

Lymphatics: Treatments

Osteopathic lymphatic techniques aim to increase lymphatic flow which can improve symptomatic congestion. The lymphatic system is a passive system, thus, mobilizing the lymph and freeing local somatic dysfunctions will promote unrestricted flow of lymph back through the thoracic duct for removal from the body. These treatments can be direct, which either stimulate or remove impediments to flow, or indirect, which involves treating somatic dysfunctions that may be affecting the surrounding myofascial tissue. Treating the lymphatic system generally starts from a centralized to peripheral approach. Physician's must first open the superior thoracic inlet and treat the diaphragms of the body. Then, they can move on to peripheral treatments such as performing lymphatic pump techniques or mobilizing tissues impaired by somatic dysfunctions in order to augment flow back to the thoracic duct. Physicians first open the thoracic inlet by performing the **thoracic inlet release**. They can perform myofascial releases to the Sibson's fascia directly overlying the thoracic duct. They may even **incorporate muscle energy** to additionally increase flow through the duct. Next, physicians will target the various diaphragms of the body and perform techniques such as **doming the diaphragm**, or **pelvic diaphragm release**. These techniques directly result in improved lymphatic return into the thoracic duct. Lymphatic techniques can be used on the head, eyes, ears, nose, and throat to augment flow. The **auricular drainage technique** is typically used in children with otitis media or otitis externa and involves the physician applying circular motions around the ear. **Anterior cervical mobilization** targets the head, neck, and throat, and mobilizes the local structures to promote lymphatic outflow. The **Galbreath Technique** treats lymphatic congestion over the frontal, nasal, maxillary, and zygomatic bones, as well as the TMJ. Lastly, **effleurage** can be used on the head or the extremities by stroking the limbs with wave-like motions. Physicians can also mechanically mobilize the lymphatics by performing lymphatic pump techniques and or other techniques that accentuate lymph return. They may focus on **Cranial Field Osteopathy** by diagnosing the various strain patterns and treating the CSF and reciprocal tension membrane that may impact lymphatic flow. They can apply the **Thoracic Pump, Splenic Pump, or Liver Pump**, by rocking the patient with rhythmic compressions over the respective organ. In addition, they could apply the **Pedal Pump** upon the patient's feet and promote systemic lymphatic flow. Lastly, they can target the autonomic system with **rib raising**. Performing rib raising for less than 90 seconds will generally increase a sympathetic response, but if applied longer, it will result in a net parasympathetic response. Although lymphatic treatments may promote health and recovery, as a general rule of thumb, lymphatic techniques should not be performed on patients suffering from acute infection with fever or lymphatic malignancy as the lymph can spread and exacerbate symptoms of infection or that of malignancy.



PLAY PICMONIC

Diaphragm Release

Thoracic Inlet Release

Lymph-lime Drain

Opening the thoracic inlet is the first step in improving lymphatic return from the left and right lymphatic ducts. This must be done before any other peripheral lymphatic treatment. Because the lymphatic system is passive, the tissues surrounding the thoracic inlet must be relaxed to allow unrestricted flow into the duct. A physician can open the thoracic inlet using a direct or indirect approach to myofascial release. With a direct approach, they take Sibson's fascia directly over the inlet into the direction of maximum tension. In an indirect approach, they take the fascia in the direction of ease. After palpating a fascial or muscular release, they will reassess the tissue for symmetry and equal motion. A physician may also incorporate muscle energy with side-bending and rotation of the head and neck using isometric contractions. Contraindications to performing a Thoracic Inlet Release include upper rib or clavicle fractures, systemic infections with fever, or lymphatic malignancy.

Doming the Diaphragm

Dome Diaphragm-trampoline

After opening the thoracic inlet, a physician should target the different diaphragms of the body to improve lymphatic return. A major diaphragm targeted is the thoracoabdominal diaphragm, which can be utilized to improve respiration and lymphatic return towards the thoracic duct. With the patient supine, the physician will place their thumbs upon the inferior borders of the ribs just below the xiphoid process. During exhalation, the physician applies a posterior force with their thumbs and follows the motion of the diaphragm. During inhalation, the physician holds the position with resistance until the cycle is complete. Upon the third exhalation, the physician will direct their thumbs towards the head of the patient to enhance the dome shape and lymphatic mobilization. Contraindications to performing this technique include local rib fractures, trauma or local skin incisions, Hiatal hernias, GERD, or lymphatic malignancy.

Pelvic Diaphragm Release

Pelvic Diaphragm-trampoline

The Pelvic Diaphragm Release is another diaphragmatic treatment used to improve lymphatic return upwards to the thoracic duct. With the patient positioned supine and their hips and knees flexed apart, the physician approaches the medial side of the bilateral ischial tuberosity and moves just medially to locate the levator ani and coccygeus muscles that make up the diaphragm. Once identified, they will apply a lateral and cephalic force as the patient exhales while maintaining pressure as they inhale. They will continue to perform this technique until a release is palpated from the myofascial tissues. Contraindications to using this technique include trauma, local skin incisions, and lymphatic malignancy.

HEENT: Head, Eyes, Ears, Nose and Throat

Auricular Drainage Technique

Ear-aura Draining

This treatment is indicated for lymphatic congestion in the ear, especially for patients with otitis media and otitis externa. It is performed by the physician placing the patient's ear in between their 3rd and 4th fingers and creating clockwise and counterclockwise circular motions for 30 seconds to 2 minutes. Children love this technique, and it is tested very often on practicals!

Effleurage

Flowing-flowers

Effleurage is a common lymphatic technique used to reduce edema, typically in the head and extremities. Trauma or post-surgical patients usually receive this treatment to decrease swelling and promote a healthy recovery. Here, physicians lift the extremity against gravity and begin stroking or milking it with wave-like motions. They begin distally and slowly move proximally to improve lymphatic flow towards the abdomen or thorax, depending on the extremity involved.

Anterior Cervical Mobilization

Anteater Cervix-cat

This treatment is indicated for laryngitis, pharyngitis, cough, and any other lymphatic congestion within the head, neck, and throat. It focuses on mobilizing the anterior cervical arches, including the hyoid bone, thyroid cartilage, and cricoid cartilage, with gentle, side-to-side pressure. Performing this technique will stimulate lymphatic circulation out of the head for elimination.

Galbreath Technique

Gal-breath

This treatment is indicated for lymphatic sinus congestion around the frontal, nasal, maxillary, and zygomatic bones or the temporomandibular joint (TMJ). It focuses on applying sweeping pressure with anterior, inferior, and medial traction along the body of the mandible, starting from the TMJ towards the midline. This technique is meant to be slow and rhythmic and lasts 30 seconds to 2 minutes. Be careful of patients with active TMJ dysfunction!

Mechanically Mobilizing the Lymphatics

Cranial Field Osteopathy

Cranial Field Ostrich-path

Cranial Osteopathy targets the dural strains and the tentorium cerebelli to increase venous blood flow out of the head and back down toward the heart. With this, physicians focus on freeing the various strains at the occipital and temporal bones at the occipitomastoid suture. In addition, physicians can target the cerebrospinal fluid via the reciprocal tension membrane and augment the flow as it drains directly into the facial and spinal lymphatic vessels.

Muscle Energy: Thoracic Inlet

Muscle-man Energy Thor-axe Drain

As stated above, the thoracic inlet is the first step a physician should take to improve lymphatic return. A physician can open the inlet by freeing restrictions using direct or indirect myofascial release of the Sibson's fascia. In addition, they can incorporate components of muscle energy to relax the surrounding tissue and increase flow through the duct. Physicians can target the lower cervical and the upper thoracic spinal segments as well as the ribs, freeing any local somatic dysfunction present. In general, a physician may specifically side bend the head at the cervicothoracic junction and rotate it away to the opposite side while utilizing standard muscle energy techniques of isometric contractions.

Thoracic Pump

Thor-axe Pump

The Thoracic Pump is used to increase the thoracic range of motion and improve the total lymphatic return towards the thoracic inlet. Physicians typically use this technique for lymphatic congestion or atelectasis. There are two ways to perform the technique. One method involves the physician placing their hands on the patient's chest below the clavicles and performing a rhythmic rocking motion at a rate of about 100 repetitions per minute. The second method is modified to assist with atelectasis. Here, the patient will continue to cycle between inhalation and exhalation. During each exhalation, the physician applies a downward force of resistance over the anterior wall of the chest and holds the position during the subsequent inhalation, creating a vacuum of negative intrathoracic pressure. Upon the fourth or fifth inhalation cycle, the physician abruptly removes the resistance, resulting in a dramatic increase in pressure within the thorax. Sometimes, an audible suction of rapid inhalation may be heard. Absolute contraindications to performing the thoracic pump include rib fractures/dislocations, spinal fractures, or lymphatic malignancy. Physicians may use this technique with caution in patients with osteoporosis.

Splenic Pump

Spleen-with-spoon Pump

The Splenic Pump is an excellent technique for potentiating the immune system during infections and splenic congestion, as many immune cells are housed in the spleen. Using this technique, the physician compresses the spleen with their left hand and cups the posterior aspect of the ribcage with their right hand. During each inhalation, the physician will palpate the myofascial structures surrounding the spleen, and during each exhalation, they will further compress and vibrate their left hand to stimulate flow out of the organ. Contraindications include mononucleosis or any condition that results in splenomegaly or trauma to the organ.

Liver Pump

Liver Pump

The Liver Pump is an excellent technique for freeing liver congestion, right congestive heart failure, or other liver diseases. Using this technique, the physician compresses the liver with their right hand and cups the posterior aspect of the ribcage with their left hand. During each inhalation, the physician will palpate the myofascial structures surrounding the liver, and during each exhalation, they will further compress and vibrate their left hand

to stimulate flow out of the organ. Contraindications include an acute hepatitis infection and trauma to the organ.

Pedal Pump

Foot-pedal Pump

The Pedal Pump (of Dalrymple) is an excellent technique physicians use to promote lymphatic flow from the lower extremities. Here, the physician locks the patient's feet into dorsiflexion and applies an oscillatory rhythmic motion toward the head of the patient at a rate of 100 waves per minute.

Rib Raising

Rib Raised

This treatment is used to balance the sympathetic autonomic system and improve rib movement during respiration and lymphatic drainage. It involves gentle traction to the paravertebral tissues, leading to a stretch and myofascial release. While the patient is in a seated position, the physician applies upward and lateral traction at the bilateral rib angles while pulling the patient towards themselves. The physician first starts at the upper ribs, then proceeds down to the lower ribs and cycles back upwards to complete the motions. Don't forget that the initial response stimulates the sympathetic system, but, if rib raising continues greater than 90 seconds, it will decrease sympathetic outflow, leading to a net parasympathetic response. Contraindications include rib fractures, spinal cord injury/surgery, or malignancy.