

Visceral Manipulation Therapy

The effect of an abdominal/thoracic technique, visceral manipulation therapy, towards the restoration of lateral-costal movement in the lower ribs.

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A common clinical finding in the physiotherapy assessment of patients diagnosed with fibromyalgia, post-MVA, or other chronic pain condition, is a tendency towards shallow, rapid, apical breathing with a corresponding reduced ability to expand the lower portion of the rib cage during inhalation (i.e., “bucket-handle movement”). In psychophysiological assessment, these patients often present with low resting pCO₂ values and a poor ability to recover to resting values after breathing is stressed.

This poster explains the effect of an abdominal/thoracic technique, visceral manipulation therapy, towards the restoration of lateral-costal movement in the lower ribs. Visceral manipulation is a treatment involving specific stretching techniques to the restricted connective tissue around organs. Using these techniques, a trained therapist is able to breakdown the adhesions formed between the connective tissue layers over individual organs. Studies have shown that adhesions are formed when the serous fluid between connective tissues thickens and becomes more viscous in nature during the inflammatory process. This phenomenon can occur after trauma such as motor vehicle accidents, direct blows to the rib cage, surgery, and some illnesses.

In some fibromyalgia patients, visceral manipulation therapy may offer an important adjunctive therapy towards the restoration of efficient lateral-costal breathing.

The data presented illustrates pre and post-treatment ETCO₂ values and a qualitative change in rib cage movement, after visceral manipulation therapy, in a 51 year old female patient with repetitive strain injury.

Quotes

“Structure governs function.” A.T. Still, osteopath

“When a structure can no longer be mobilized, when fibrous tissues replace elastic tissues, when arteries, nerves, or lymphatic systems are trapped in a stranglehold -- then illness appears.” Jean-Pierre Barral, osteopath 1987

Case History

51 year old female who worked at a keyboard doing data entry. She had been off work for 16 months with a diagnosis of repetitive strain injury (RSI) which presented with equal pain in both wrists, the inner elbows, and 2nd to 4th fingers of each hand. Previous

injuries had included a childhood coccyx injury, and a fall with rib cage injury in 1992. Also present were irritable bowel syndrome, and pernicious anemia.

Clinical Findings

Baseline readings showed a with variable breathing rate and pattern, apnea, apical breathing pattern, low resting CO₂, and head forward posture. Dynamically, there was an inability to produce a respiratory sinus arrhythmia (RSA) pattern without significant drop in pCO₂. This effortful breathing along with poor lateral-costal movement indicated the need for rib cage mobilization.

Treatment

Pre-treatment recordings included EMG, temp, heart rate, blood volume pulse, and pCO₂. The readings were taken with the patient supine, supported on two pillows under her head, and a bolster under her knees.

The pCO₂ pre-treatment was 30 mmHg and a poor exhale pattern. The sample was recorded over a one minute period, two minutes after the patient had been asked to breathe in a relaxed manner.

The visceral manipulative therapy began with an assessment of the movement of the liver and stomach. Both organs showed restricted motion. The patient was placed in left side lying while the liver was mobilized and in right side lying while the stomach was mobilized. Both organs were being treated for improvement in their lateral, superior, and posterior motions. (See diagram) This procedure took approximately 18 minutes and produced mild discomfort in the patient at the time of the session.

The post-treatment pCO₂ reading was 38-39 mmHg and a noticeably improved event in exhale pattern. The sample was recorded in the same manner as the pre-treatment sample.

Findings

In the post-treatment period, the patient reported finding it easier to breathe and noted increased rib cage movement. This was a new sensation for her. On palpation, the therapist noted a marked increase in the quality of the rib cage movement in a lateral-costal direction. The pre-treatment rib cage motion was jerky and had a smaller range whereas the post-treatment the motion was smoother and had a larger range.

Visceral manipulative therapy was the most effective treatment used in improving the pCO₂ levels in this patient.

The patient was seen for a follow-up session the following week. She reported at that time that her ease of breathing was maintained. The pCO₂ readings showed a level of 35 mmHg and a continued improvement in exhale pattern. These changes towards effortless breathing have continued to hold for subsequent visits.

Recommendations

When the case history and assessment present with the indicators mentioned below, the therapist should consider the use of visceral manipulation therapy.

Upon case history, the therapist looks for the following indicators:

- previous motor vehicle accidents involving low back, pelvic, or hip pain
- previous abdominal surgeries including laparoscopy
- trauma including blows to the rib cage or pelvis
- deliveries involving use of forceps, suction, or C-sections
- recurrent illnesses involving inflammatory processes such as cystitis, irritable bowel syndrome

Upon assessment, the therapist looks for the following indicators:

- decreased lateral-costal expansion of the rib cage during breathing
- increased effort of breathing that does not change with retraining (using the description of effortful breathing as described by J. van Dixhoorn, 1993)
- head forward posture
- marked limited flexibility in the spinal column (inability to axial extend)
- hypertonus in the abdominal muscles
- low pCO₂ levels in resting or dynamic breathing or significant drop in pCO₂ when breathing is challenged

Bibliography

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