Visceral Manipulation

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We will try to answer these questions:
• What is a visceral dysfunction?
• Why would you want to palpate viscera?
• How do you palpate viscera?
• What is layer palpation?
• What information do you get?
• What is the difference?
• What are the “All roads lead to Rome “ rules 1 and 2.
Aspects of the Osteopath

• “The Alchemist”
• We try to transform dysfunction into health.
Dr Still developed Osteopathy in the late 19\textsuperscript{th} century. He had been trained as a medical doctor, but found that he could treat most diseases by palpating dysfunctional areas, and treating them with his hands. He called this new science Osteopathy, meaning to “begin with the bones”. By finding where the bones were not properly aligned and where they were not moving properly, it can guide the physician to the area of the body that needs to be treated, as they reflect where the forces of life are not moving properly. Notice that he “began with the bones”, but did not end there. In his writing, he constantly talked about joints, fascia, blood supply, nerves, internal organs, and lymphatic flow.
Visceral

Osteopathic manipulation of the viscera began with Dr Still. He described treating many different digestive, respiratory and urogenital complaints. For Dr Still, almost all medical conditions had an osteopathic treatment, in some cases curative, in some cases supportive. Dr Still left few descriptions of techniques of any kind, but some of his early students, Carl McConnell and E. Barber did. Dr Still described few techniques in his writing, the most specific information was in his last book, “Research and Practice”, published in 1911.

Dr Still palpated for organs that were” out of place”, specifically ptosis of the liver, kidneys, bladder and uterus. He mostly treated the organs by lifting them superiorly. In general, Dr. Still’s approach for visceral problems was to treat the spine, then lift the organs.
One of Dr Still’s students, WG Sutherland, credited him with the original idea of the cranial concept. Dr Still often told his students that D.O. stands for “Dig On”, encouraging them to expand their view of Osteopathy. While Dr Sutherland is most known for his work in the cranial area, he never implied that it should be the only area diagnosed or treated. He gave multiple references to treating the viscera.
Dr Sutherland

• “When you want to observe the abdominal viscera that may be in ptosis, with the patient supine gently place one hand over or just below the area of interest. This hand is passive; it does nothing. Then place your other hand over it. You use the upper hand for gentle lifts and observation. That gentle application will tell you a great deal about where you are so that you can feel what the tissues can reveal. The lower hand can be permitted to sink into the tissues below, but the upper hand does the lifting in cooperation with the exhalation excursion of the diaphragm”.

Teachings in the Science of Osteopathy 7
“A point often overlooked is that the total ventral side of the body functions under direct diaphragmatic activity, as a unit. An imbalanced state of pelvic tension, for example, may be fundamentally dependant on diaphragmatic atony.”
Visceral Dysfunction

- Dr Still’s ideas are clear: all tissues need adequate fluid, nutritional, and neurological exchange to be healthy. These components come through the blood vessels, lymphatics, and the autonomic nervous system, which all are covered by the peritoneum and pleura, in the form of visceral ligaments. When the attachments are tight, fluid exchange is compromised (tissue perfusion), the nervous system is irritated, and less than optimum function is the result. By treating the attachments, function can be improved. These principles apply to the viscera as well as all other tissues.
Mobility

• All of the viscera, and all other tissues, move with each breath (mobility). This movement is necessary to keep fluid and pressure distribution within normal limits.
Mobility-diaphragm movement
Planes of motion

The motions of mobility occur 3 dimensionally, in all of the cardinal planes of existence.
What type of an Osteopath will I be?

- Bone and jointist?
- Fascist?
- Cranialist?
- Visceralist?
- Extremity-ist?
- Biodynamist?
- Point poker?
- Captain Crunch?
- An Osteopathic physician that is able to diagnose and treat almost anything?
Visceral Dysfunction

- “Impaired or altered mobility or motility of the visceral system and related fascial, neurological, vascular, skeletal, and lymphatic elements.”
- AOA Glossary, 2002
Visceral dysfunctions are connected to somatic dysfunctions through the connective tissues, nerves (viscerosomatic reflexes, somatovisceral reflexes) and fluids (blood, lymph, interstitial).

Visceral and somatic dysfunctions may be presymptomatic.

Almost all medical diagnosis have visceral and somatic dysfunction components (except maybe dermatological disease).
How do we feel deep inside the body? Layer Palpation

- To palpate a layer or an organ: palpate to the skin, then superficial fascia, adipose, etc., noting tissue texture and consistency at each layer. Does it feel like there is tension? Continue through the tissues layers to an appropriate depth.
- Explore the walls of the body cavities (superficial), the things inside the cavities (middle), and the posterior cavity (deep).
This follows Newton’s 3\textsuperscript{rd} Law

- If 2 bodies are in contact, and body 1 exerts a force on body 2, then body 2 will apply a force on body 1 in such a way that the 2 forces will have equal magnitude but opposite directions.

- Useful in layer palpation, when you press down to a layer, it will press back.
Fascial Palpation

- Theraband feels somewhat similar to fascia.
- We are viewing 3 pieces of theraband used to represent fascia, that shows:
  - Slack
  - Slack taken out
  - Tension- in either theraband or fascia, the material will pull toward the site of tension.
Fascial Pull

- While you are identifying layers, pay attention to the tissue texture and consistency.
- When you are on a fascial layer, you may feel it being pulled in a certain direction, **towards a dysfunction**.
- Lift your hand off the body, and move the base of the palm to somewhere further along the tension line. When you are at a dysfunction, the **tissue will pull in**. Confirm with motion testing the structure.
In Dysfunctions: “All Roads Lead to Rome”

- **Rome rule 1**: The fascial pull (listening) will be in the direction of the dysfunction (Rome). All of the fascia in the area (roads) will pull towards it.

- **Rome rule 2**: The dysfunctional area will also have **multiple parameters** involved (roads), such as restricted motion, thermal changes, perturbed fluid movement, and associated neurological changes (spinal, sympathetic or parasympathetic).
Multiple strains-Tensigrity

- The body generally accumulates many strains over a life time. The strain takes a certain amount of force to hold it there, exerting tension into the fascia. The one with the most force will have the biggest effect on the fascia.
- Therefore, removing the biggest strain will have the largest effect on the body.
- “Rome rule 1”
Barriers

- In a dysfunction (somatic or visceral) the neutral point is shifted, the distensability in one direction will be shorter and have a harder end feel. Therefore, it has changed the tensigrity balance both locally and globally.
Dysfunction, a Plastic Deformation

- A straining load (1) that is larger than the yield strength of a tissue will cause a plastic or permanent deformation (a change in the viscoelasticity) that remains after the straining force is removed (2).
- The kinetic energy of the loading force is stored as potential energy in the tissue (Potency).
Tight Visceral Ligaments

- If there is increased mechanical tension in the ligaments, the first fluid vessels to get compressed (compromised) will be the lowest pressure, the veins-venous congestion, retention of metabolic byproducts, and lymphatic vessels-relative edema.
- With increased tension, the artery- decreased nutrition, oxygen, eventual death.
- “Rome rules 1 and 2”
Palpation of Facilitation

- With a light touch palpation, a facilitated segment (near the transverse process) will actively, rhythmically side bend to the side of the dysfunction of the organ/limb.
- The side of spinous process will be warmer.
- Rome rule 2
Layer Palpation: Superficial Layer

- Skin: note the following
- Moisture-dry, sweating, oiliness
- Temperature
- Texture-rough, smooth
- Mobility-ease it is moved
- Turgor-the speed it returns into place
Viscoelasticity is Speed Dependant

- Stress is not only a function of strain, but also the strain rate, in other words the speed at which a load (strain) is applied will affect the amount of stress in the tissue.
- Each tissue (and dysfunction) has a certain speed that it responds the best to, the “tissue speed”.
Superficial Layer

- Superficial fascia and subcutaneous fat feels like adipose. Note how thick it is, its consistency and texture.
Superficial Layer

- Fascia covers the muscles, arteries, veins, lymphatics, and nerves.
- The fascia feels thin, and you can slide on it.
Superficial Layer

- Nerves feel like small pieces of string. A great way to practice palpating these is to place a piece of hair, or dental floss, inside a book. Palpate through as many pages to the hair as you can. Try to increase the pages.
Superficial Layer

- Pectoral major muscles
- Serratus anterior
- External oblique
- Aponeurosis of the external oblique
- Muscles feel like muscles, aponeurosis feels like fascia.
Superficial Thoracic Layer

- Clavipectoral fascia is deep to the pectoralis major, covers pectoralis minor and subclavius, runs superiorly to the mid cervical fascia.
Superficial Layer

- External intercostal muscles and membrane-press gently between the ribs to feel. Fibers are directed obliquely down and laterally in back, and down, forward and medially in front.
- Transversus abdominus and rectus sheath, posterior layer
Superficial Thoracic Layer

- Internal intercostal muscles - run at an 90 degree angle to the external intercostals.
- 2 layers - internal and innermost. Innermost are related to endothoracic fascia and parietal pleura.
- Muscles feel like muscles!
Superficial Thoracic Layer

- Transversus thoracis muscle - from the sternum, lower fibers are extending laterally, upper fibers extend lateral and superior up to ribs 2-5, lower fibers are continuous with the transversus abdominus. The endothoracic fascia and parietal pleura cover.

- If tight - can affect rib motions and pleural motion.

- Tested with distensability test.
Superficial Abdominal Layer

- Transversalis fascia- covers the parietal peritoneum like a bag.

- Posteriorly the transversalis fascia is continuous with the anterior layer of thoracolumbar fascia. This is in the middle to deep layers to palpate.

- Place a finger on the anterior transversalis fascia, and a finger of the other hand on the lateral-anterior edge of quadratus lumborum muscle. Tug the anterior finger, feel the reaction of the posterior finger.
Transversalis fascia

- Posteriorly fuses with the anterior layer of the thoracolumbar fascia, has some fibers that split to become the lateroconal fascia, fuses with the posterior perirenal fascia, covers the quadratus lumborum and psoas muscles, and attaches into the vertebral bodies (and thus to the anterior longitudinal ligament).

- Therefore can affect spinal motion, renal motion, and muscular tension.
Superficial Abdominal Layer

Parietal peritoneum lines the abdominal cavity and parietal pleura lines the thoracic cavity.

Thin like cellophane, feels like fascia.
Superficial Layer

- Parietal Pleura extends inferiorly to cover the respiratory diaphragm. Visceral pleura (middle layer) covers the lungs.
- Parietal Peritoneum covers the abdominal viscera.
Middle Thoracic Layer

- The lungs are covered with visceral pleura.
- The visceral pleura slides against the parietal pleura during respiration.
- The visceral pleura slides against visceral pleura in the fissures.
- The visceral pleura is very thin. It is easier to feel the lung tissue behind it.
- Lung tissue is more spongy and soft.
Middle Thoracic Layer

- Mediastinal pleura covers the phrenic and vagus nerves, trachea, esophagus, aortic arch, superior vena cava, and the thoracic duct. Attaches to the sternum anteriorly, and the parietal pleura posteriorly.
- If it is tight, you can feel a fascial pull near the 4\textsuperscript{th} condrosternal joint, pulling deeply.
Middle Thoracic Layer

- Fibrous pericardium covers the heart and the serous pericardium.
- The fibrous pericardium attaches to the respiratory diaphragm inferiorly, the sternum anteriorly, and the spine posteriorly.
Middle Thoracic Layer

- The Great vessels of the heart are sealed by the pericardium, with the connective tissue continuous with the mid cervical fascia superiorly.
- Thus we can palpate to the layer of the fibrous pericardium and feel fascial pull in any of the directions of attachments.
Middle Thoracic Layer

- Posterior to the fibrous pericardium is the lower trachea, the esophagus, and aorta.
- It’s not so easy to palpate the thoracic aorta.
- The upper esophagus can be palpated behind the cricoid cartilage. The lower esophagus is tested with distensability inferiorly and laterally.
Middle Thoracic Layer

- Trachea and bronchi can be palpated and tested by palpating the cervical trachea, fractioning it superiorly to tension, noting the distance of distensability, then tractioning it to the left and right, comparing the sides.
Deep Thoracic Layer

• The anterior longitudinal ligament extends all along the anterior border of the spine. It is palpable in the cervical area, and in the lumbar area. If the largest tension is in the thoracic area, you will feel the ligament being pulled in that direction.

• The thoracic duct lies along the thoracic spine, it is palpable near the left anterior scalene, and in the abdomen, as it contracts.
Superficial Abdominal Layer

- Deep to the transversalis fascia is the parietal peritoneum.
- The parietal peritoneum folds cover the viscera and becomes the visceral peritoneum.
Middle Abdominal Layer

- The middle abdominal layer is palpated deep to the transversalis fascia and parietal peritoneum.
- One of the first things encountered is the greater omentum, it feels like adipose, because it is!
Middle Abdominal Layer

- Behind the greater omentum is intestines. The intestines can feel like empty thin membrane/tubes, to full membrane/tubes.
Middle Abdominal Layer

- Superior to the transverse colon (find it with ballottement) is the stomach and the lesser omentum. The lesser omentum feels like adipose, but can also have a lot of tension. The stomach feels smooth.
Middle Abdominal Layer

- Stomach removed
Middle Abdominal Layer

- The posterior peritoneum forms many attachments to the viscera. These attachments can become tension lines when there are dysfunctions present.
- Posterior peritoneum is dividing structure between middle and deep layers.
Deep Abdominal Layer

- Posterior parietal peritoneum removed.
- Pancreas, duodenum, and kidneys are retroperitoneal.
- Pancreas feels rubbery and soft.
Deep Abdominal Layer

- Perirenal fascia feels like fascia.
Deep Abdominal Layer

- The kidneys feel like a hard bar of bath soap.
Deep Abdominal Layer

- Posterior perirenal fascia can be palpated through Grynfelt’s space.
Deep Abdominal Layer

- Anterior Longitudinal Ligament- palpate through the abdominal wall at the level of the prominence of L5-S1.
Quick Test

- The Sagittal plane is the plane of the greatest motion = flexion/extension.
- With the viscera, the greatest motion in this plane is inferior and superior.
- First test ability to go inferior and superior, as this is the “cardinal “movement”. This is also the “quick test”.
- Find the direction of ease.
Treatment

• Historical osteopathic literature has described many different approaches to treatment, direct, indirect, direct-indirect, fluid, without activating factors, with activating factors (respiration, cranial motion, lymphatic motion). These approaches have never been cross correlated in the literature.
Indirect stacking

• Find the point of balanced dynamic tension (the mid point in the sagittal, coronal, and transverse planes). Hold until it releases.

• You can also add a fulcrum where your forearm rests on the table, and you lean a little into your arms.

Pocket OMT manual, Stiles
Working with the Tidal/Fascial Mechanism, Graham
Lungs

• Lab: pt left lateral recumbent, do layer palpation down to lung.
• See if there is a “listening”
• Motion test the lung.
• Treat by exaggerating the listening
Summary of Main Anterior Thermal Projections

- In General - Projection is right over Organ, except lungs.
- Need to also confirm/retest with motion testing, fascial listening, motion present, to confirm dysfunction.
Remember

- All of our studying, working, and practicing is not for us, it’s for our patients, who are all original works of art.