

MANUAL / MECHANICAL TRACTION ADJUSTMENT (MTA)

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Traction has been an effective therapy in the health profession for hundreds of years. It has been proven to have a positive effect from an anatomical, physiological, and neurological perspective.

The purpose of the traction is primarily to open the intervertebral foramina (IVF). These are the small openings between each vertebra of the spine where the spinal nerves exit from the spinal cord. It will also stretch the meninges and assist with the CSF pump.



The spine has twenty-four vertebra and the spinal nerves exit between each vertebra and neurologically communicate the brain with the entire body. Abnormal mechanical tension on these nerves can cause a multitude of health problems. This may consist of pain, numbness, burning, or tingling in the arms, hands, legs, and feet.

Between each vertebra are the discs. Occasionally, these discs can bulge or become herniated and interfere with the size of the IVF. Frequently surgery has been the only way to correct this problem. This is no longer the case.

The idea of the Manual / Mechanical Traction Device (MTD) has been around for approximately 80 years. The Osteopathic profession had a traction / manipulation that was accomplished by putting a twisted towel around the patient's neck. A pulling motion by the Doctor then created the traction. In the 1950's, a different device was utilized that consisted of a U-shaped bar with two leather straps that went under the patient's jaw and behind the back of the head. This usually involved the Doctor to do the traction and an assistant to hold the traction device in place.

New reinforced cotton halters are available from www.vibeforhealth.com

The purpose of this adjustment is to apply spinal traction. The dura matter is part of the meninges, which surrounds the brain and spinal cord. It has attachments to the dural sheath, which surrounds the exiting spinal nerves. The arachnoid mater consists of diagonal fibers, which have a "Chinese finger" pull effect. The meninges will "kink" in the areas of spinal unit angles. This adjustment corrects the dural "kinking" by correcting the spinal unit angles and it also has a positive effect on the relationship of CO-C1.

The MTA can be obtained from CLEAR Institute for \$100. This includes S/H.

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Directions:

The harness is placed around the patient's occiput and then the chin. The Velcro™ straps should be attached at equal lengths. Slight tension should be applied when the harness is put on the patient. It is important to make sure that the buckle attachments are in the proper position.



A cervical roll is placed under the patient's neck. The table is in the raised position, but may be placed flat to address the low back more specifically. Note: for the low back, skin contact will increase resistance.

It is helpful to have assistant hold the patient's legs. The legs should be contacted above the ankles and the ankles should be pushed down into the table.

A slight repetitive traction motion is initiated approximately once per second. The direction of the traction should be 30 degrees inferior to superior or 10 degrees above the slope of the adjusting table. At this time, the patient should be asked if they have any discomfort. After 6 to 12 pulls, a quick traction pull is applied, which may immediately be followed by another pull. There should be NO slack when the pull is made, but kept at tension and then pulled!

The patient will initially feel this in the neck, then the mid back and eventually in the low back. If specific resistance is encountered, the patient may be adjusted in that area, and then the MTA applied again. For example, if the patient feels it down to the lumbo-dorsal angle, but not to L-5, the diaphragm adjustment may be done.

This adjustment should be followed by the Shared Loading adjustment!
The TMJ must also be evaluated, as latent TMJ problems will manifest post adjustment. A mouth guard may be necessary for chronic TMJD.

Note: Occasionally the patient may experience a parasympathetic reaction with dizziness and confusion. They should be re-assured this is normal.

This adjustment should NOT be done on the first visit, and should be preceded by the Y and/or YA adjustments on previous visits! Eventually, the head can be flexed away from the lower angle and rotated away from the CD angle.

When the patient feels the adjustment throughout the entire spine, to the low back – L5, it is considered a success.

The cloth harness will tear with time and use. You may want to consider having the stitching reinforced.

You can order new harnesses from Vibe for Health at www.vibeforhealth.com.

This can be billed as mechanical or manual traction.

Anatomy and Physiology of the Meninges:

The meninges are the covering of the brain and spinal cord. The meninges consist of the dura mater, arachnoid mater and the pia mater.

The Latin translation of dura mater is “tough mother.” The dura mater envelops the brain, spinal nerve roots, ganglia and the nerves as they pass through the intervertebral foramina (IVF).

The arachnoid (spider-like) mater is separated from the pia mater by the subarachnoid space, which is filled with cerebral spinal fluid (CSF). CSF flows from the ventricles of the brain through the subarachnoid space and the central canal.

In the cervical and thoracic spine the pia mater thickens between the nerve roots forming the dentate ligament. There are 20 pair of dentate ligaments ending at T12 and L1.

The meninges can be compared to a sock. It covers the brain, attaches at the foramen magnum and at the filum terminale (cauda equine), but is freely suspended between the two areas except for attachments to the dentate ligament, C2 and C3.

In flexion, the meninges are stretched over the vertebral bodies. Between flexion and extension, the spinal cord changes in length between 5-7 cm., which is equal to 2 to 2 ¾ inches.



Flexion



The spinal cord in neutral and flexion
Breig, “Adverse Mechanical Tension in the CNS”

The Myodural Bridge

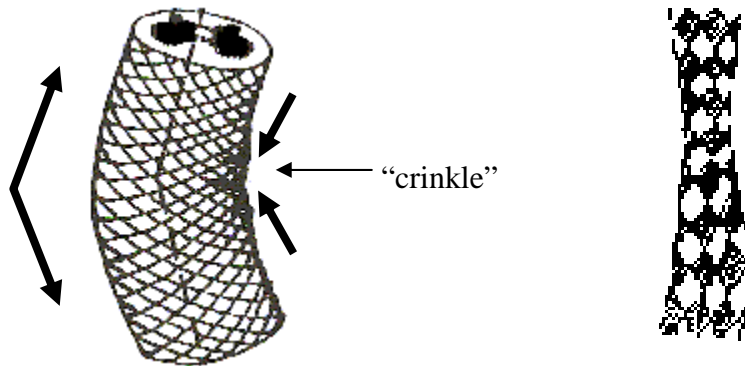
Recently, there was a connection established between the cervical muscles and the spinal cord. This is called the Myodural Bridge. The Myodural Bridge connects the Rectus Capitis Posterior Minor (RCPM) muscle and the dura mater between C0 and C1. The RCPM provides static and dynamic feedback to the CNS monitoring the head and neck muscles. There is also a connection between the nuchal ligament and the dura mater.

In extension or lateral flexion, it may have a “crinkling” effect as it in-folds on itself. Therefore, hyperextension is also a pathological position.

In flexion, the spinal cord must go “Over The Hill,” *i.e.*, is pulled over the vertebral bodies. This produces both a stretching and a pincer effect.

In extension, the spinal cord will slacken, but the meninges may in-fold on itself.

In lateral flexion the meninges will slacken on the inside and tighten on the outside.



In lateral flexion, the spinal cord does not move toward the side of convexity, but rather is pulled centrally by the dentate ligaments.

The arachnoid mater has diagonal fibers that cross at 30 degrees, similar to a Chinese finger pull.



(Artwork by B.J. Woggon)

Any pulling or elongation will have a pincer effect as well. This is known as St. Vincent’s Law.

When there are subluxations and abnormal spinal positions, an inflammatory process will set in. This inflammation leads to scar or adhesions.

The Manual Traction Adjustment will have a positive effect on the meninges at the area of subluxations and scarring. It will also correct “crinkling” of the meninges at the area of spinal subluxation angles. It will also assist in the pumping of CSF through the spine and brain.

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