


# Lymphatic Techniques in Osteopathic Manual Medicine

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# Foundations for Osteopathic Medicine

“Of all the systems of the body, osteopathic manipulative treatment (OMT) can exert perhaps its greatest influence on lymphatic function.”

# Function of Lymphatics

- ▶ Maintain fluid balance in the body
  - ▶ Purification and cleansing of tissues
  - ▶ Defense
  - ▶ Nutrition
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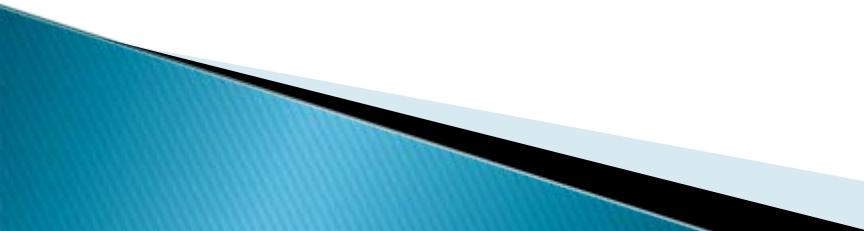
# OMT creates

- ▶ Increased resorption of fluids
  - ▶ Increased circulation and respiration
  - ▶ Decreased proteins in the interstitium
  - ▶ Facilitation from a more beneficial pH balance
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# Contraindications to lymphatic treatment

- ▶ All relative contraindications:
  - Osseous fracture
  - Bacterial infections with a temperature over 102 degrees (38.8 C)
  - Sometimes in carcinoma

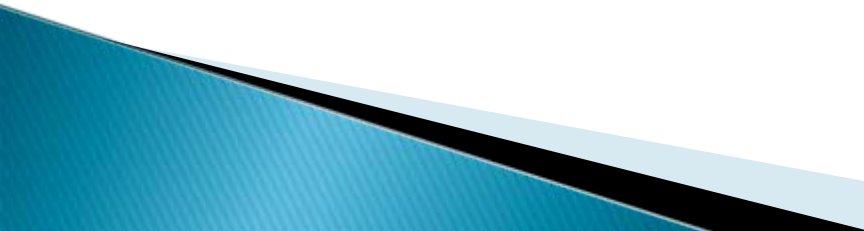
# Common Sites of Thyroid-Related Somatic Dysfunction (generalized edema consideration)

- ▶ Maxillae
  - ▶ OA joint
  - ▶ AA joint
  - ▶ Hyoid
  - ▶ C2 rotated left
  - ▶ Cervicothoracic junction
  - ▶ Clavicles!
  - ▶ Ribs 1 and 2
  - ▶ T1-T4 (myxedema); T1-T8 (goiter)
  - ▶ SI joint
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# CV4 for Acute Systemic Infectious Conditions

- ▶ Effective, according to John Upledger, Craniosacral Therapy

# Contraindications for CV4

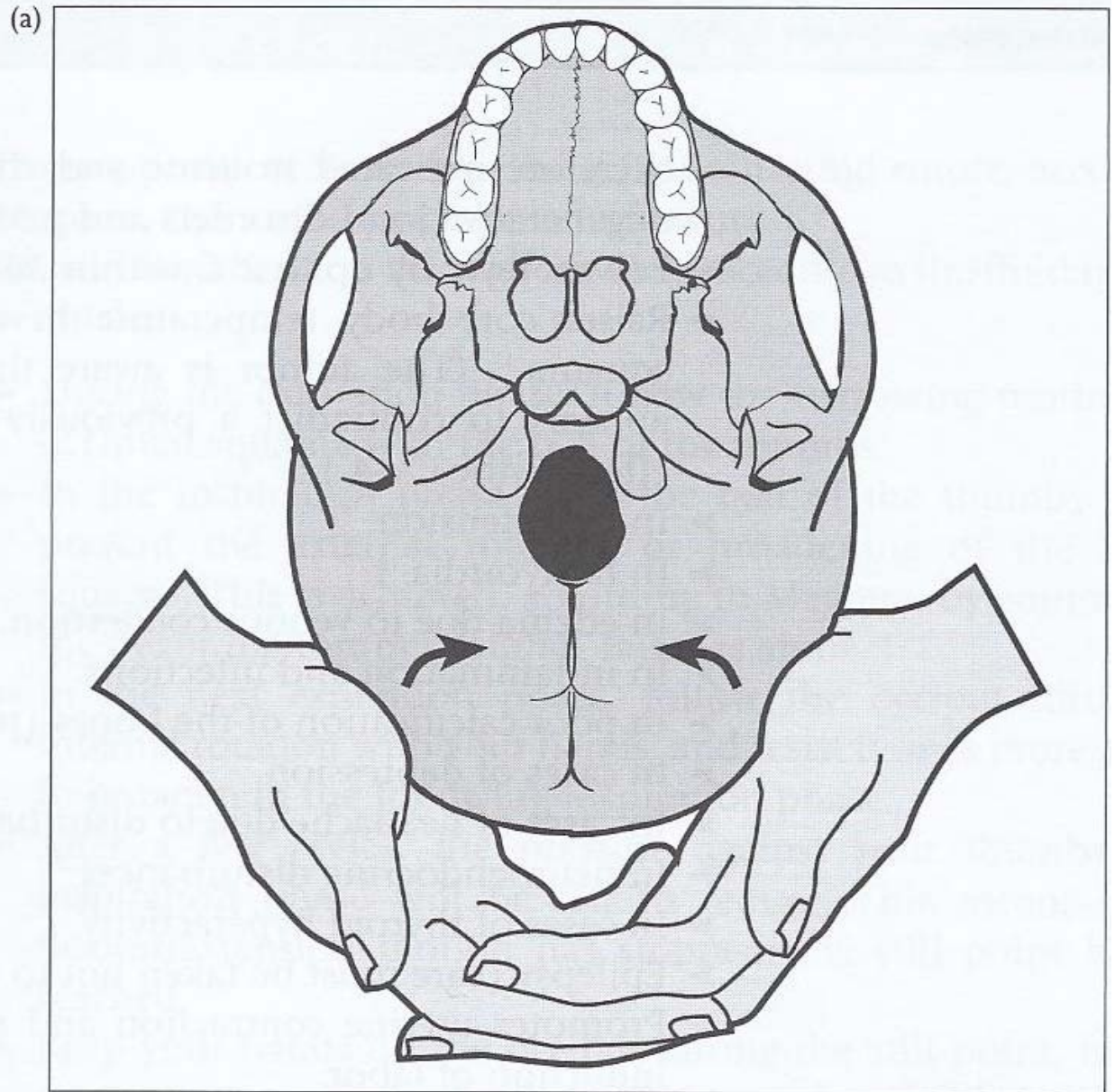
- ▶ Acute intracranial hemorrhage (may prolong duration of hemorrhage through delayed clot formation)
  - ▶ Intracranial aneurysm (change in intracranial pressure may precipitate a leak or rupture)
  - ▶ Recent skull fracture is relative risk (bleed or membranous tear if not careful)
  - ▶ Herniation of medulla oblongata through foramen magnum
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# How CV4 works (Torsten Liem)

Compression applied to sides of occiput reduces the accommodation of the occipital squama to the changes in the pressure of intracranial fluid. This produces a rise in intracranial pressure and leads to an increase in the motion and exchange of fluid. As a result, CSF flows through the larger openings and penetrates into the smallest reaches of its distribution, the sheaths of nerves and blood vessels, the fasciae tubuli, and the ECF and ICF. The cranial nerve centers in the 4<sup>th</sup> ventricle are stimulated. All body exchange processes are stimulated.

# CV4

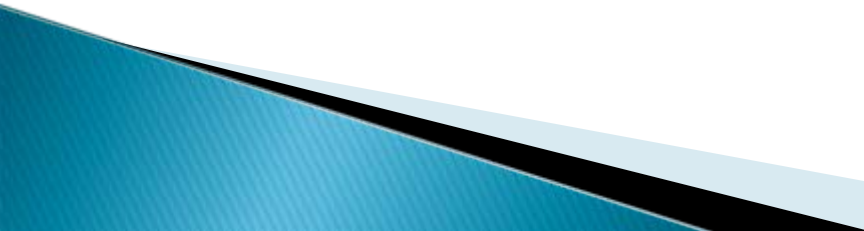
CV-4 technique. The arrows indicate the direction of extension/internal rotation.



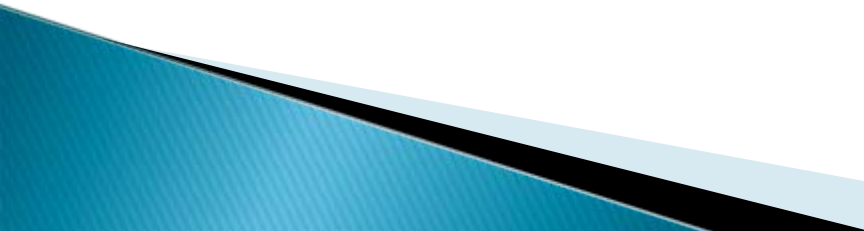
# CV4 Hand Position



# Performing CV4

- ▶ Place your slightly cupped hands one on top of and resting in the other, and place the tips of your thumbs together in the form of a “V”
  - ▶ The tips of the thumbs should be roughly at the spinous process of C2 or 3, pointing distally
  - ▶ The ball of your thumbs should lie medially on the occipital squama, avoiding the OM suture
  - ▶ Direct your attention throughout the procedure to the fluid in the 4<sup>th</sup> ventricle.
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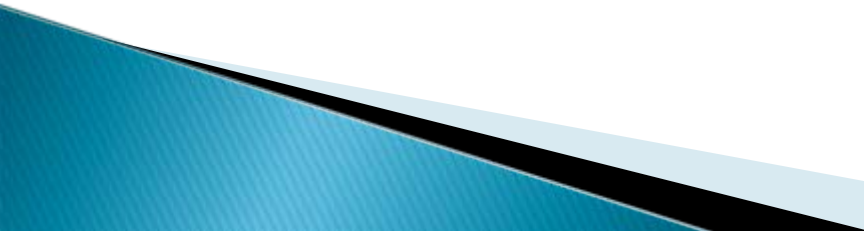
# CV4 continued

- ▶ Maintain a loose hold on the head
  - ▶ During extension, follow the narrowing of the occipital squama with the ball of the thumbs to prevent the external rotation or broadening of the occipital squama. Repeat in next extension phase
  - ▶ After a few cycles, the pressure against your thumbs in the flexion phase will reduce due to establishment of the still point (lasts seconds to minutes)
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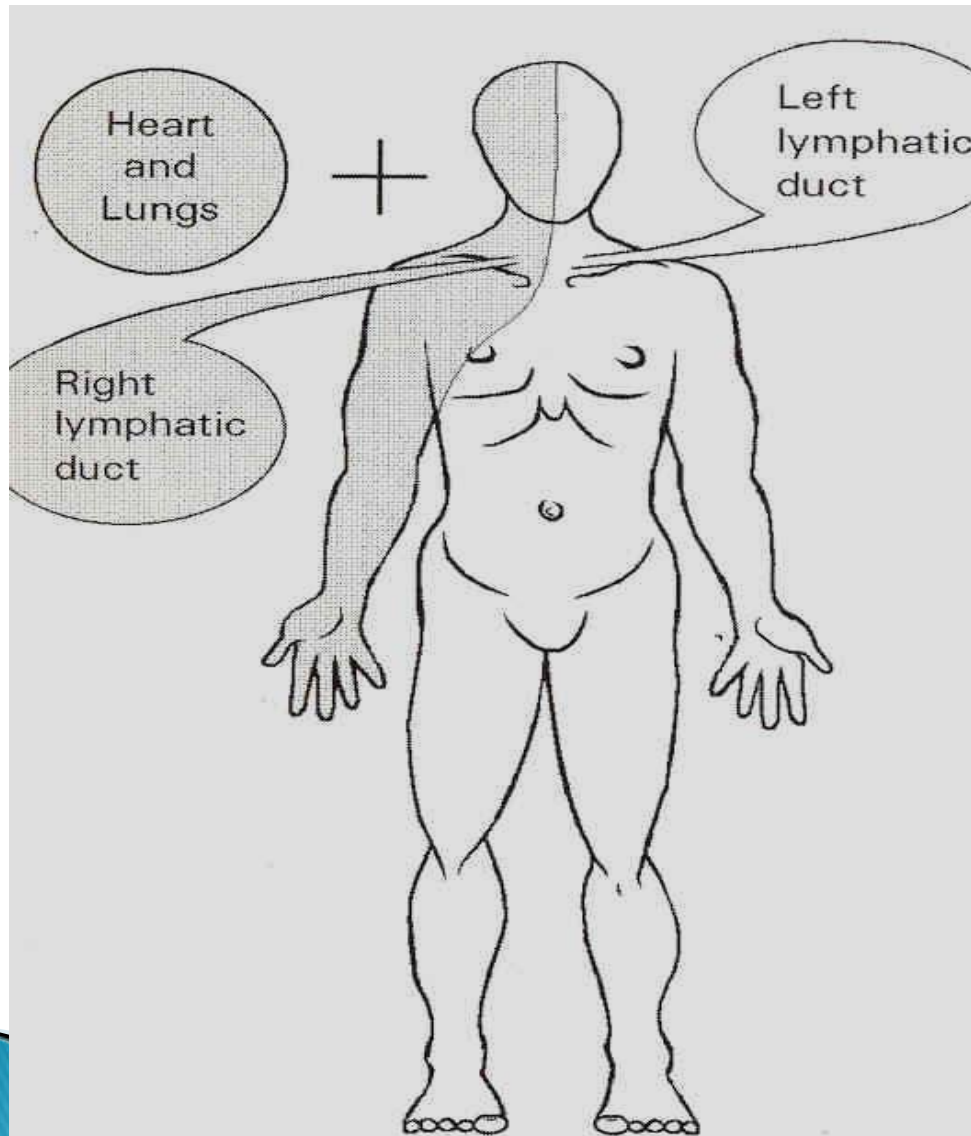
# CV4 continued

- ▶ Nuchal muscles may have minor motion that needs to be followed (unwinding/release of fascia, muscles, and bones)
- ▶ Deeper breathing, slight sweat formation on the forehead, reduced muscle tonus, patient falling asleep may all be signs of successful still point
- ▶ When a strong, even pressure on each side of the occiput in the direction of external rotation occur, the still point has ended. Follow it passively

# Lymphatic Drainage Techniques: Possible Contraindications

- Splenomegaly
  - Hepatitis
  - Pneumothorax, rib fracture
  - Osteoporosis
  - Pyelonephritis
  - Thrombotic phenomena
  - Recent surgery or abscess
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# Main Lymphatic Ducts of the Body

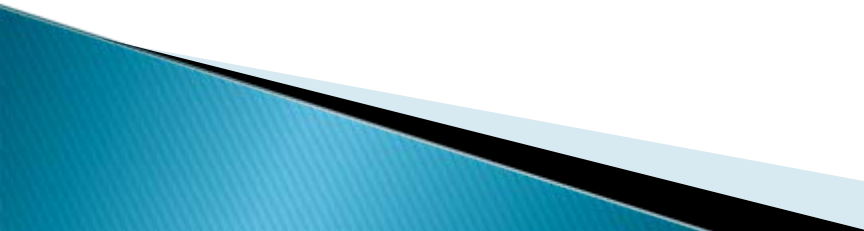


**FIGURE 51.4.** Main lymphatic ducts of the body.

# Drainage details

- ▶ Abdominal, pelvic, and lower extremity lymph drains into the cisterna chyli located at the right side of L1–L2, sometimes through a plexus that replaces the cisterna chyli
- ▶ Remember, right lymphatic duct drains right head and neck, right arm, and right chest with heart and some of the lungs [sometimes some of the left upper posterior lung drains into the thoracic duct]

# Lymphatic Procedures

- ▶ Cervical lymphatic drainage
  - ▶ Thoracic pump
  - ▶ Pectoral traction
  - ▶ Pectoralis minor pump
  - ▶ Rib raising
  - ▶ Effleurage
  - ▶ Dalrymple pedal pumping
  - ▶ Splenic and hepatic pumps
  - ▶ Direct Myofascial release of diaphragm
  - ▶ Pelvic Diaphragm Direct Myofascial Release
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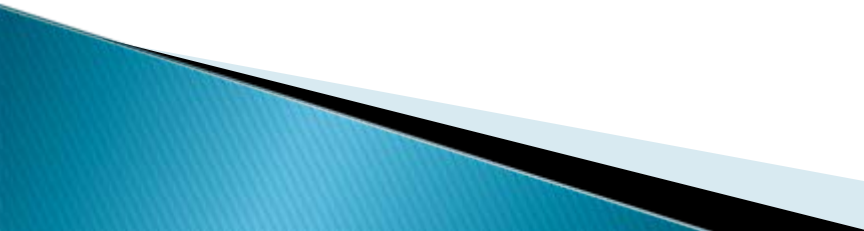
# Cervical lymphatic drainage

- ▶ Gentle sideways translation motion of hyoid, thyroid, cricoid and trachea
- ▶ Alternatively, cervical stroking, stretching muscles of paravertebral region (seated at head of table, index finger lifts transverse processes on each side of the neck)

# Cervical lymphatics continued

- ▶ Alternatively, traction with thumb and fingers around SCM, lift gently anteriorly and laterally until softens, repeat along SCM up to 3 times

# Thoracic Inlet Pump

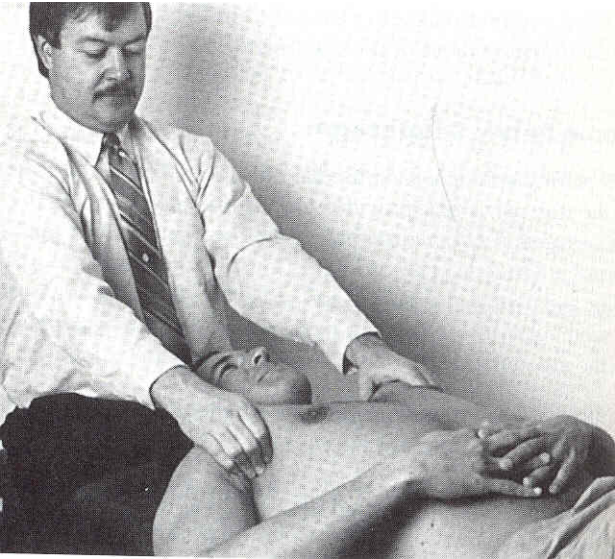
- ▶ Use: lymphatic congestion, returning lymph to lymphatic ducts which pierce the connective tissues of the scalenes and longus colli muscle
  - ▶ CI: upper rib or clavicle fracture
  - ▶ Place hands over thoracic inlet, thumbs on C-T junction, and rotate, like turning a steering wheel, in clockwise and counter-clockwise directions
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# Thoracic Pump

Use: lymphatic congestion, returning lymph to lymphatic ducts

- ▶ CI: upper rib or clavicle fracture
- ▶ Place hands over thoracic inlet and rotate, like turning a steering wheel, in clockwise and counter-clockwise directions

# Pectoral Traction



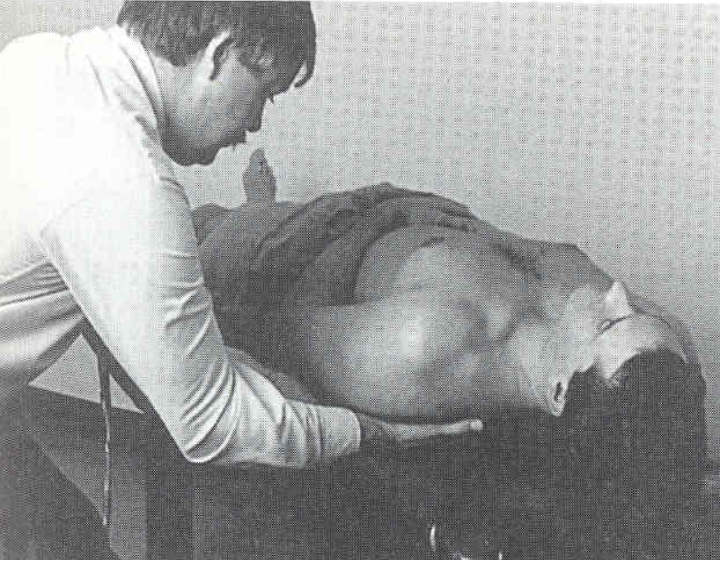
1. Gently grasp the inferior border of the pectoralis muscles in a meat hook fashion without gouging with the fingertips.
2. Traction cephalad with both arms extended, your body leaning back.
3. Have patient breathe deeply. A softening will result. Continue traction until diaphragm stretching accomplished (only

# Pectoralis minor pump



1. Place hands on pectoralis minor bilaterally with fingers relaxed against chest wall
2. Cup hands pressing medially, maintain as Traction up to ceiling and cephalad
3. Maintain until patient states discomfort or you fatigue

# Rib Raising supine




1. Contact medial side of rib head with finger pads, flexing the fingers to lie on surface of thorax.
2. Traction rib head and maintain with straight wrists
3. Push forearms down into bed to fulcrum, moving to adjacent ribs

# Effleurage Lower Extremity



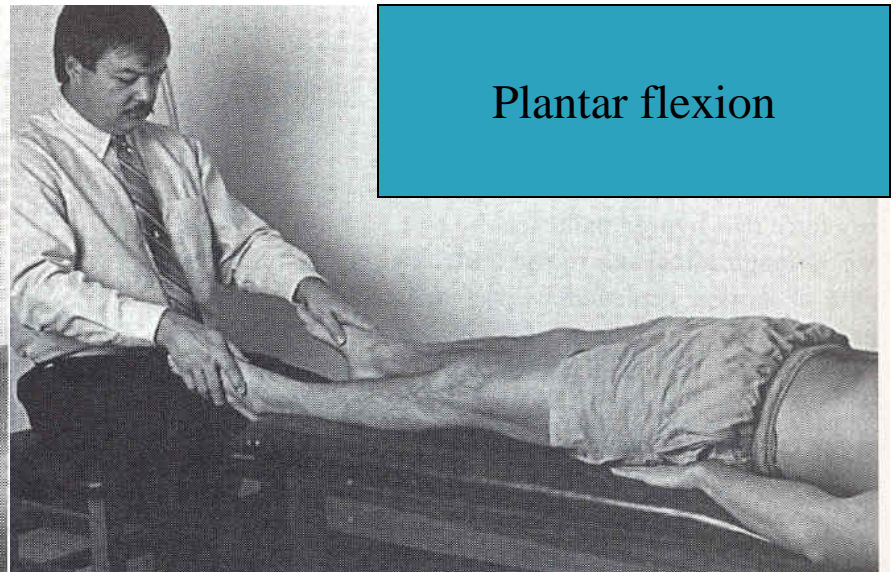
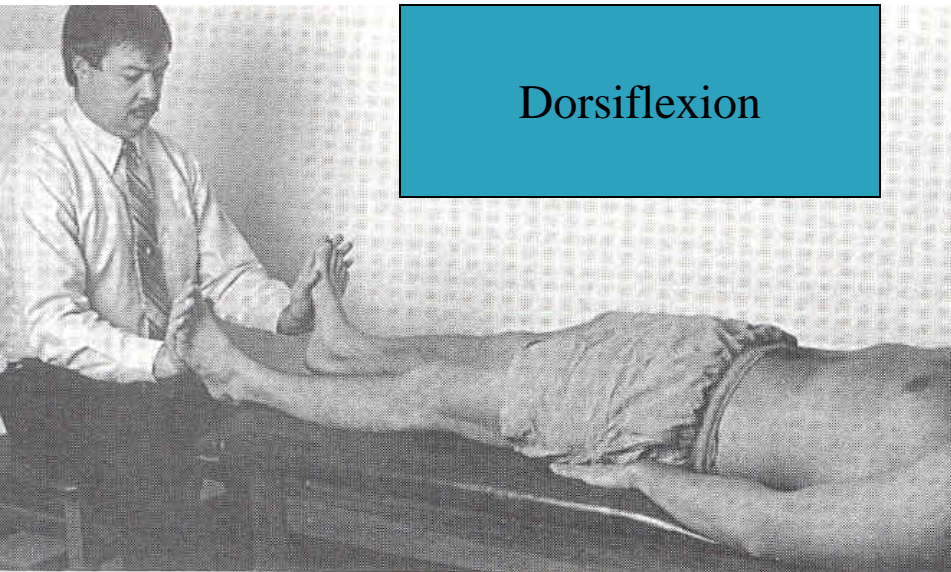
- ▶ Stroke appendage from distal to proximal (vs petrissage which is done in the reverse direction)

# Pedal (Dalrymple) Pump

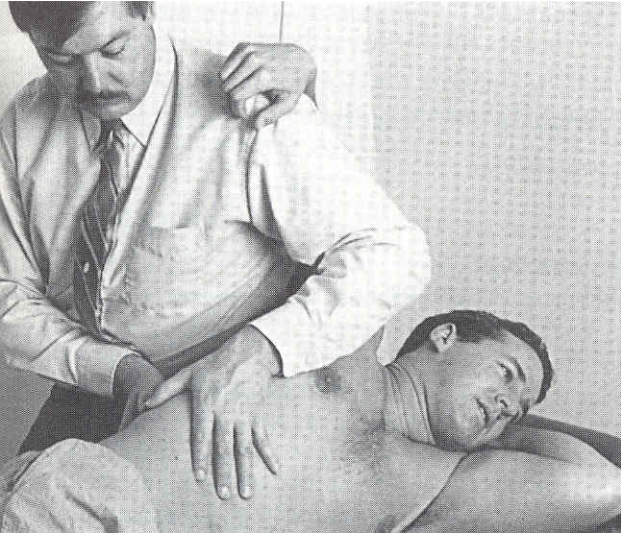
- ▶ Augments thoraco–abdominal pressure gradients to improve lymphatic return
  - ▶ CI: DVT, local fractures, recent abdominal surgery
  - ▶ Patient usually supine, pump foot into dorsiflexion three times a second for ten to fifteen seconds
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# Pedal Pump: Dorsiflexion and Plantar Flexion

- ▶ Hyperdorsiflex feet to send wave of motion cephalad, then as wave rebounds, again dorsiflex. Plantar flexion may be added between.

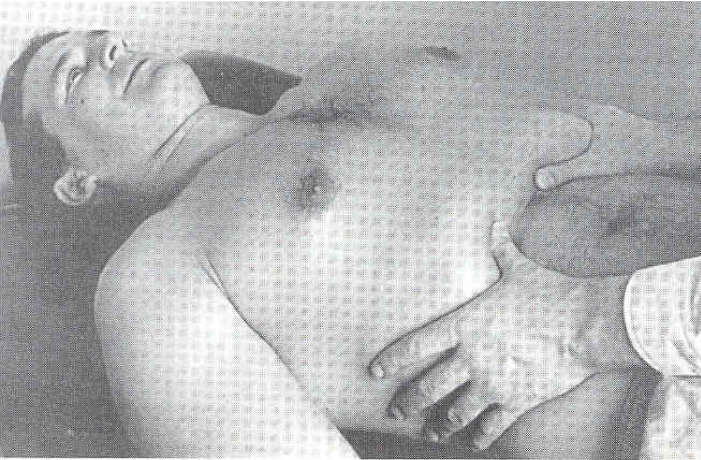


# Splenic and hepatic pumps, e.g. Liver Drainage (one method)



1. Patient hips and knees flexed for stability
2. Sit on table behind thorax, facing patient's feet
3. Patient's right hand drapes on your right shoulder
4. Place your thumbs together at the tips at the axillary line and wrap around patient
5. Lean back slightly increasing abduction on patient arm
6. As patient exhales, lean on thoracic cage with vibratory motion to pump liver in a gentle slow rhythmic pace
7. Similar technique may be used for spleen

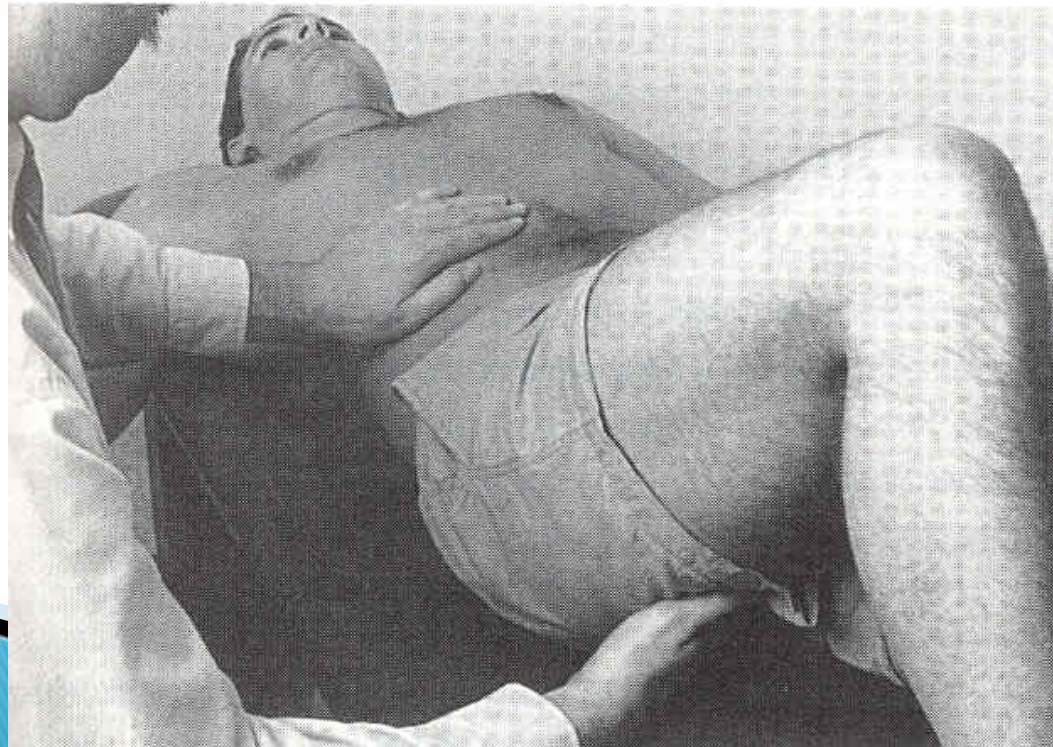
# Direct Myofascial Release Thoracic Diaphragm



- ▶ Hands placed over lower ribs with fingers directed transversely, but following rib direction, thumbs reach medially
- ▶ Hold rib cage with one hand, use other hand to distract ribs on one side in ANTERIOR–POSTERIOR direction
- ▶ Note restriction and hold in bind while patient takes deep breaths

# Pelvic Diaphragm Direct Myofascial Release

- ▶ Improves pelvic diaphragm excursion and improves lymph return
- ▶ CI: local fracture, nearby incision



# Pelvic Diaphragm Release

- ▶ Palpate ischial tuberosity, then find obturator foramen at one inch medial to tuberosity
- ▶ Aim palpating finger up and slightly medial to feel pelvic diaphragm in the groove of the obturator foramen
- ▶ Observe for movement down when patient inhales and up when patient exhales
- ▶ If tender and tight, hold direct gentle inhibitory pressure until softening occurs
- ▶ Let patient inhalation push finger out of foramen

# Pelvic Diaphragm Release notes

- ▶ An alternative method involves the patient still on the back with legs bent, reaching under both bent legs but with a “C shaped” cupped hand, thumb placed into external obturator groove, but fingers wrap around opposite buttock. First apply direct pressure in a superior medial direction until release. Then apply direct pressure in a superior lateral direction until release obtained.

# Mandibular technique supine (Galbraith)



1. Rotate patient's head to face you
2. Use your upper hand fingers to contact the TMJ and your thenar eminence along the mandibular ramus
3. Apply a repetitive, downward traction on the mandible with slow anterior and medial motion

# Posterior Axillary Fold Lymph Drainage



- ▶ For upper extremity congestion
  1. Tuck patient hand into your axilla
  2. With both hands, wring gently around shoulder, repeat 3–4 times as move distally
  3. On forearm, place thumbs on ventral surface between flexors and extensors and squeeze muscle mass of

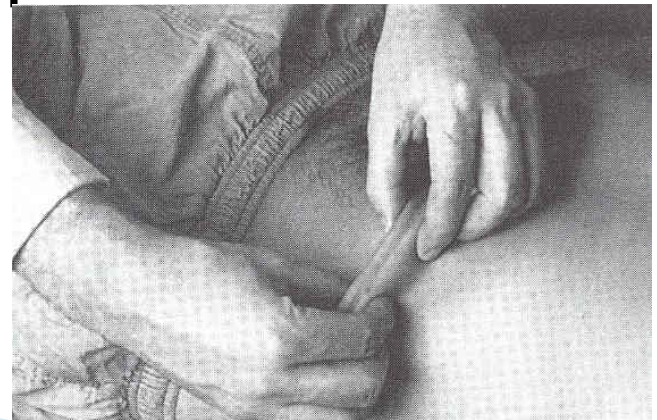
# Care of Abdominal Scars

- ▶ Only for well healed scars where motion restriction between fascial layers is noted, as evidenced by restriction to motion or dimpling or retraction adjacent to the scar after motion testing



# Abdominal Scar Petrissage with Cough

1. Gently grasp scar between thumbs and fingers, including some of adjacent superficial tissue.
2. Lift perpendicularly away to tension
3. Now move in direction of tissue tension
4. Patient coughs deep enough to feel pull, but not enough to hurt
5. Deeper layers of the scar will have different direction, so repeat. Teach patient to do at home.



# Side note for OMM Craniosacral enthusiasts

- ▶ A fall flat on the face may cause dysfunction of the sphenoid bone, palatine bone, and maxilla which results in lymphatic stasis
  - ▶ Be particularly alert to cervicothoracic diaphragm aggravation of symptoms in lymphatic stasis
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