

How Osteopaths Can Use Decompression Tables To Help Patients

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Manual Osteopathic Therapy

The word Osteopathy is derived from two Greek words meaning bone and dysfunction. The founder of Osteopathy, Dr Andrew Taylor Still, chose this name to highlight how the structure of the skeleton is vital in correct function of the body's systems, and that misalignment of bones can cause dysfunction. Dr Still established the first Osteopathic College in 1892 in Kirksville, Missouri, since then Osteopathy has spread around the world. After his death in 1917 Osteopathy split into two branches. One branch merged with and became an allopathic medical degree, it is only possible to study this form of Osteopathy in the U.S.A. graduates are called osteopathic physicians.

Traditional allopathic (Western) medicine in North America was very crude in the nineteenth century. Blistering, blood-letting, and purging were common therapies at this time. When surgery was performed, the

techniques used were not precise, there were few (if any) anaesthetics, and hygiene was poor. Doctors were quite helpless when they tried to treat many conditions, including meningitis. When a meningitis epidemic struck in Missouri in 1864, Dr. Andrew Taylor Still lost 3 of his children. Dr. Still was trained in allopathic medicine, but he was unable to fight the disease effectively. He began looking for a new medical model - a safe, effective way to treat patients.

Dr. Still spent 10 years studying health and disease in the context of human anatomy. The main



Andrew Taylor Still father of osteopathy

concepts of modern osteopathy are a result of his work. Dr. Still founded the American School of Osteopathy (ASO) in 1892. The first class had 12 male students and 3 female students. Allowing women to participate was revolutionary at the time. In the first 18 years of the school, approximately one-fifth of the students were women.

A few Canadians (including some who were already medical doctors) travelled to the United States to learn osteopathy. They returned to Canada to practice osteopathy here.

Manual Osteopathy focuses on the assessment, diagnosis and treatment of disorders of the body's structure, whether it is related to the pelvis, peripheral joints, nervous systems or spine. Manual Osteopaths use manipulations to the joints or and gentle movements to correct biomechanical dysfunctions that are related to neuromusculoskeletal complaints. In addition to this they will also provide advice regarding exercises, diet and lifestyle to augment the bodies own healing capabilities.

"To find health should be the object of the doctor. Anyone can find disease."

- Dr. A. T. Still D.O - Founder of Osteopathy

Concept and Principles

Manual Osteopaths believe that abnormal functioning of one area of the body can cause symptoms to present elsewhere in the body, the theory of 'Tensegrity'. When the body is balanced there is no excessive stress anywhere in the body, but when the body becomes out of balance this can be amplified to other areas. Manual Osteopaths regard the whole of the body as greater than a collection of all its parts. They acknowledge the body's inherent ability to heal itself and seek to support that process by removing any obstacles that impede it. In order for this to happen manual Osteopaths specialize in individualized patients management,

which includes educating the patient about their particular condition and how they can adjust their lifestyle to allow themselves the best possible chance recovery or optimal management.

Back and Neck Pain

The trouble with back and neck pain is that it can do more than just give you a pain in the back. It can create difficulties with walking, sitting, bending and lifting and can sometimes lead to depression. It can



also be the cause of pain in the buttocks, groin or legs (commonly called sciatica), in the head, neck, shoulders and arms. It can also be one of the effects of hip, knee and foot problems.

Osteopathic treatment is often the most effective first line of attack in correcting problems caused by back and neck pain. Speedy access to an osteopath can, for acute patients, often avert the possibility of conditions becoming chronic (long term).Back pain responds well to osteopathic treatment by reducing pain and restoring mobility and quality of life.

Man is composed of matter, movement, and spirit. - A.T. Still, Founder of Osteopathy

Back and Neck Pain Relief

One of the main purposes of osteopathy is pain relief. Osteopathy helps people of all ages who suffer from back and neck pain, tackling complaints from trapped nerves (e.g. sciatica and neuralgia), headaches, frozen shoulder and whiplash injury, to sprains and strains. The osteopath's role is to alleviate pain and improve the patient's mobility in order to make life more comfortable.

Pain can affect many areas of the body, but particularly the lower back, head, neck, joints and legs. Much longterm, recurrent pain is caused by degenerative changes to the body's framework. Nobody can reverse this process of ageing, but osteopathic treatment may still ease pain. Pain control is an important part of treatment and osteopaths give guidance on simple selfhelp methods to use at home.

Whether the pain has arisen through an accident or fall or whether as a result of faulty posture, osteopathic treatment can be very effective in dealing with the problem.



Back and Neck Pain – The Osteopathic Technique

The skilled techniques of osteopathy can often help back and neck pain and allow you a speedy return to normal activity. If you have had back and neck pain for a long time, and other forms of treatment have not helped, osteopathic treatment can be beneficial for back and neck pain, although it may require time and patience

What is Traction?

Spinal traction is a treatment option that is based on the application of a longitudinal force to the axis of the spinal column. In other words, parts of the spinal column are pulled in opposite directions in order to stabilize or change the position of damaged aspects of the spine. The force is usually applied to the skull through a series of weights or a fixation device and requires that the patient is either kept in bed or placed in a halo vest.

History of Spinal Traction

Physicians have been aware of the concept of traction for many centuries; however, it was not heavily explored or used as a therapeutic option until the late 18th century. At that time, the primary indications for spinal traction were the correction of scoliosis and spinal deformity, the management of rickets, and for relieving backache of any origin or location. Later in the 19th century, attempts were made to treat a multitude of neurological disorders with spinal traction (including conditions such as Parkinson's disease and impotence). Needless to say, the results were generally not consistent and the technique did not gain much support among those in the medical community. By the first half of the 20th century, the accepted uses of spinal traction became primarily focused in the areas of cervical spine and, more frequently, in the management of spinal trauma and pain.

Uses of Spinal Traction

There are a number of medically accepted uses for spinal traction, which include the mobilization of soft tissues or joints, decompression of pinched nerve roots, and reduction of herniated intervertebral disks. Currently, the most important use of traction is for the management of cervical spine instability. Instability is defined as damage to the cervical spinal column, either through trauma or disease, resulting in a potential for shifting/malunion of fractured bones prior to healing or abnormal movement of the injured region with a likelihood of additional neurological damage. Traction is an extremely effective means of realigning a cervical spinal dislocation and providing stabilization for these types of cervical spine injury.

Low weight cervical spinal traction may be beneficial in the early treatment of cervical radiculopathy caused by a disc herniation. In these cases, 7 to 10 lbs. of traction is applied for approximately one hour three times a day. Some set ups allow the patient to apply the traction in bed while others hang the weight over a door and the patient is seated in a chair

How is Spinal Traction Applied?

Spinal traction relies on the application of a distractive "upward" force being applied to the skull while the rest of the body is held in place. The use of a device that is firmly attached to the skull is required for the successful application of this force. In the early days of spinal traction, combinations of straps and harnesses were used that were wrapped around the head and connected to the mechanism responsible for applying the force. The drawback to this type of system was that longterm use of the straps, particularly with heavy weights, was very damaging to the underlying skin of the chin and neck. In many cases patients ended up with pressure sores and serious skin damage following long-term traction.

Throughout the middle of the 20th century, advances were made which utilized hooks or tongs that were firmly attached to the skull. The main complication from the use of skull tongs was a possibility for penetration of the skull by the pins used to attach the tongs to the head. A solution to this problem appeared in the early 1980?s through an advance known as the Gardner-Wells tongs. This U-shaped device was specifically shaped to control pressure at the sites of pin attachment to the head, thereby significantly decreasing the risk of damage to the skull. Another device that is acceptable for the application of spinal traction is the halo, which is basically a ring that is attached to the head through a series of four pins. The traction force is initially applied through both of these devices by fixing the patient's torso in bed while a series of weights are gradually added to the tongs or halo. For patients requiring long-term treatment, the halo vest is preferentially used over the Gardner-Wells tongs and bed-based traction.

Harnesses or slings are still used for the treatment of disc herniations as mentioned earlier. In these cases the amount of weight used is low and the time spent in traction is intermittent

The Invention of Spinal Decompression

In approximately 1987 Dr. Allan Dyer, a former Minister of Health from Ontario, Canada (and, coincidentally, a pioneer in the development of the external cardiac defibrillator) invented a treatment table for low back disc problems that proved to be a revolutionary improvement in the treatment of low back pain. It was not available in the United States until approximately 1996, when it gained FDA clearance. He designed this technology to be distinctly different than conventional traction tables. He took the concept of traction and made critical engineering improvements to yield a treatment of unprecedented efficacy. He called his invention Vax-D (Vertebral Axial Decompression). While Vax-D did improve tremendously upon the limitations of conventional traction, it did have some drawbacks in its design that made it difficult to use for some patients and it was not designed to provide decompression for the neck.

Non-surgical spinal decompression

Non-surgical spinal decompression is achieved through the use of a mechanical traction device applied through an on-board computer that controls the force and angle of



disc distraction, which reduces the body's natural propensity to resist external force and/or generate muscle spasm. This enhanced control allows non-surgical spinal decompression tables to apply a traction force to the discs of the spinal column reducing intra discal pressure, unlike previous non-computer controlled traction tables. Inversion therapy, which involves hanging upside down, is a form of mechanical traction used for spinal decompression. The practice is promoted as safe and effective without the normal risks associated with invasive procedures such as injections, anesthesia or surgery. Spinal decompression works through a series of 15 one minute alternating decompression (using a logarithmic decompression curve) and relaxation cycles with a total treatment time of 30 minutes. During the decompression-phase the pressure in the disc is reduced and a vacuum type of effect is produced on the nucleus pulposis. At the same time nutrition is diffused into the disc allowing the annulus fibrosis to heal. Very rarely is the nerve root compressed from the herniated disc and usually the back and leg pain associated with these conditions is a result of irritation to the nerve root sleeve by the inflammatory chemicals that are released as a result of inflammation in the disc. The treatment has several varying versions, including articulating spinal decompression or range-of-motion (ROM) decompression, which enables the doctor or therapist to adjust the patient's spinal posture during the decompression. Varying the spine's posture enables the decompressive pulling forces to reach into spinal areas and tissues that basic linear decompression misses. The Antalgic-Trak is a brand name for an articulating decompression system.

Theoretical foundations

The theory behind non-surgical spinal decompression is that significant distractive forces, when applied to the lumbar spine in variable directions, can create a negative pressure in the center of the intervertebral disc, thereby



creating a suctioning effect or vacuum phenomenon in order to retract or reduce the size of the herniated or bulging disc's gelatinous internal nucleus pulposus, thus diminishing or eliminating nerve compression, while at the same time creating an osmotic gradient which helps bring nutrients and water into the disc. Since intervertebral discs have poor circulation, they depend upon receiving their nutrition through diffusion across the end plates of the vertebrae above and below. The appeal of non-surgical spinal decompression is that it is a noninvasive, non-surgical, drug-free alternative treatment for low back pain, sciatica, disc degeneration, disc bulges, disc herniations, and facet syndrome. There is copious anecdotal evidence of its effectiveness and more case studies are being published demonstrating very positive results in patients who have tried other conservative treatments that have failed.

Traction Indication and Counter indication

INDICATIONS FOR USE:

- Nerve root impingement
- Subacute joint pain
- Degenerative joint disease
- Discogenic pain
- Compression fracture
- Joint hypomobility
- Paraspinal muscle spasm

CONTRAINDICATIONS:

- Local and systemic diseases
- Acute inflammation

- Hypermobility
- Vascular conditions
- Symptoms increase during traction
- Osteoporosis

• Pressure of lumbar and thoracic harnesses may be hazardous in pulmonary patients.

PRECAUTIONS:

- TMJ dysfunctions
- Cancer
- Elderly/minors
- Bone Spurs
- No increase pain should be felt
- Make sure patient is not experiencing symptoms of dizziness or nausea after treatment.

COMMENTS:

- Moist heat used to increase muscle relaxation
- Patient positioned supine/prone and patient's comfort determines choice of position
- Lumbar traction usually started fifty percent patient's body weight unless indicated otherwise.

• Cervical traction usually started at twelve to fifteen pounds unless indicated otherwise.

TRACTION TECHNIQUE DEPENDS UPON:

- Distraction separation of bony surfaces
- Stretching of soft tissue
- Relaxation of skeletal muscles
- Mobilization of joints

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