

# Osteopathic Treatment Benefits Towards Stroke Patience

## Introduction

One of the worse medical illnesses to come to grips with is having a stroke. Imagine sitting at home and all of a sudden you have a stroke. The stroke is often referred to when someone's face starts drooping to its side or a loss of fine motor skills. But to be honest the stroke is much more than that. The stroke or Cerebrovascular accident (CVA), is a sudden loss of brain function caused by a sudden brain blood vessel blockage (ischemic stroke) or rupture (hemorrhagic stroke) (Government of Canada, 2012/2013). Stroke can occur at any age, however, stroke in Canadians affects approximately 741, 800 adults above the age of 20 (Government of Canada, 2012/2013). There are many levels of affect from stroke with impairments ranging from physical to personality and mental changes but most strokes generally affect people in common ways such as ischemia, edema, pain, range of motion and quality of motion. Osteopathic treatment can present a unique strategy to alleviate some of these more common complications presented by stroke. That being said treatment delivery and options would most likely vary from case to case, many of the following suggested treatment options would be beneficial to many stroke patients during the post-acute stage of care and recovery.

## Supporting Arguments

Post stroke symptoms present in many ways but most common impairments include physical deficits such as paralysis, weakness, spasticity, loss of motor control/coordination and changes in sensation; changes in cognition such as thinking, memory, and language; as well as emotional changes such as fatigue and depression (2018, NINDS). Osteopathy can assist in alleviating these symptom areas by focusing on the three main areas of interest including musculoskeletal, visceral and craniosacral therapy, which could assist in alleviating effects in these symptom areas. Treatment in these three fields of osteopathy would greatly benefit stroke patients of the varying impairments and affects.

Beginning with visceral osteopathy, stroke patients would benefit from the exportation of tensions throughout the body that may reside in organs and fissures. According to osteopathic theory, “any problem within the body may have a visceral component” (Dr. Bagrin, O. 2018) including post-trauma from stroke. As Osteopaths, we are also aware that inner organs represent a link between the musculoskeletal system and the nervous system and manipulations through articulations, stretching, inhibition, general mobilizations, muscle energy techniques and recoil techniques can change the way these systems respond in the body and can affect neural reflexes, circulation and fluid drainage.

Indications of visceral osteopathy include all vertebral problems, metabolic dysfunctions, joints problems, immune problems (with focus on the spleen, lungs, liver and pancreas) and each organ having a particular relation with an emotional status. Stroke not only places incredible stress on the brain but of course on the entire body. Visceral treatment can alleviate the brain passing stress onto organs, which can reduce symptoms of organ behavior relationships.

Craniosacral osteopathy would also greatly benefit stroke patients through treatment to the cranium, spinal cord, sacrum, primary respiratory mechanism and nervous system as well. Through exaggerations of lesions, direct corrections, disengagements, oppositional physiological movement and molding, a stroke patient’s recovery time could be reduced. By treating these areas of a stroke patient, Osteopaths can regulate their nerve function, counteract stress-producing factors, eliminate circulatory stasis, normalize cerebral spinal fluid, correct cranial articular strains, modify gross structural patterns and release of membranous tensions. These benefits post stroke would allow optimal opportunity for recovery and healing which effectively reduces length of treatment and rehabilitation periods.

The final area of osteopathy that is a great benefit stroke patient would be musculoskeletal osteopathy. One of the major problems stroke patients will face, in addition to the of voluntary motion is the onset of joint contractures. Stroke can also cause many indications for musculoskeletal treatment such as pain, loss of motion, muscle restrictions and tonus, and other sensitivities. Many of these changes are due to the loss of motion in the joint(s). Integrating treatments such as general mobilizations and muscle energy techniques, stroke patients can improve range of motion restrictions, reduce pain with movement, and reduce functional restrictions allowing for more rapid recovery, improved rehabilitation outcomes and general quality of life.

## Case Study

### *Chief complaint*

M.A. is a 65 year old female who presented to the stroke rehabilitation unit with left upper and lower extremity hemiparesis, mild left sided neglect, altered sensation, and increased tone/spasticity.

### *History of Present Illness*

The son of M.A. found her at home after she had called him for help. The son immediately called Emergency Medical Systems upon spotting the symptoms of stroke. The son reported that the ambulance arrived to the home within minutes.

### *Review of Systems*

M.A. was diagnosed with Hypertension Stage 1 (Systolic pressure between 130-139 mm Hg) 4 years ago. M.A. also had a previous episode of numbness, confusion and slurred speech, which appears to be evidence of Transient Ischemic Attack (TIA).

### *Past Family History*

The patient's family medical history was positive for hypertension.

### *Physical exam*

M.A. had blood pressure of 150/95 mm Hg. She reported that she had pain which she described as a 6/10 depending on her level of activity in her left upper and lower extremities and a headache. She presented with left hemiparesis and left visual/spatial neglect. There was evidence suggesting impairment to cranial nerve XII. The lab test results for complete blood count, serum electrolyte levels and renal function were all within normal ranges. CT of the brain indicated thrombus in a right internal carotid artery. The right anterior hemisphere showed an area of infarction. There was no evidence of subarachnoid hemorrhage. Diagnosis was confirmed 3 hours after M.A. arrived in emergency.

M.A. was using a wheelchair for basic functional mobility. For the physical examination, M.A. was transferred onto the examination table and assessed in both sitting and in supine. The segmental exam of the left upper extremity revealed that the glenohumeral joint is held in internal rotation and adduction, elbow and wrist is flexed, with the beginnings of a flexure contracture of the metacarpophalangeal joints. M.A. has edema in the left hand. There was also decreased range of motion and quality of motion. The left leg revealed loss of motor response, stiffness and hip positioning in internal rotation and the ankle is plantarflexed and inverted. The limb showed loss of gross motion and quality of motion. Some sensory function to the affected limbs was retained including light touch and two point discrimination. Some neck restrictions were also present in lateral bending.

### *Assessment*

Patient was losing range of motion due to tissue contractures affecting joints and decreasing opportunity for independent ambulation. There was somatic dysfunction of both upper and lower extremity.

### *Course of Treatment*

Once stabilized, a primary care physician and neurologist provided a referral for stroke rehabilitation and multidisciplinary rehabilitation team (including osteopathic treatment practitioner) to assess M.A.'s rehabilitative needs and developed a treatment strategy.

Osteopathic Manual Treatments (OMT) were performed on M.A, focusing on soft tissue, myofascial release, some visceral techniques and craniosacral therapy. Patient responded particularly well with myofascial release and was able to feel tissue releases, which resulted in reduced pain and tightness, especially in the leg. Craniosacral therapy addressed balancing the primary respiratory system and force, allowing decreases in tissue tension throughout the body. Visceral techniques to the diaphragm allowed proper lymphatic drainage into the venous system reducing edema. Regular OMT treatments was recommended on a weekly schedule to ensure effective recovery time for patients from physical assessments and treatments and optimize treatment outcomes.

### *Results*

M.A. following 6 weeks of stroke rehabilitation and osteopathic treatments ambulates with a hemi-walker. She can now put on a shirt independently. She also has exhibited a decrease in overall pain, describing it as a 2/10.

### *Conclusion*

Stroke is one of the leading causes of long-term disability worldwide (2012, World Stroke Organization). Stroke rehabilitation can assist a patient to regain independence and overall quality of life. Osteopathic practitioners can deliver osteopathic treatments to alleviate and address many primary and secondary restrictions of stroke including ischemia, edema, pain, range of motion, and quality of motion. Osteopathic treatments can help the body function optimally to help restore structure and function. As such, Osteopathic practitioners delivering osteopathic treatments have a significant role to play to assist in stroke rehabilitation.

## References

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