

Treatment of Myofascial Contractions with the Vertebral Distraction Pump (V.D.P.)

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ABSTRACT.

Objective: To evaluate the effectiveness and the application of the Vertebral Distraction Pump (V.D.P.) for the treatment of releasing myofascial contractions.

Clinical Features: Case studies are presented in which patients suffering from extreme chronic pain, grade 3-4, where the immobility of the supportive soft tissue was creating constant reoccurring structural distortions by not creating stabilization of the involved area. The Visual Analog Scale (VAS) is taken pre and post treatment to confirm the positive change(s) created.

Intervention and Outcome: The Vertebral Distraction Pump (V.D.P.), a hand held instrument, was effectively applied to several case studies having grade 3 or higher myospasms in and throughout the spine from C7-T1 junction to the L5-S1 junction as well as one extremity case study. Within six treatments, all case studies showed a minimum of 70-85% reduction of their symptoms. The reduction of the symptomatology was gauged by using the Visual Analog Scale (VAS). Patient compliance is a necessity after the treatment to allow for a consistent reduction of discomfort and pain which allows the patient to go through their daily routine in a minimal amount of pain with no restrictions.

Conclusion: The hand held Vertebral Distraction Pump (V.D.P.) may be an effective instrument in the treatment and management of chronic myofascial contractions as well as reducing the stimulation of the spinal nerves which provides for an easier, less traumatic means of correcting associated spinal vertebral distortions.

INTRODUCTION

This paper examines the myoneural skeletal system and spinal distortions it is associated with that cause spinal abnormalities, upper and lower extremity radiculopathies, structural nerve impingement and extremity distortions. Initially the V.D.P. was used for the treatment of the two major causes of back pain: facet syndrome and disc lesions. Upon further research by Bray Corporations research assistant Jaime

Jones, it was revealed how effective the V.D.P. was in the treatment of myofascial release. Ms. Jones discovered that the increase in the patients' response to her treatments was well over 50% according to the pre and post treatment VAS. The V.D.P. is applied to the patients involved musculature by stretching the involved muscle spindles of those involved muscles.

The three main factors that that we will be looking at that influence the stability/mobility of a joint are:

- (1) The shape of the articular surfaces of the involved joints
- (2) The strength of the articular joint capsule and associated ligaments
- (3) The strength and the tone of the supportive muscles of the involved joint

1) "In the simplest formulation, spinal pain is presumed to arise from either a mechanical failure of the skeletal and articular components of the spine or from pathologic entities that compromise several elements." We have found myospasms in the vast majority of chronic cases. The reduction of the myospasms allows a much more relaxed state of the supportive musculature. 2) "The cervical spine is the most complicated articular septum in the body. The normal cervical spine moves 600 times an hour, awake or asleep. No other part of the musculoskeletal system is in such constant motion." This means the supportive muscles of the cervical spine are also in constant motion which creates the opportunity for distortive abnormalities in the cervical spine musculoskeletal system. 3)

"Joint complex dysfunction (subluxation) also results from traumatic soft tissue injury. This joint complex dysfunction is also responsible for alterations in both afferent and efferent neuronal activity and a variety of symptomatology," including injury to the muscular and ligamentous components. 4) "Chiropractic care with the administration of myofascial release of the involved musculature is the most rational and as we are observing the work of the V.D.P. upon the involved soft tissue, the most effective course of treatment. This provides for the improvement of overall systemic health, prevention and wellness."

5) "Although spinal ligaments have been traditionally considered only as a mechanical structure, "we are seeing definite evidence to suggest there is participation of active neuromuscular reflexes."

One of the major benefits of using the V.D.P. on myofascial release is its ability to open up the neuromuscular system, open up the blood vessels, and the lymphatic system. 6) "This allows, under load, for water metabolic waste products to be pressed out whereas the intervertebral discs absorb water and metabolic substrates when the load is reduced. The pumping mechanism maintains the nutritional and biomechanical function of the intervertebral disc."

The V.D.P. when properly applied, may create normal functioning of the involved area by opening and stimulating the nerves, blood vessels, ligaments, and other articular components of the involved area. This normalizing of the involved area creates approximately 78% reduction of the symptomatology of the involved muscles and soft tissues as well as articular components.

Case Study: Myofascial Release-Plantar Fascitis

Our first case study involved a 64 year old woman suffering from chronic plantar fasciitis of the left foot for the last five years. She was told by several M.D.s and D.C.s that there was nothing they could do but offer her temporary relief at best. This case involved physiotherapy, hydrotherapy, injections, reflexology and massage therapy. None of these therapies/techniques offered more than 24 hours of relief before the symptoms returned.

The patient filled out a general pain index questionnaire as well as having pre and post treatment visual analog scales (V.A.S.). The general pain index questionnaire was 48 with the initial VAS pre-treatment at 8.6. The patient stated she was symptomatic 100% of the time. The patient also stated she is on pain medication and anti-inflammatory medicine so she could go through her daily routine without being in excruciating pain. Without the medications she is limited in all activities that involve her being on her feet. Although the calcaneus was definitely subluxated according to the Activator Methods Chiropractic Technique (AMCT), the correct adjusting of the calcaneus was not enough to reduce the VAS post-treatment as administering both adjustments and soft tissue work. According to the patient, the soft tissue work exceeded the adjustments for the reduction of her symptomatology. This was also verified by Jamie Jones according to the patients' response to Ms. Jones soft tissue technique with and without the benefits of the adjustment technique. Her post treatment VAS was 3.6. The patient was unaware of any childhood, teenage or early adult trauma that could have precipitated her left foot plantar fasciitis. There was no indications of familial history that would indicate a predisposition to plantar fasciitis i.e. pes planus (flat feet) where the talar head displaces medially and plantar wards from under cover of the navicular and stretches the spring ligament and the tibialis posterior resulting in the loss of the medial longitudinal arch," and the valgus angle of os calis.

Our examination revealed normal lower extremity reflexes with normal (grade 4) strength in the supportive musculature i.e. tibialis anterior and gastrocnemius. There is also the sustentaculum tali which has an anatomical significance in that it supports the talus and serves as an attachment for the spring ligament. Problems within this anatomic alignment may well lead to pes planus (flat feet). The sustentaculum tali is difficult to palpate since it is small but it is clinically significant. There was a hypersensitive SI dermatome left with an adhesion of the lower left Achilles tendon.

The treatment involved using the V.D.P. to address the myofascial components with the Activator Methods Technique (AMCT) utilized to address the osseous misalignments. Initial pre-treatment visual analog scale (VAS) was put at 8.5 by the patient. The post-treatment VAS was 3.4. The patient stated the release of a left Achilles adhesion with the work of the V.D.P. upon the longitudinal arches gave her the first relief from the very painful condition in five years. It must be

stated that using the AMCT alone did not grant her this tremendous relief. Factually, the work of Jaime Jones alone using the V.D.P. accounted for the vast majority of relief. The relief simply lasts longer with adjustive technique administered with the V.D.P. She stated she slept six straight hours for the first time in five years without waking up with severe pain. After the second treatment, the patient felt so good she decided to clean her house, golf, do yard work and go for a long walk. This after only two treatments. Ms. Jones warned her about this increase in activity.

Needless to say after all this activity her next pre-treatment VAS was 7.5. Again, the longitudinal arches and planar fascial were stripped out. Interestingly the patient stated she knows all the time she spent on the treadmill did more damage than good. She acknowledged she did not have the proper footwear and was not using the incline of the treadmill properly. She was adamant about this being a major part of her problem. Her post-treatment VAS was 6.5. Her next treatment was one week later. She began to use her left foot as being equal symmetrically with her right foot. The left foot still had extreme plantar fasciitis; however, it diminished substantially after treatment. The relief lasted until prolonged walking was introduced. At her next treatment her pre-treatment VAS was 4.5 with her post-treatment VAS at 2.5. The patient was adjusted via AMCT with the now mild plantar fascial contractions treated via the V.D.P. The main structural components were the calcaneus and the talus. The patient at this point, was ecstatic and for the first time in five years could see the light at the end of the tunnel and stated she felt 80% corrected.

Research assistant and developer of the myofascial release technique, utilizing the V.D.P. Ms. Jaime Jones continued on her course of treatment. By the seventh treatment the patient was overjoyed, knowing, as she put it, she was going to recover enough to go through her daily routine in a minimal amount of pain. Her seventh pre-treatment VAS was put at 3.0 with the post-treatment VAS at 1.5. She stated later that after the treatment she lay down for approximately one hour then got up and was completely pain free. The only actions that caused an exacerbation were prolonged standing, walking or sitting with her left leg over her right leg. Otherwise she was completely pain free, and could not stop telling everyone how great she felt despite being told by every specialist she previously saw there was no course of treatment to help her. Everything else has been tried with no results.

One important structural change Ms. Jones noticed was the body's positive acceptance to the changes made with the proper application of the V.D.P. Ms. Jones' interpretation of the problem and her well thought out plan was crucial to the patients' response.

Treatments are now on a maintenance schedule with the patient scheduling when she feels it is necessary. She has been made aware of the patient compliance that is very necessary in this type of case. Compliance is an absolute necessity. Without this, her response to care could possibly and more likely diminish.

Case Study 2: Cervical Radiculopathy

This case study involves grade 4 myospasms of the scalenus medius and posticus, upper trapezius, sceepraspinus, mid deltoid, and levator scopolae. The patient is a D.C. with a fifth cervical fracture, a four millimeter posterolateral right disc lesion at C5-6, foraminal encroachment, facet hypertrophy and canal stenosis. The patient was in severe pain with burning down the right cervical spine, out to the right shoulder and down to the right thumb and index finger. His initial VAS was 9.3 pre-treatment. The general pain index was 24. This was while he was on pain medication. Without the pain medication his general pain index was 46. Treatment started with Ms. Jaime Jones working from the cervical spine out to the mid deltoid. While the releasing of muscle spindle fibers of the involved muscles was uncomfortable after each muscle was worked on, the patient could feel the release of pressure he described as a rope from his right cervical spine to his right hand that felt like it was being stretched. He felt relief with each VDP myofascial technique treatment on each muscle; slow at first, then very obvious because of the decrease in the burning pain. At the end of the first treatment he was amazed and surprised at the relief since he had tried everything with medication as a last resort. He tested his post-treatment VAS at 2.9. He followed the compliance he was asked to do and his next pre-treatment VAS was at 4.1. His post-treatment VAS was listed at 1.3. His third pre-treatment VAS was at 1.7 with the post-treatment VAS at 0.0. He had full range of motion with absolutely no pain in whatever he did with his right arm or any position he put his cervical spine in.

The patient has remained able to work on his patients without pain, but with minimal discomfort. He receives treatments when necessary. He is also extremely surprised and grateful for the work Ms. Jaime Jones has been able to do for him. He highly endorses Ms. Jones' work.

Case Study 3

This case study involves grade 4 paraspinal myospasms resultant from a first lumbar compression and right wedged compression fracture as a result of an off road motorcycle accident. This male is thirty-six years old and works as a carpenter. He stands 5'7" tall with a weight of 220 lbs. He is very well built with a mesomorph body type. His symptoms were severe myospasms from his pelvis up to his mid scapular area. The pain was severe enough that we waited for one month before we initiated any treatment involving reducing the myospasms of the involved area. His general pain index without medication was 86. With the pain medication the general pain index was 49 with no activity involving the lumbar spine. Essentially bed rest was the treating orthopedists recommendation. The patient was skeptical at first because of the comments made to him by the M.D.s treating him. His first pre-treatment VAS was 10. After applying the VDP bilaterally upon the paraspinal musculature from the fifth lumbar to the second

thoracic vertebrae, the patient experienced a profound change in his spinal pain and spinal musculature. The areas treated initially blanched, and then within one to two minutes the entire area worked on turned bright red with the patient experiencing tingling, warmth and a definite change to his pain and discomfort. The pain and discomfort gradually centered over the right wedged compression fracture of the first lumbar vertebrae. His urination became easier. His bowel movements became regular with no need for laxatives. The pain he had been experiencing in his groin area reduced significantly to where becoming intimate with his wife was not an issue anymore. His post-treatment VAS was put at 3.1 after the first treatment. The following treatment, two days later, the patient put his VAS at 6.8. He attributed this to his feeling so much better he overdid his physical activities, something he was warned about. The same treatment was applied on the next visit with the post-treatment VAS at 2.6. After realizing the relief he could be given the patient became very compliant. The next visit his pre-treatment was 4.2. He admitted to doing some light work which immediately created discomfort. When asked to get some oblique x-rays of the thoracolumbar region as well as another MRI, it was revealed he does suffer from foraminal compression of the 12th thoracic, first lumbar and second lumbar on the right side because of the wedged part of the compression factor. The patient is taking a series of shots to reduce the inflammation and possibly leading to deadening of the first lumbar nerve on the right. Despite this, even to the specialist, he continues to, by his specialists' recommendation, receive the myofascial release work via the V.D.P. The post-treatment VAS on this treatment was 1.9. The symptoms now are directly related to the bone damage incurred by the type of wedged compression fracture the patient suffered from the motorcycle accident. Pre-treatment VAS on the fourth treatment was 5.1. Post-treatment VAS was 1.7. The patient again admitted to over working around the house. The fifth pre-treatment VAS was 2.4 with no work being done between the fourth and fifth treatment. The patient now realizes the working of the thoracolumbar spine is directly related to the myospasms he suffers from, although the first lumbar area musculature remains erratic because of the series of shots he is going through. Despite his post-treatment, VAS on the fifth visit was 1.1. The fifth through the tenth series of treatments for myofascial contractions, the pre-treatment VAS never exceeded 2.0 with the post-treatment VAS never exceeding 1.0. This, however, does not apply to the area inflamed after each series of shots. Through the deadening of the involved nerve and the myofascial work the patient is now ready to return to work. His orthopedist recommended his continuing to receive the myofascial work via the V.D.P.

The patient can now go through his daily routine in minimal pain with no limitations. He is scheduled to return to work now without any limitations. He is also scheduled by his own desire to regularly receive the myofascial release via the Vertebral Distraction Pump (V.D.P.)

Discussion:

Although the body does have the ability to heal itself, there are ways to increase the response time to the treatment of the distortion creating the discomfort to the patient. The tendons, ligaments, and muscles are part of the support team that helps to stabilize the involved area. The two most common muscular conditions that disallow stabilization of the involved area involve either the muscle spindle cells or the golgi tendon cells (of the muscles.) The goal, in either case, is to normalize and return the soft tissue involvement to their normal anatomical state.

The V.D.P. is being used to accomplish the return of the soft tissue to its normal anatomical state. The goal, if the patient has suffered a cervical spine injury with neck, shoulder, arm and hand pain, would be to decrease the symptomatology to the point where the patient can go through his/her daily routine in a minimal amount of pain. In some conditions the muscle itself is the main causative factor i.e. piriformis syndrome. The sciatic nerve traverses through the muscle belly of the piriformis muscle. Contraction of the muscle grades 2 and higher will have a definite effect on the sciatic nerve. Relaxing the piriformis will also definitely reduce pressure upon the sciatic nerve. We accomplish this reduction of contraction by property using the V.D.P. upon the piriformis muscle. The V.D.P. is positioned along the muscle fibers, the way the muscle is inclined to stretch. Place the V.D.P. over the muscle belly of the piriformis, then put downward pressure upon it, open the legs of the V.D.P. and hold it open for (20) twenty seconds, then release the opening of the tips of the legs and release the downward pressure. Immediately, within three (3) seconds, repeat the process of downward pressure and opening the tips of the legs for (20) twenty seconds. This repetition of downward pressure and opening of the legs/tips upon the involved muscle, in this case the piriformis, is repeated (5) five times. Again, this stretching of the muscle belly occurs along the origin and insertion of that muscle and its fibers.

In the cervical spine where there is a radiculopathy, you would start with the scalene group addressing the scalenus medius and then the scalenus posticus, making sure to avoid any stimulation of the carotid reflex. Next, move to the supraspinatus using the same technique as you do with all the muscle you work on, using five distractions or openings of the muscle belly for ten (10) seconds each distraction. Then move to the next muscle which would be the mid-deltoid. In quite a few incidences you will also distract the subclavius and the levator scapulae. If there is a rib head distortion, which is common in chronic cervical cases, you will also possibly use the V.D.P. and distraction upon the rhomboid major and minor as well as the teres minor.

In the thoracic spine you use all four legs/tips on each side of the spine. This not only relaxes the paravertebral muscles but (causes stabilization) of the costovertebral junction. The technique is the same, it's just at different levels. I personally use the cervical V.D.P. from the cervical spine down to T7. The lumbar V.D.P. is used from T8 down. You will be using the myofascial work in this technique then address the structural distortions.

In the lumbar spine it's been stated how to address the paravertebral musculature. When radiculopathy is involved, you will need to know the level of the spine that is creating the problem then follow the dermatomal level down the leg. Example: L5-S1 is the most commonly involved disc lesion, regarding this case you would use the modalities first, and then release all myofascial contractions before you correct the subluxation pattern. Use the V.D.P. to release all myofascial contractions on the involved muscles.

Ms. Jones also stated she has found the medial and longitudinal arches involved in several cases. We have found that patients respond at least 50% faster when this myofascial release technique is employed in the treatment program. All in all, it does take some time, but if you use an algometer, it (the algometer) will tell you where the most tender spots are, and how much downward pressure you can use. We state this since body types differ. You would not use as much pressure on an ectomorph as you would an endomorph. Bruising can occur on endomorph body type quite easily. Do not be alarmed by this unless the patient brings it to your attention and asks you not to put as much downward pressure. Despite their wishes you need to let them know how important it is to release the myofascial contractions. Through Ms. Jones' work with the application of the Vertebral Distraction Pump (V.D.P.) upon symptomatic musculature, we have found by releasing myofascial contractions the patients respond at least 50% faster. The V.D.P. may be an excellent instrument to release myofascial contractions on a permanent basis.

Conclusion:

The Vertebral Distraction Pump may be a viable means of treating myofascial release of musculoskeletal conditions. When properly applied we are seeing a definite decrease, (at least 50% per treatment) in patients symptoms we are treating them for. The definite patterns of treating the certain muscles associated with these conditions allow us a much faster and longer lasting treatment. Chiropractic adjustments quicken the response time. The research we have seen shows us the V.D.P. may be a very logical instrument in releasing myofascial contractions. Ms. Jones' work has shown us that by addressing the skeletal as well as the musculature systems, this really allows the tremendous relief the patients have been receiving. By performing the work in the manner with patient compliance, her rate of correction is well over 90%. This rate is gauged upon the patient going through their normal routine without any debilitating symptoms to stop them. With the musculoskeletal system functioning normally, this helps the body as a whole function as normally and properly as it should.

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