and phonophobia)

Management of Migraine:

Non pharmacologic: Lifestyle (food, exercise) and stress management (yoga, transcendental meditation, hypnosis)

Acute attack: Analgesics (acetaminophen, NSAID), Serotonin agonist (ergotamine, sumatriptan), dopamine antagonist (metoclopramide)

Preventive therapy: for patient with frequent, sever attacks.

3- Cluster Headache: Paroxysmal hemicranias, relatively short-lasting attacks of head pain, associated with cranial autonomic symptoms, such as lacrimation, conjunctiva injection, or nasal congestion.

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4- Chronic Daily Headache: patient experiences headache on 15 days or more per month

Causes: any of the primary or secondary causes of headaches

Management: Difficult, Find & treat a cause (above), occipital nerve stimulation

5- Medication-Overuse Headache: Overuse of analgesic medication for headache can aggravate headache frequency and induce a state of refractory daily or near-daily headache, patients who stop taking analgesics will experience substantial improvement in the severity and frequency of their headache.

General Causes and Etiology of Migraines

A migraine headache is caused by dramatic changes in the blood vessels in the neck. The vessels or 'pipe', take fresh blood to the brain. Dysfunctional signals from both nerves and hormones, chemicals force the pipes that deliver blood to the brain to contract and then dilate. The first phase, or contraction phase, may last minutes, hours, or days. During this phase, symptoms can be spots in front of the eyes, difficulty concentrating, and cold fingertips and hands. This is called an "aura". Many people recognize this phase of their headaches and many others don't.

When the blood vessels dilate, the headache pain starts. The blood vessels over-react. Instead of just going from a contracted state back to normal, they dilate much wider than normal. This forces blood into the head faster than it can drain out; causing pressure on the brain and a release of certain chemicals causes lots of pain.

There are a number of different processes that can cause the dysfunctional imbalance of chemical messengers and nerve signals leading to a migraine. However, as different as many migraine sufferers' situations may be the main cause of the mixed signals which cause the problem is a misaligned neck bone. The blood vessels to the head live in the neck. There are channels inside each neck bone to house and protect the pipe that delivers the blood to the brain. If each of the seven neck bones is aligned in sequence the pipe is well protected and the brain's blood supply comes in hard and fast when in need of extra oxygen and steadily at rest.

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However, if one bone is out of sequence and a kink develops in the blood vessels it causes an increase in pressure and thus a cause for migraines.

Some forms of migraine can stem from irritation of the nerves close to the neck vertebrae or may be triggered by muscle tensions.

Other Causes of Neck Pain Leading to Migraines:

Category	Examples
Infection/Inflammation	Vertebral osteomyelitis, Spinal epidural abscess, Septic disk (discitis), Meningitis, Lumbar arachnoiditis, Autoimmune, e.g., ankylosing spondylitis
Metabolic	Osteoporosis, hyperparathyroidism
Vascular	Abdominal aortic aneurysm
Other	Referred pain from visceral disease, Psychiatric, malingering, chronic pain syndromes

Treatment and Management of Migraines

Osteopathic and Chiropractic treatment for migraines works by realigning the bone in question, (as well as others which influence it to misalign) thus removing the kink in the pipe restoring the blood vessels to normal function.

Both osteopaths and chiropractors are trained to diagnose the cause of your headache. In some cases you may need to be referred elsewhere for medical profession intervention. In addition in some severe cases you may need to see a massage therapist as well as the osteopath or chiropractor to make sure the all elements of the problem including the muscle tension are resolved as well as possible.

Migraines occur in a two-phase process, with levels of certain chemical signals high in one phase and low in the other phase, treatments can either miraculously help or occasionally make the headache worse, depending on timing. Typically migraine sufferers will find sleeping on one

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side more comfortable than the other side, and this is also because of the misaligned neck bone.

As we know that the majority of headaches are caused by tension and poor posture, osteopathy is ideally placed to provide treatment and relief in these areas. Prolonged muscle tightness in the neck leads to the joints and nerves compressing which causes pain. Movement of fluids, particularly blood and lymph also become restricted. Poor circulation affects oxygen delivery to the brain and prevents waste product removal – this also creates pain and discomfort.

Pain killing drugs used to treat the headache do not deal with the cause and so do not bring the improvement that Osteopathy and Chiropractors can offer.

Group of Muscles that are effected and are responsible for Migraines

Neck and upper thoracic muscles:

- Scalenus muscles, Sternocleidomastoideus, Erector Spinae, Semispinalis muscles, Splenius muscles, Multifidis (cervical region), Trapezius and Levator Scapulae

Skull muscles:

- Masseter, Temporalis, Platysma, Pterygoideus muscles, Procerus, Corrugator Supercilii and Occipitofrontalis muscles

Manual Osteopathic Technique used for the Treatment

- Soft Tissue Techniques
- Myofacial Release Techniques
- Muscle Energy Techniques
- Mobilization Techniques
- Cranial Osteopathic Techniques
- Temporomandibular Joint Release Techniques

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Embryology of the Head and its relationship with the cervical vertebrae – Neck Pain

Embryologically, the head and the first and second cervical vertebrae (neck bones) are formed by the first and second cervical segment. The skull and first and second neck bone are made from the same piece of bone.

As they originate from the same segments they ought to have some relationship between them. So any abnormality at the level of the first and second cervical vertebrae can give rise to pain in any part of the head, the temple and the forehead. As it happens elsewhere, local pain at the level of the cervical vertebrae may be completely absent and the patient may complain only of a headache.

Clinical studies published in the Headache Journal in 2006 have proven that Osteopathic Treatments (OMT) significantly reduces Migraines. I have a clinical study done by Rosemary E. Anderson, BSc.PT, DO (MP) and Caryn Seniscal, RMT, DO (MP) quoted from their research below.

A Comparison of Selected Osteopathic Treatment and Relaxation for Tension–Type Headaches

Rosemary E. Anderson, BSc.PT, DO (MP): Caryn Seniscal, RMT, DO (MP)

Objective: The objective of this study was to compare the effects of osteopathic treatment and progressive muscular relaxation (PMR) exercises on patients suffering from tension-type headache (TTH).

Background: Relaxation is generally accepted as a treatment for TTH. Osteopathy is considered by some practitioners to be useful for headache management but there is limited scientific evidence regarding the effectiveness. This study compares relaxation and relaxation plus selected osteopathic techniques in the treatment of people with TTH.

Design: This was a single-blind, randomized, clinical study using an experimental design. Twenty-nine patients with TTH according to the International Headache Classification Subcommittee, 2004, were recruited for this study and randomly placed in either a control or experimental group. Both groups practiced PMR exercises at home while the experimental group also received three osteopathic treatments.

Method: All participants recorded headache frequency and intensity in a headache diary (HD) for 2 weeks pretreatment, and continued recording during the treatment period until reassessment for a total of 6 to 7 weeks. All tests of significance were set at $P < \text{or} = .05$.

Results: Twenty-six people completed the study. Results indicated that the number of Headache Free Days per Week was significantly improved ($P = .016$) in the experimental group. Two other measures, the Headache Degree of Improvement ($P = .075$) and the HD Rating ($P = .059$), which combine headache frequency and intensity, did not meet our criteria for statistical significance but both scores are $<.10$ indicating a trend towards improvement in the experimental group that is clinically significant. The HD Rating also showed that the experimental group improved 57.5%, while the control group improved 15.6%. The intensity of headache did not show a significant improvement ($P = .264$).

Conclusion: The people in this study who did relaxation exercises and received 3 osteopathy treatments had significantly more days per week without headache than those who did only relaxation exercises.

Key Words: Tension-type headache, Osteopathy, Relaxation

Abbreviations: TTH Tension-type headache, IHS International Headache Society, CNS Central Nervous System, PMR Progressive Muscular Relaxation, HD Headache Diary, C Control, E

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Experiment, HI Headache Index, ANOVA Analysis of Variance, VAS visual or verbal analogue scale

Dependent and Independent Variables

The independent variable was the osteopathic treatment. The dependent variables were four headache outcome measures using data from the HD.

The 4 headache outcome measures:

1. The HD Rating is considered to be the most accurate measure of change. This equation was adapted from Blanchard and approved by the statistician. It combines headache frequency and intensity to yield a total weekly score and the percentage of improvement.

Pretreatment score – Post treatment score X 100

Pretreatment score

2. The Headache Index (HI) is calculated by adding the 28 ratings of headache activity from one week and dividing by 7 to yield an indication of the average daily headache severity. The average HI pretreatment minus the HI post treatment will equal the Headache Degree of Improvement.
3. Improvement in Headache Free Days per Week (frequency) is calculated by comparing the average number of Headache Free Days per Week pretreatment to the number of Headache Free Days Per Week post treatment.
4. Improvement in Worst Headache of the Week (intensity) is calculated by comparing the average worst headache score of pretreatment to the worst headache score post treatment.