OMM and the GI tract

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UNE COM Alumni CME

Disclosures

- There are no affiliations with medical or pharmaceutical companies
- Employed with University of New England College of Osteopathic Medicine

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Objectives:

- Osteopathic Tenets
- 5 Models of Osteopathic Medicine
- Anatomy GI Tract
- Common Diseases
- Common Treatments
- OMM for the GI tract
- EBM

Osteopathic Tenets

Approved by the AOA House of Delegates as policy.

- The body is a unit of mind, body and spirit.
- The body is capable of self-regulation, self-healing and health maintenance.
- Structure and function are reciprocally interrelated.
- Rational treatment is based upon an understanding of the basic principles of body unity, self-regulation and the inter-relationhsip of structure and function.

5 Osteopathic Pathophysiological Models

Academy of Osteopathy

- Assessing patient functioning, assessment and care central to OPP

- Biomechanical-Structural
- Respiratory-Circulatory
- Neurological
- Metabolic-Nutritional
- Behavioral- Biopsychosocial

5 Osteopathic Pathophysiological Models

The Bioenergetic Model in Osteopathic Diagnosis and Treatment: An FAAO Thesis, Part 1 Jan T. Hendryx, DO, FAAO

Biomechanical- Structural

Primarily from a structural perspective. Emphasize anatomy: muscles, spine and extremities; posture and motion.

OMT directed to normalizing biomechanical somatic dysfunctions (joints, myofascia), thus restoring normal structural integrity, physiological functioning, adaptive potential and homeostasis.

OMT to normalize biomechanics include high-velocity low amplitude thrusting, muscle energy, counterstrain, ligamentous articular strain, myofascial release, facilitated positional release and Still technique.

Respiratory-Circulatory

Emphasizes normalization of pulmonary, cardiovascular, and circulation of fluids (blood, lymph, cerebrospinal fluid).

Horizontal diaphragms (tentorium cerebelli, respiratory, pelvic), thoracic inlet, thoracic cage, extracellular matrix, lymphatics and viscera (heart, lungs, kidneys) are important anatomical structures addressed.

Osteopathy in the cranial field, cervical, thoracic and rib mobilization, lymphatic drainage, respiratory diaphragm myofascial release, and visceral osteopathic manipulative techniques are helpful in restoring health The Bioenergetic Model in Osteopathic Diagnosis and Treatment in combination with medications, surgery, intravenous fluids and even ventilation as appropriate.

5 Osteopathic Pathophysiological Models

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Neurological

Peripheral, autonomic and central nervous system

Control, coordinate and integrate body functions. Proprioceptive reflex and muscle strength imbalances, spinal segmental facilitation, nerve compression and entrapment disorders, autonomic reflexes and visceral dysfunctions, nociceptive influences and brain dysfunctions are common problems.

Manipulative treatment may include osteopathy in the cranial field, Chapman reflexes, rib raising, counterstrain, muscle energy, neural release and inhibition. Exercise therapy, including proprioceptive balance training, stretching and strengthening.

Appropriate neurological evaluation, referral, surgery and medications may be appropriate in patient management.

Metabolic-Nutritional

Maximizing the efficiency of the patient's natural self-regulatory and self-healing mechanisms.

Homeostatic adaptive responses are orchestrated through positive and negative feedback systems to regulate various forms of energy exchange and conservation that occur through metabolic processes and organ functioning. The neuroendocrine-immune system and all internal organs are the focus.

Lifestyle changes such as appropriate exercise, nutritional counseling and stress reduction are primary therapeutic modalities, as are appropriate use of medications.

Osteopathic manipulative treatment includes lymphatic pump and visceral techniques.

5 Osteopathic Pathophysiological Models

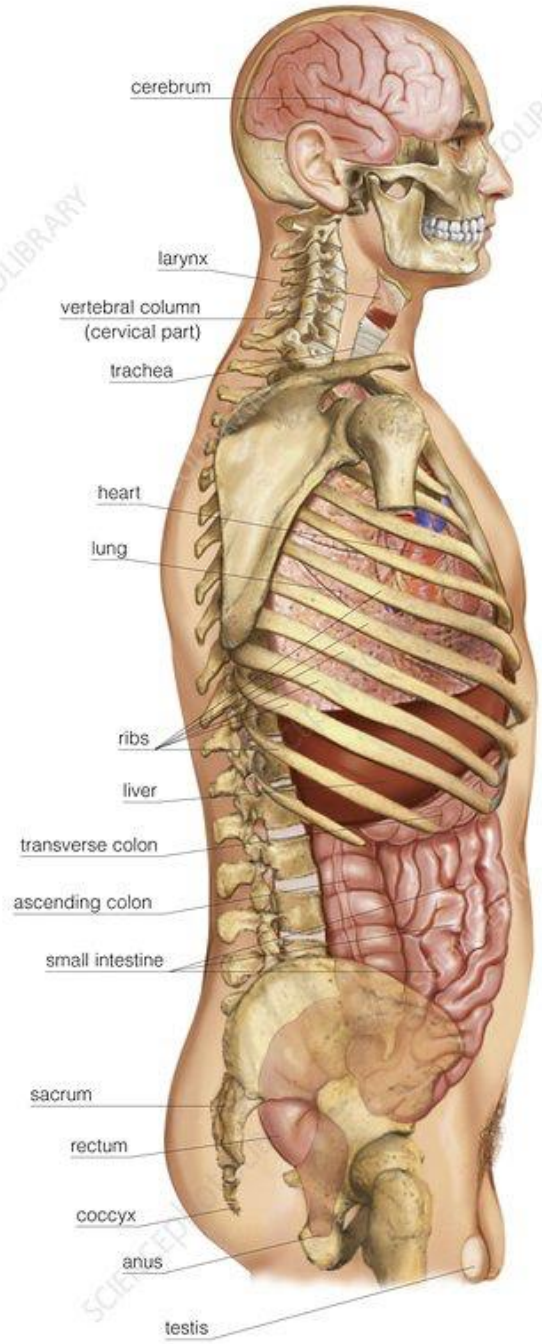
The Bioenergetic Model in Osteopathic Diagnosis and Treatment: An FAAO Thesis, Part 1 Jan T. Hendryx, DO, FAAO

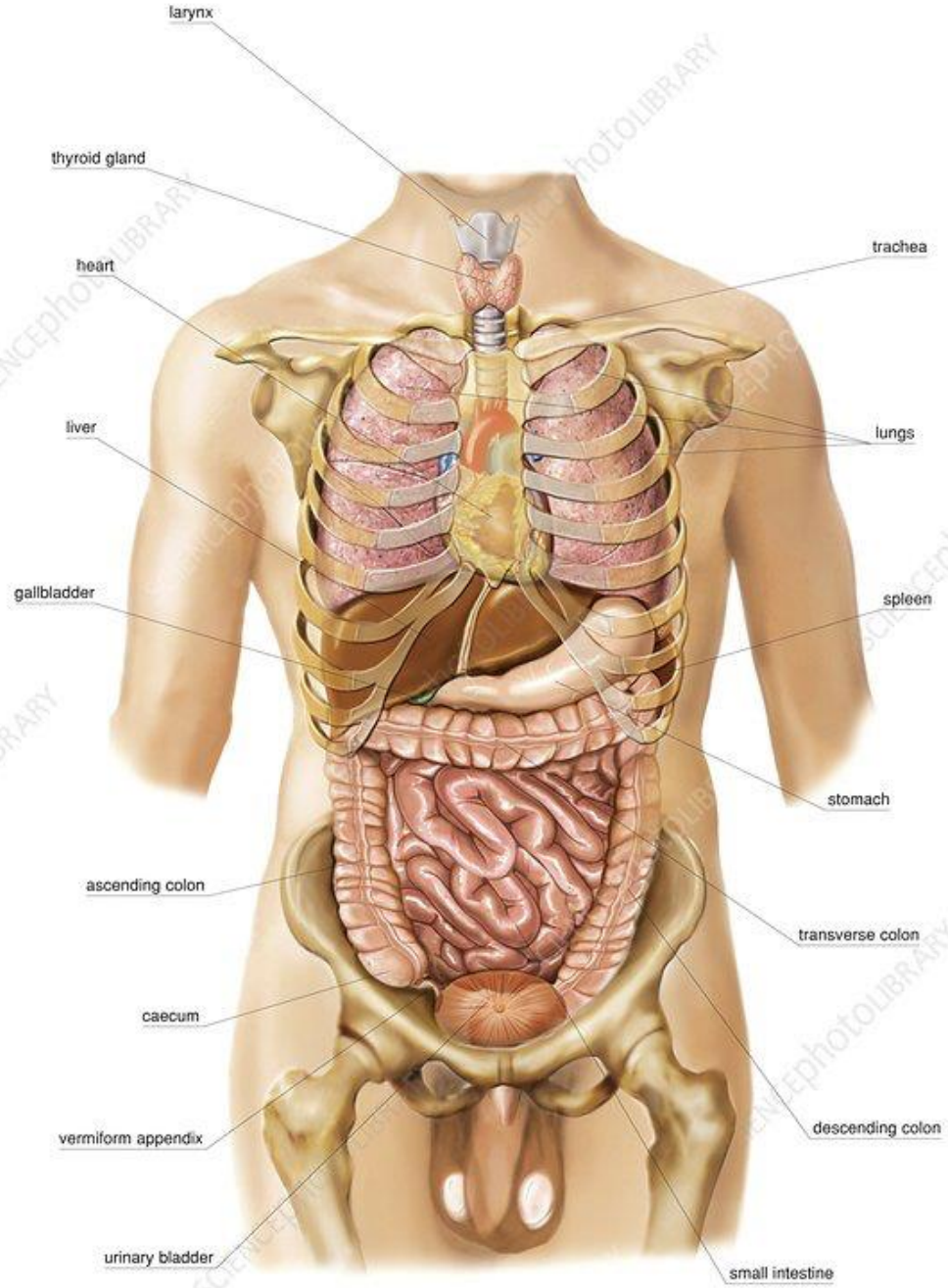
Behavioral- Biopsychosocial

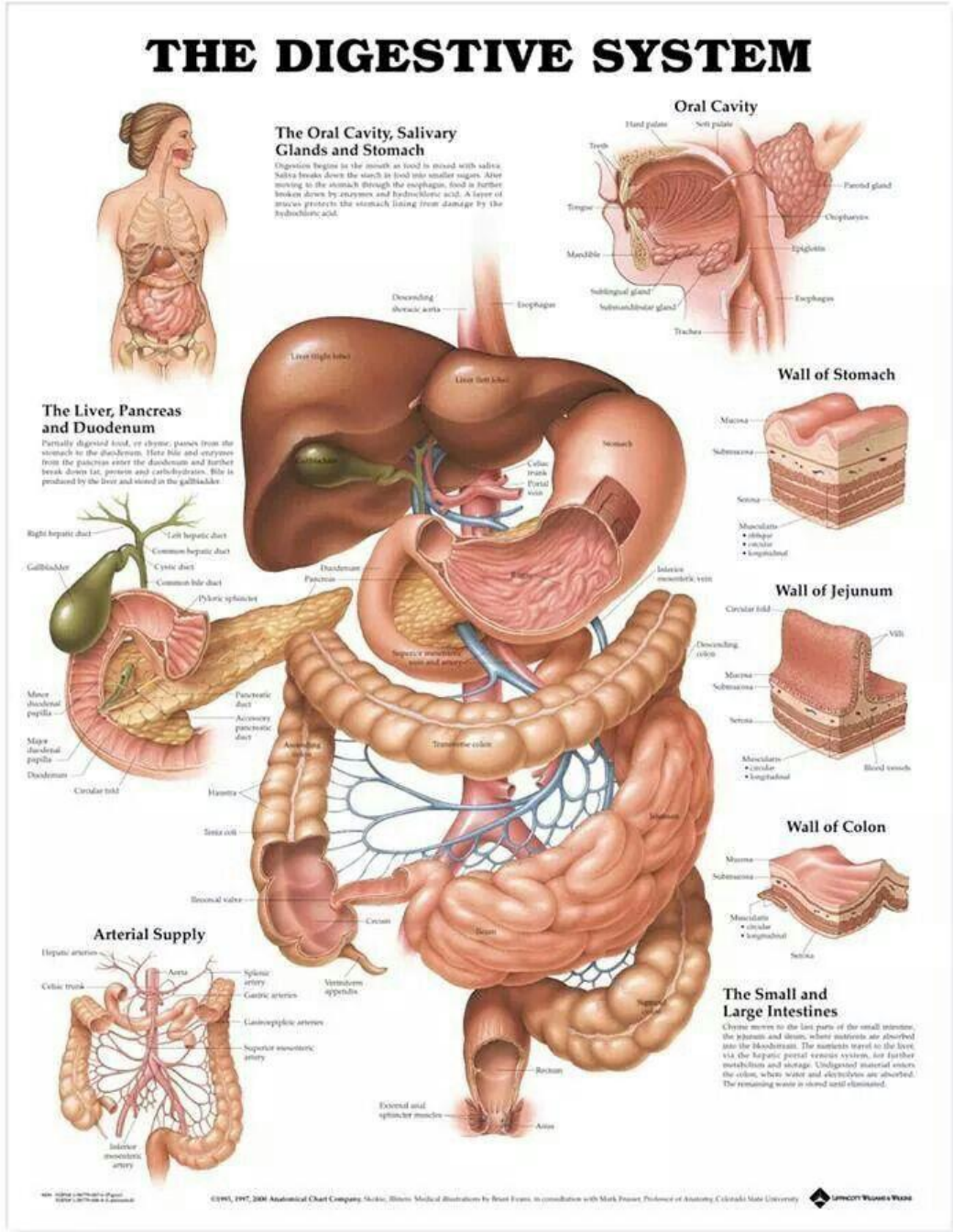
Addresses a patient's mental, emotional, social and spiritual dimensions in relationship to health and disease. Mind-body interactions can have a huge influence on a patient's wellbeing and functioning in society.

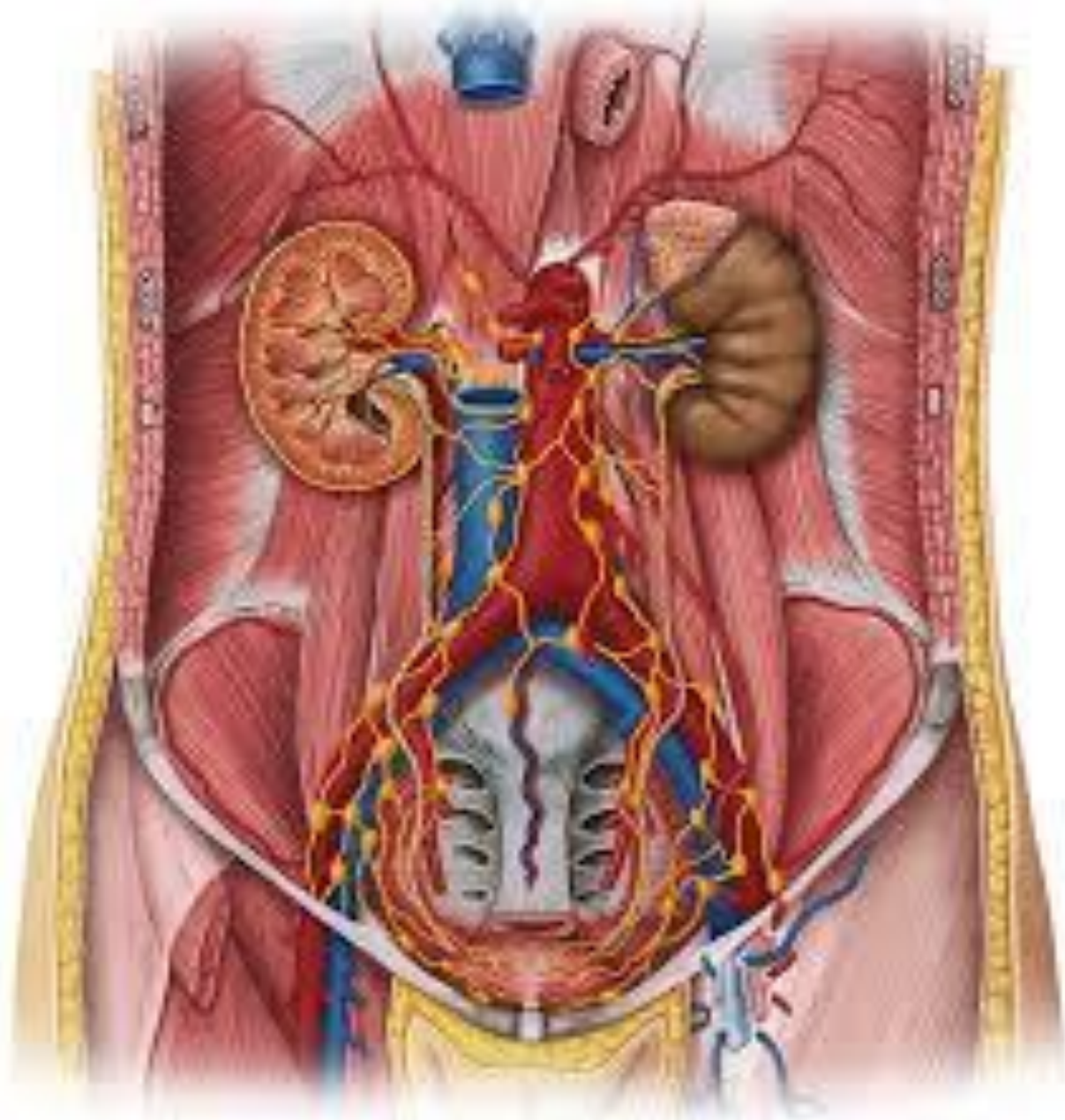
Depression, anxiety, stress, habits, addictions and numerous other conditions must be addressed appropriately, often in conjunction with medications, psychiatry or psychotherapies, stress reduction, meditation, and support groups.

Osteopathic manipulative treatment includes cranial in the osteopathic field, and ANS.

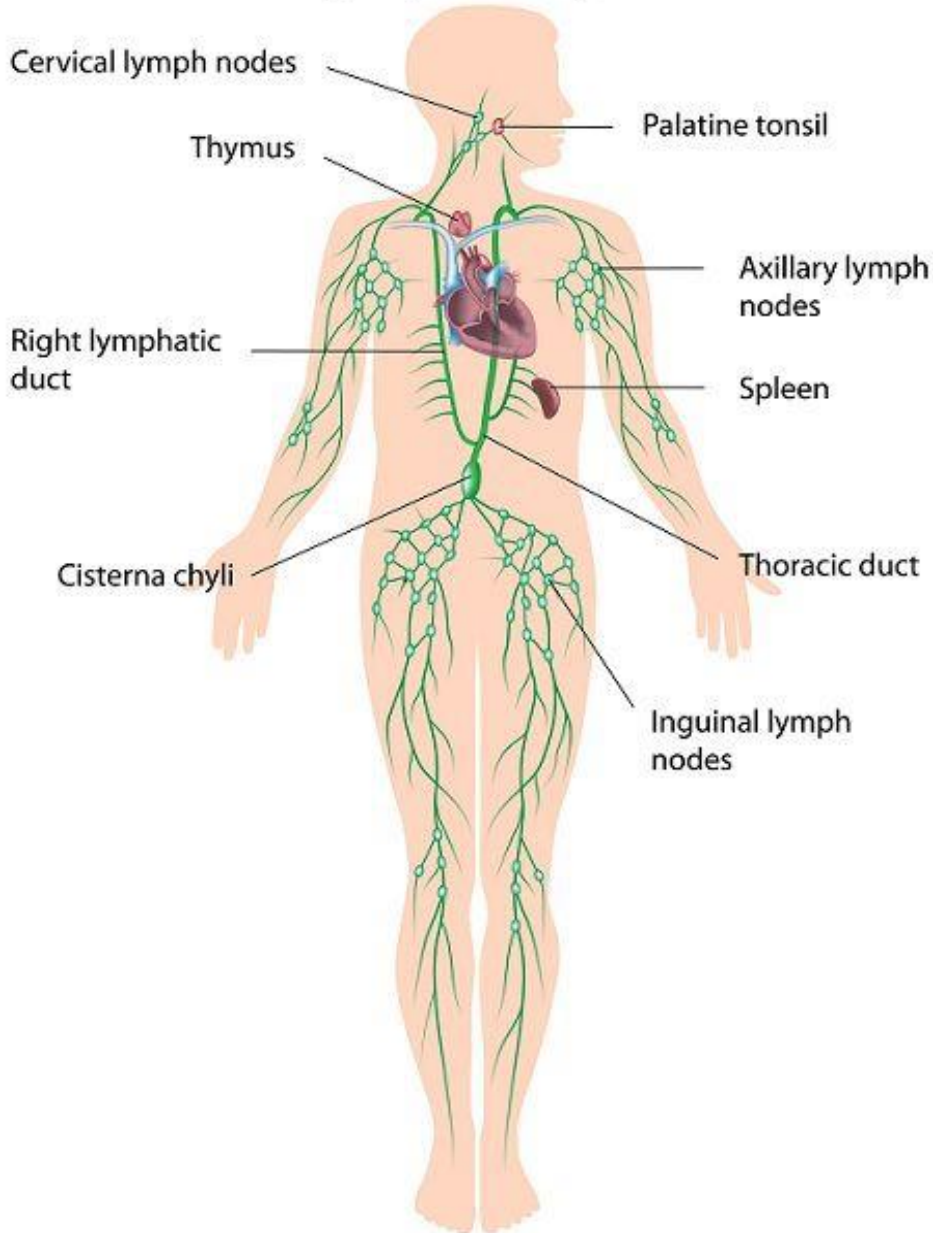

cerebrum
larynx
vertebral column
(cervical part)
trachea
heart
lung
ribs
liver
transverse colon
ascending colon
small intestine
sacrum
rectum
coccyx
anus
testis


larynx
thyroid gland
heart
trachea
liver
lungs
gallbladder
spleen
stomach
ascending colon
transverse colon
caecum
descending colon
vermiform appendix
urinary bladder
small intestine

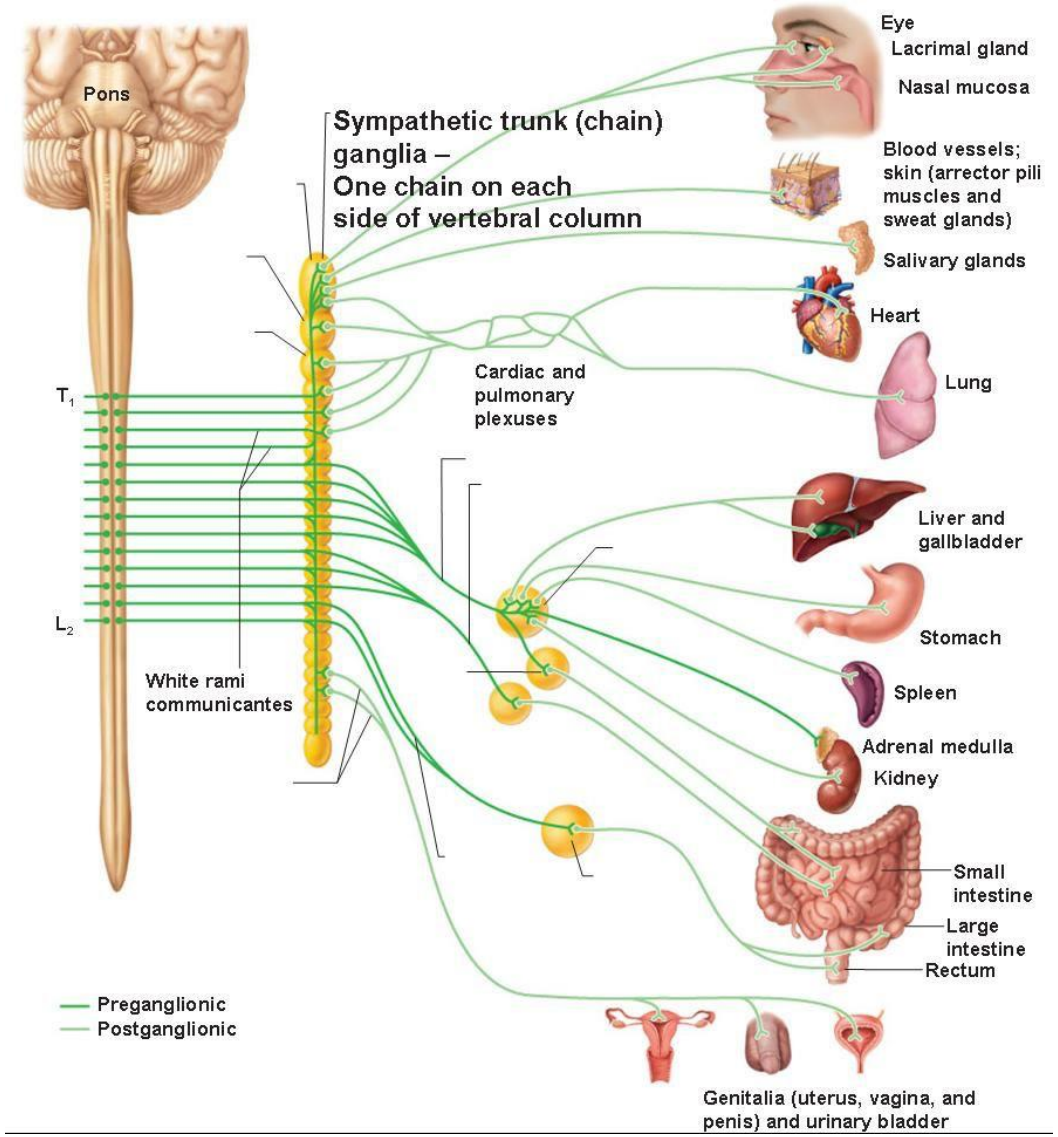

THE DIGESTIVE SYSTEM
The Oral Cavity, Salivary Glands and Stomach
Digestion begins in the mouth as food is mixed with saliva. Saliva breaks down the starch in food into smaller sugars. After moving to the stomach through the esophagus, food is further broken down by enzymes and hydrochloric acid. A layer of mucus protects the stomach lining from damage by the hydrochloric acid.
Oral Cavity
Hard palate
Soft palate
Teeth
Parotid gland
Tongue
Oropharynx
Mandible
Epiglottis
Sublingual gland
Submandibular gland
Esophagus
Trachea
Descending thoracic aorta
Esophagus
Liver (right lobe)
Liver (left lobe)
Stomach
Celiac trunk
Portal vein
The Liver, Pancreas and Duodenum
Partially digested food, or chyme, passes from the stomach to the duodenum. Here bile and enzymes from the pancreas enter the duodenum and further break down fat, protein and carbohydrates. Bile is produced by the liver and stored in the gallbladder.
Right hepatic duct
Left hepatic duct
Common hepatic duct
Gallbladder
Cystic duct
Common bile duct
Pyloric sphincter
Duodenum
Pancreas
Inferior mesenteric vein
Minor duodenal papilla
Pancreatic duct
Accessory pancreatic duct
Major duodenal papilla
Duodenum
Circular fold
Haustra
Taenia coli
Ileocecal valve
Cecum
Vermiform appendix
Transverse colon
Descending colon
Rectum
External anal sphincter muscles
Anus
Wall of Stomach
Mucosa
Submucosa
Serosa
Muscularis
• oblique
• circular
• longitudinal
Wall of Jejunum
Circular fold
Villi
Mucosa
Submucosa
Serosa
Muscularis
• circular
• longitudinal
Blood vessels
Wall of Colon
Mucosa
Submucosa
Muscularis
• circular
• longitudinal
Serosa
Arterial Supply
Hepatic arteries
Aorta
Celiac trunk
Splenic artery
Gastric arteries
Gastroepiploic arteries
Superior mesenteric artery
Inferior mesenteric artery
The Small and Large Intestines
Chyme moves to the last parts of the small intestine, the jejunum and ileum, where nutrients are absorbed into the bloodstream. The nutrients travel to the liver via the hepatic portal venous system, for further metabolism and storage. Undigested material enters the colon, where water and electrolytes are absorbed. The remaining waste is stored until eliminated.
©1995, 1997, 2000 Anatomical Chart Company, Skokie, Illinois. Medical illustrations by Brent Evans, in consultation with Mark Fenner, Professor of Anatomy, Colorado State University
Lippincott Williams & Wilkins

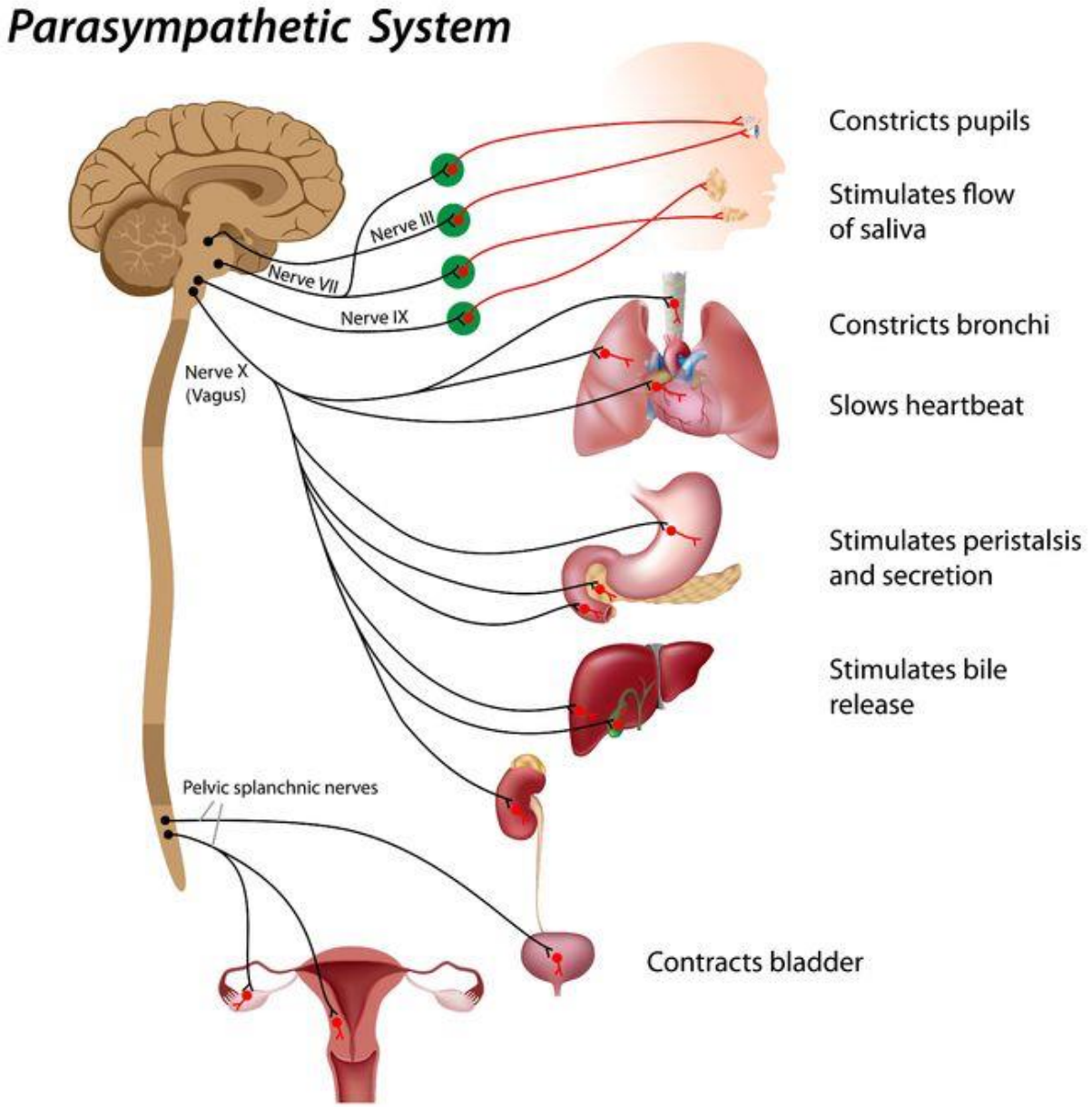


The Lymphatic System



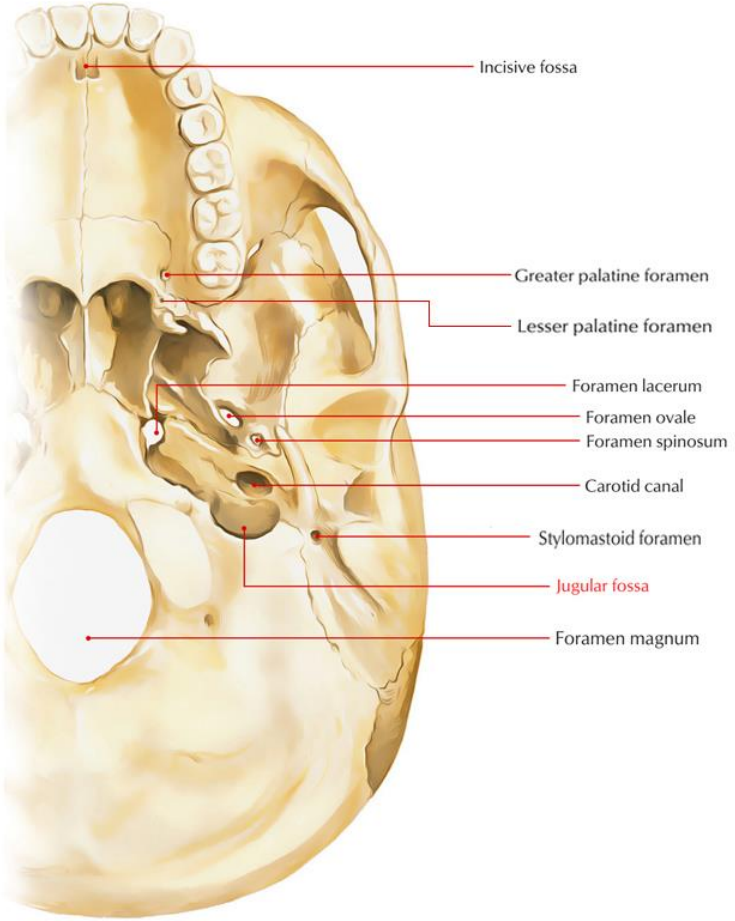
Autonomic NS



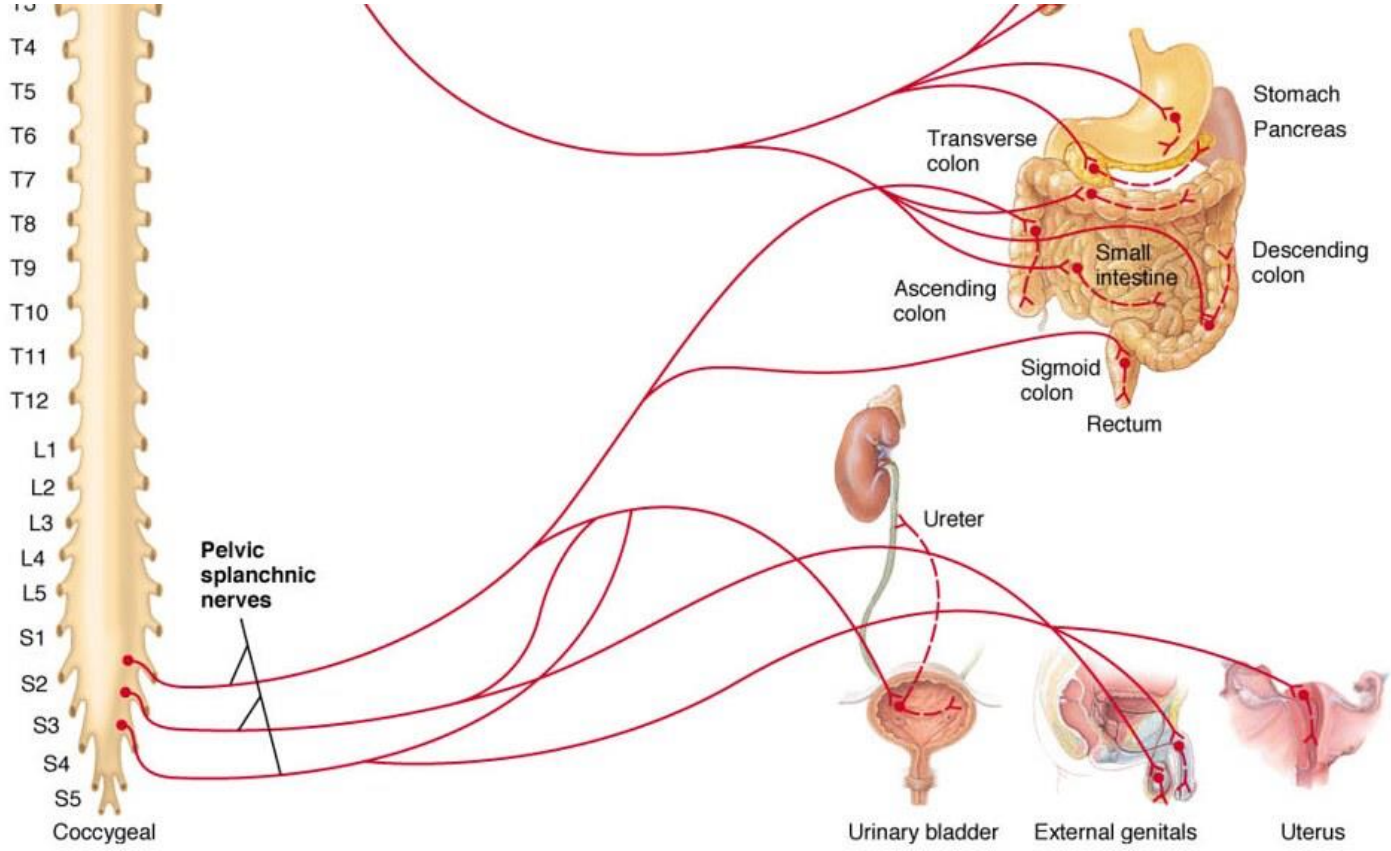


Parasympathetic:

CN X: Vagus nerve



Pelvic Splanchnic Nerve



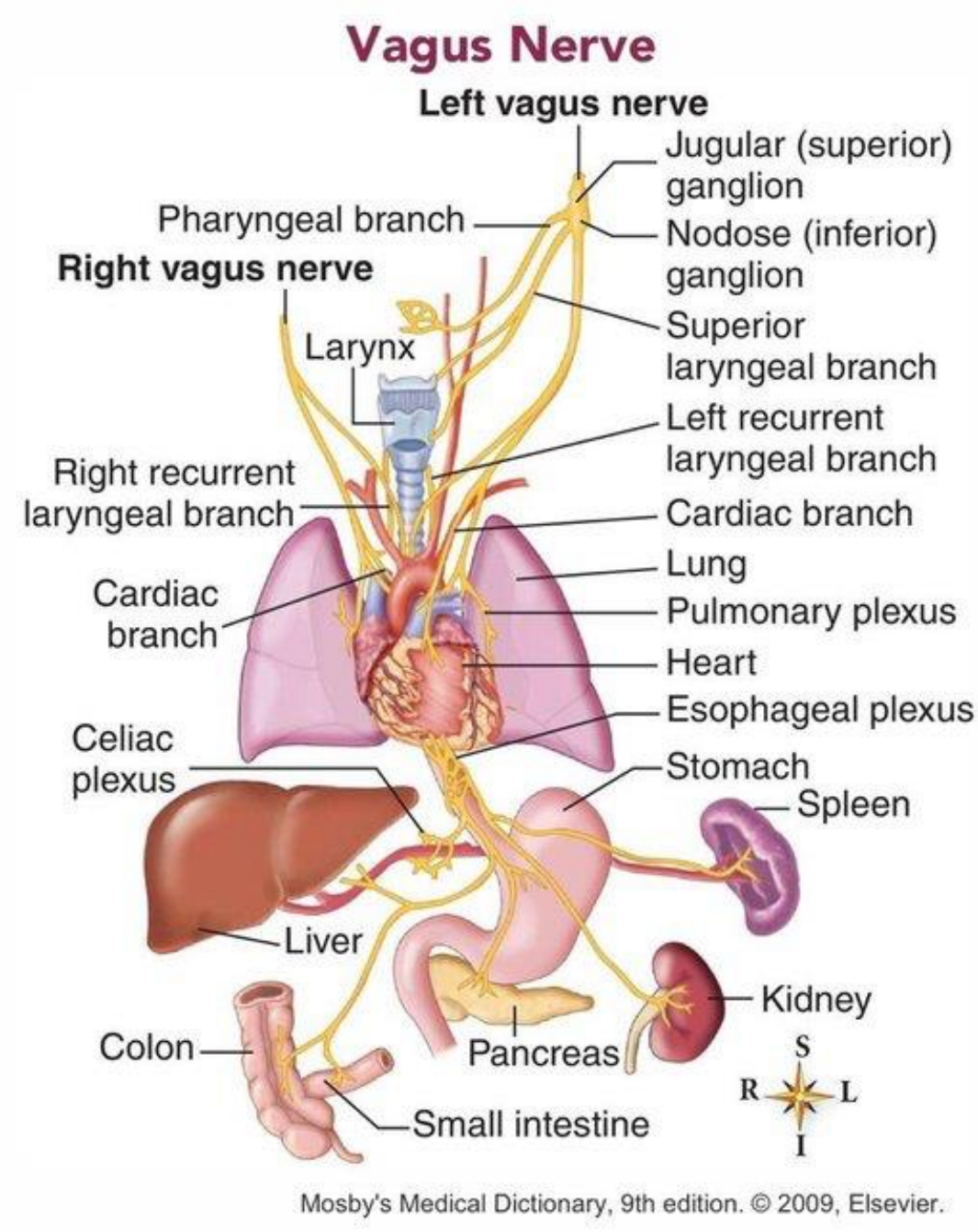
Vagus Nerve

Right Vagus

- Lesser curvature stomach
- Liver
- Gallbladder
- R transverse colon

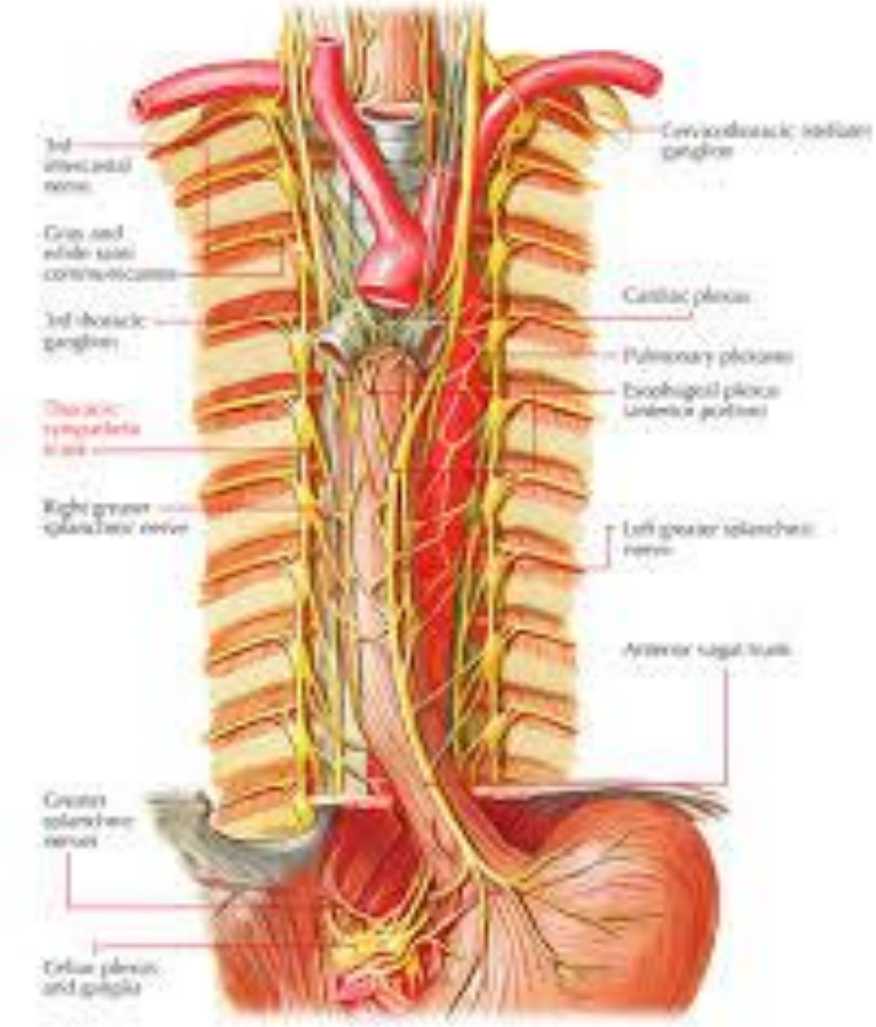
Left Vagus

- Greater curvature stomach
- Pylorus

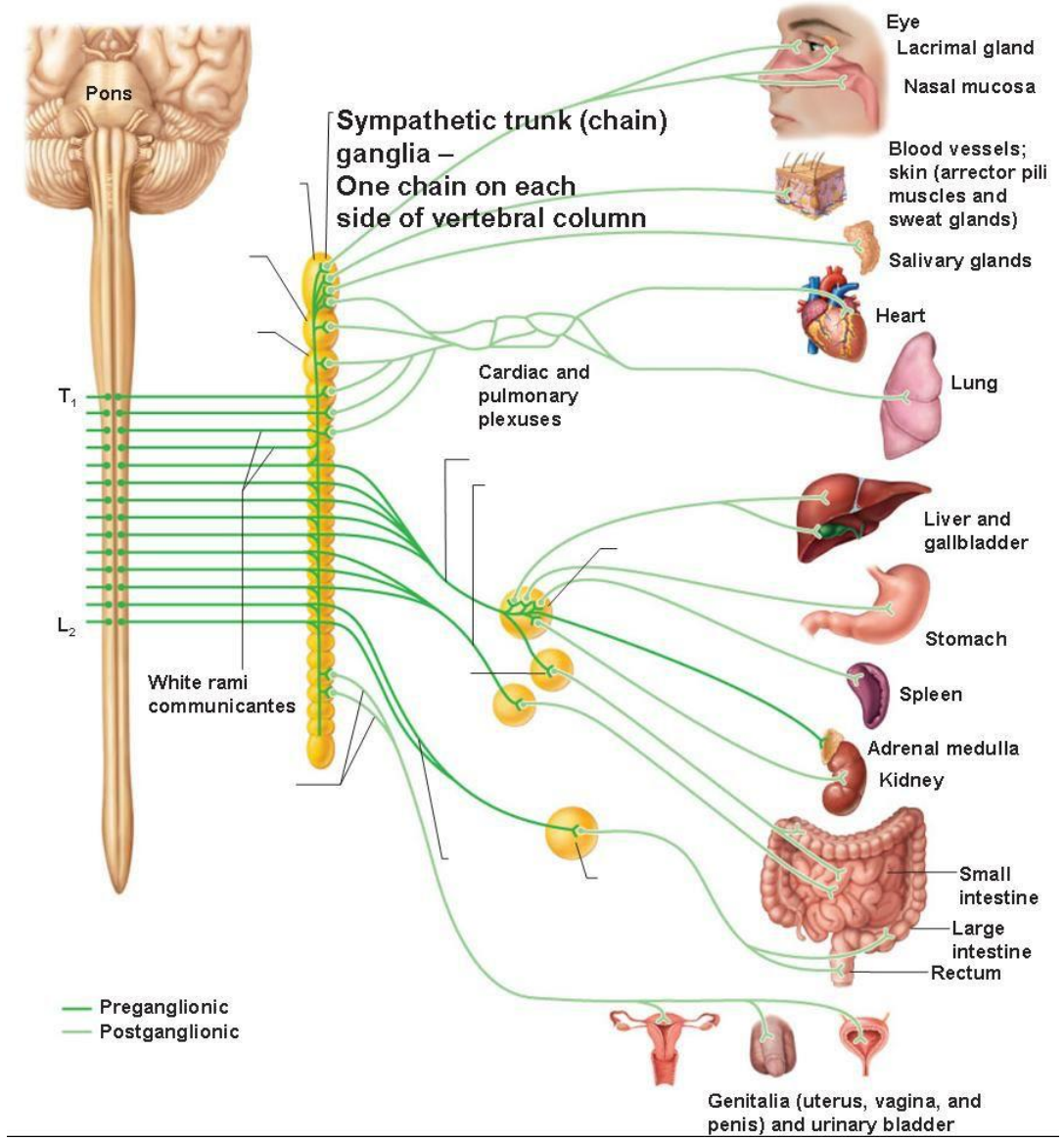


Sympathetics:

Anterior Chain Ganglia



Sympathetics



Common Disease Processes

- Crohn's/
  Inflammatory Bowel Disease
- Irritable Bowel Syndrome
- Celiac disease
- Ulcerative colitis
- Diverticular disease
- Colon cancer
- Gastroesophageal reflux disease
- Gastritis
- Post op Ileus
- Hemorrhoids
- Anal fissures
- Colonic polyps
- C Diff infection

Anatomy

- Lymphatics
- Circulation
- Nervous system

- Anatomy
  - Stomach
  - Small intestine
  - Large intestine
- Organs
  - Liver/gallbladder
  - Pancreas

Lymphatics: Thoracic Duct

- Pt: lying supine on table.
- Phys: Standing on left side of pts chest with left middle finger placed on inferior aspect of clavicular curve and right middle finger placed on top of left, with superior posterior pulsatile pressure, to ‘clear the drain’. Continue until increased ease occurs. Move to right clavicle, switch hand placement to right on bottom and left on top.
- Recheck fluid movement.

Lymphatics and Circulation: Thoracic Inlet

- Pt: Lay supine on table.
- Dr: Sit at the head of the table. Rest your forearms on the table. Place your hands on pts shoulders with your finger tips curled under the clavicle: R to R and L to L. Thumbs at cervical thoracic junction bilaterally on posterior aspect of upper trapezius.
- Adjust thoracic inlet in all ranges to find the greatest point of ease. Hold until you feel a release.
- Have patient take 2-3 deep slow breaths in to facilitate release.

Lymphatics and Circulation: Diaphragm Doming

Myofascial Release

- Pt: Laying supine on table
- Dr: Stand on side of table just inferior to pts diaphragm region/lower ribs. Place finger tips on lower ribs pointed laterally, thumbs sinking into abdomen in epigastric region applying medial compression to each side. Apply enough pressure to feel the point of maximum ease at mid diaphragm. Hold for 3-5 seconds. Release.
- Reassess ribs and diaphragm for motion.

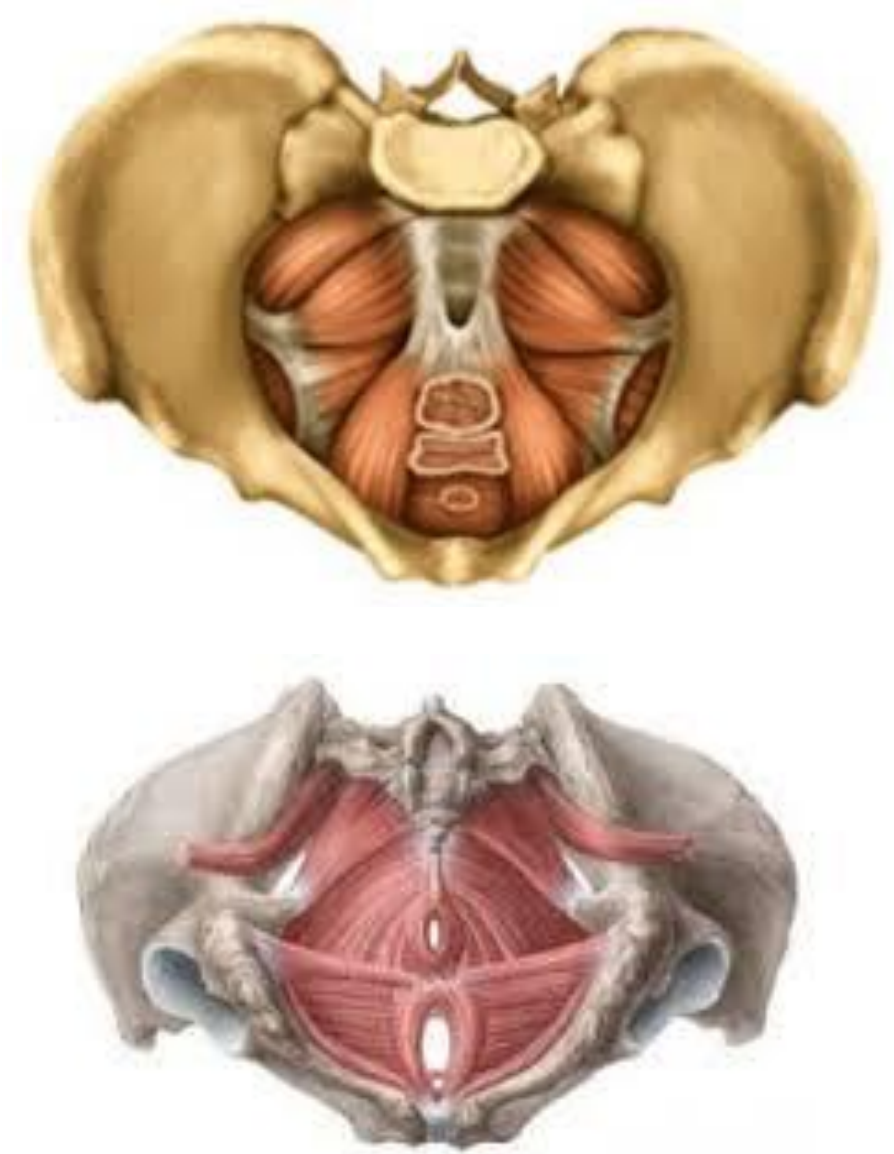
MFR: *passive or active* applied to the muscle and fascia system: *direct or indirect*. 3D superficial and deep fascia release. [3]

Lymphatics: Pedal Pump Dorsi/Plantarflexion

- Pt: Lying supine on table.
- Phys: Standing at patients feet.
- Phys: Place palms of hands on plantar surface of pts feet. Right hand on pts left foot: left hand on pts right foot.
- Phys: Take up the slack in the fascia by pressing cephalad on the plantar surface of the feet. Send a wave of motion superiorly, which can be observed easily in the patients abdomen. Apply rhythmic pressure in cephalad direction until range increases and resistance decreases at about 60 times per minutes x ~ 2minutes.
- Phys: Change to hands on dorsal surface with a caudad pressure to take up slack in anterior fascia, promoting wave motion into abdomen until resistance decreases and range increases.

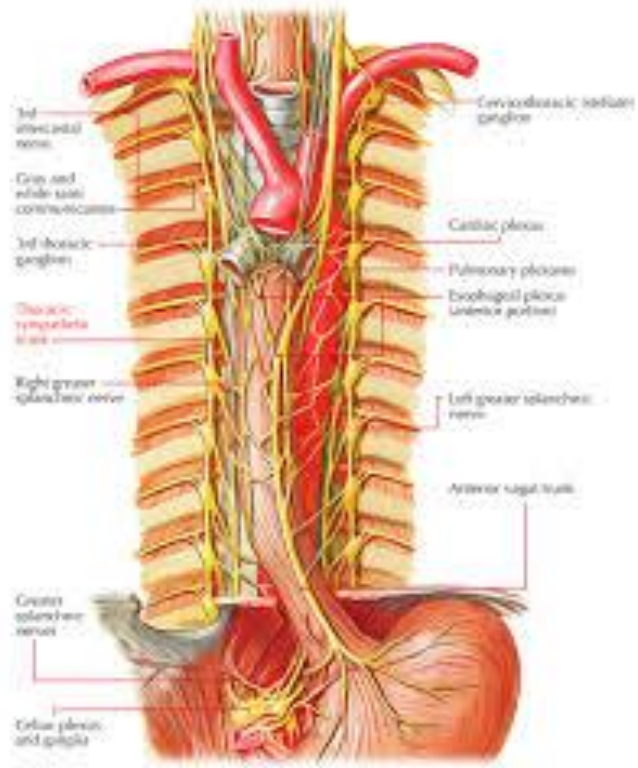
Pelvic Bowl

- Pt: Laying supine on table.
- Phys: standing at side of pt with hands placed on bilateral innominates, just superior to ASIS. Assess restriction via diminished movement with posterior pressure.
- Phys: Balance the pelvic bowl: 2 innominates and sacrum. Hand placement remains on innominates OR caudad arm with elbow and hand ASIS and cephalid hand on LS junction posteriorly.
- Assess for place of ease in all ranges and motion. Hold in position of ease for 3-5 seconds or until feel pt release. Reassess and repeat 2-3 times.



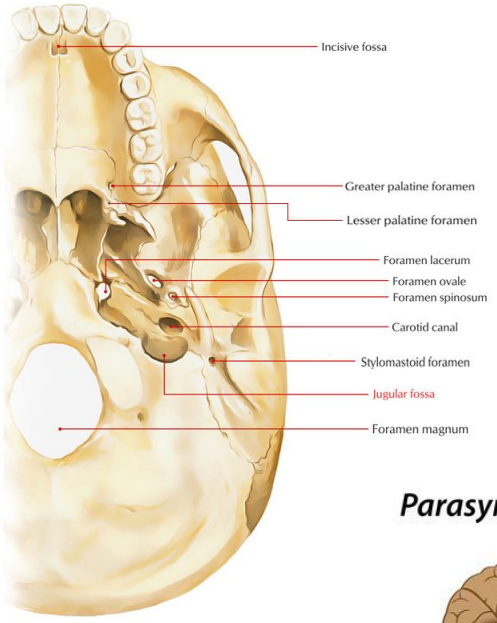
Sympathetics

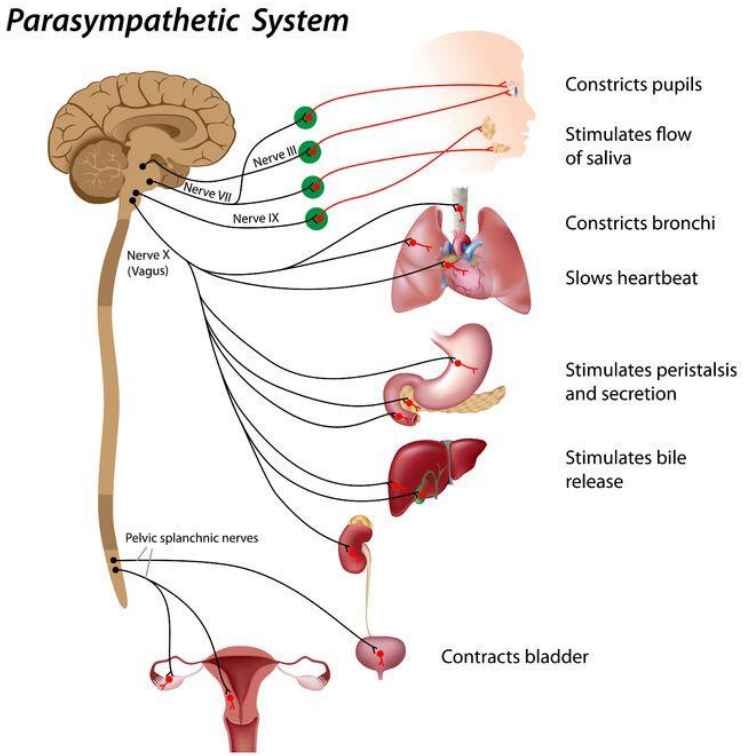
- Pt: Laying supine on table
- Phys: Seated at the head of the table.
- C/L: Place your finger tips on the transverse processes of the cervical vertebra bilaterally. With each individual vertebra motion test and bring that vertebra to its position of ease.
- T: Place your finger tips just lateral to the costovertebral junction, on the angle of the rib. Place anterior force (toward the ceiling) on the ribs. Hold for 3-5 seconds, or until the rib head releases from the vertebra.



CN X: Vagus Nerve

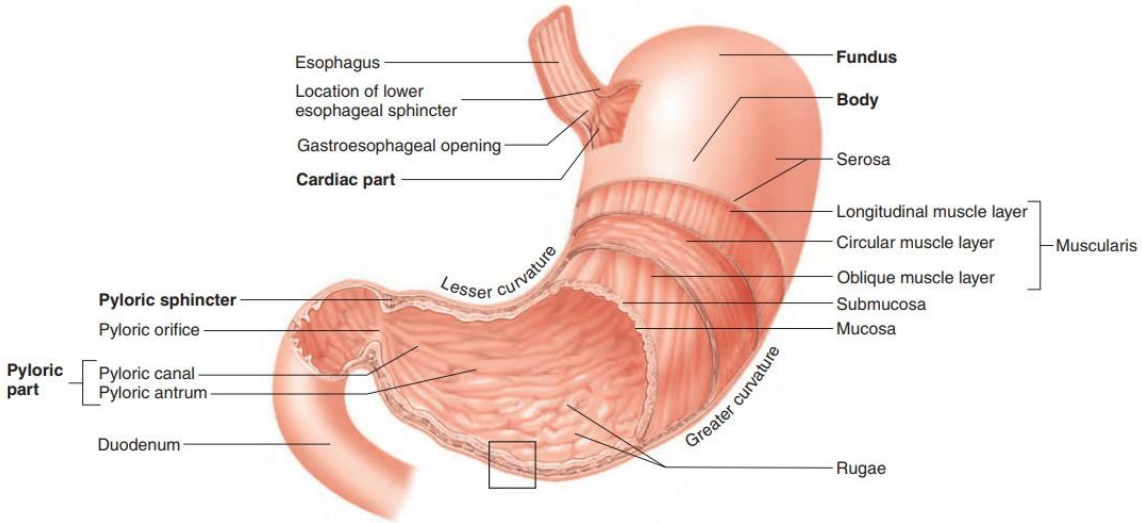
- Pt: Lying supine on table.
- Phys: Standing/seated at head of bed/table with forearms resting on the bed.
- 1-Phys: Hands in cranial vault hold. Assess pts CRI and SBS. Assess occipital mastoid/temporal suture. Correct dysfunction; direct or indirect.
- 1-Phys: Reassess SBS and temporal occipital suture. OR
- 2- Phys: seated at head of table.
- 2 – Phys: Hands under patients head, finger tips to the OA region.
- 2 – Direct finger tips toward ceiling with pt completely resting their head on your hands. Wait for the tissue to release.

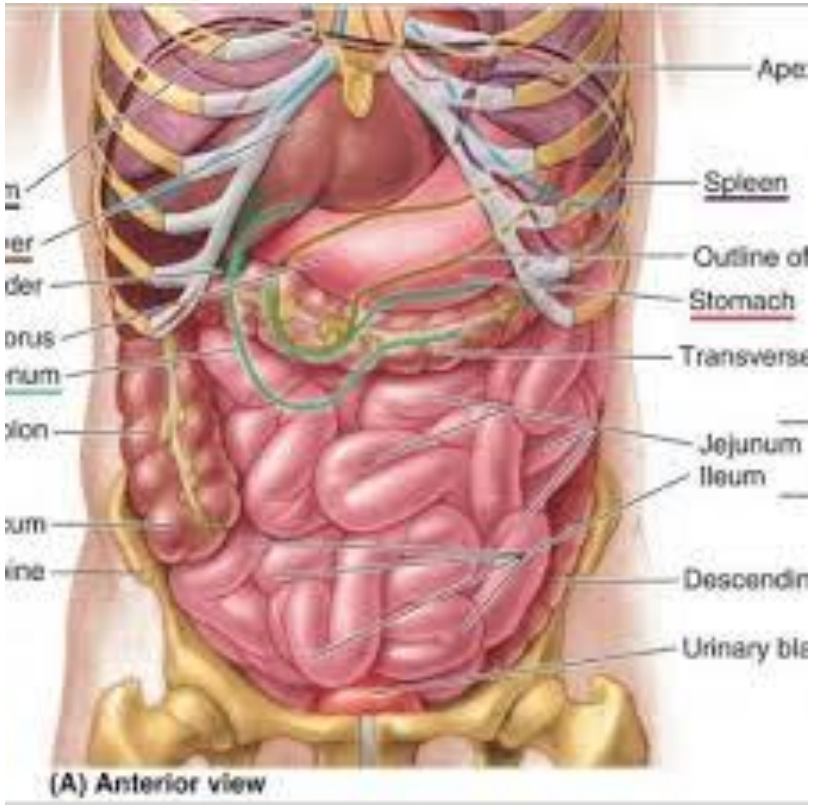




Stomach

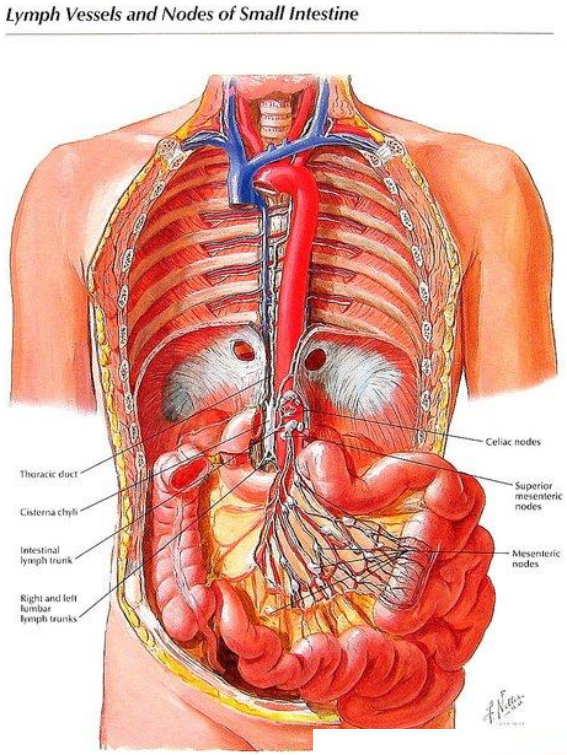
- Pt: Lying supine on table, or flex the trunk/legs in order to take tension off the abdomen if needed.
- Phys: Seated or standing on left side of bed. Caudad hand to esophageal sphincter, fundus, body, greater and lesser curvature to the pyloric sphincter into the duodenum. Cephalad hand on in opposition to caudad hand stabilizing stomach.
- Move portions of stomach into ease, hold for 3-5 seconds. Repeat 2-3 times and reassess.

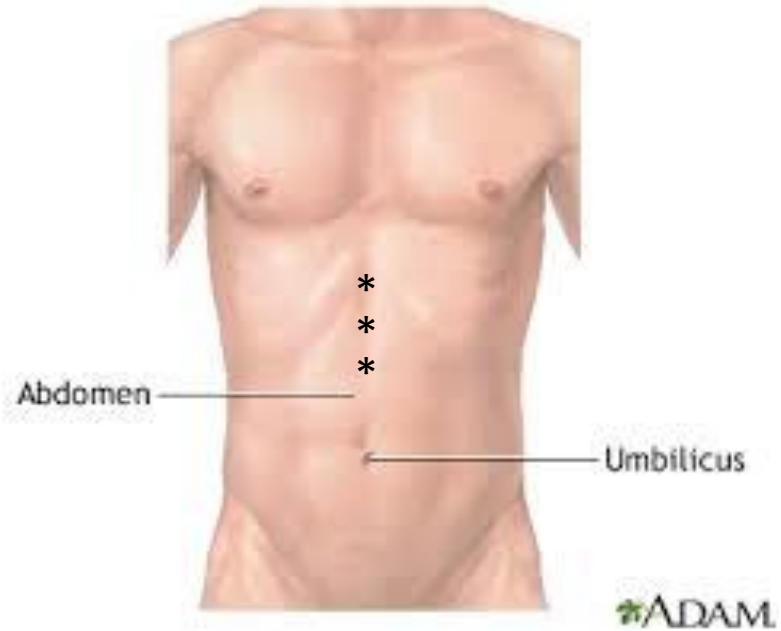




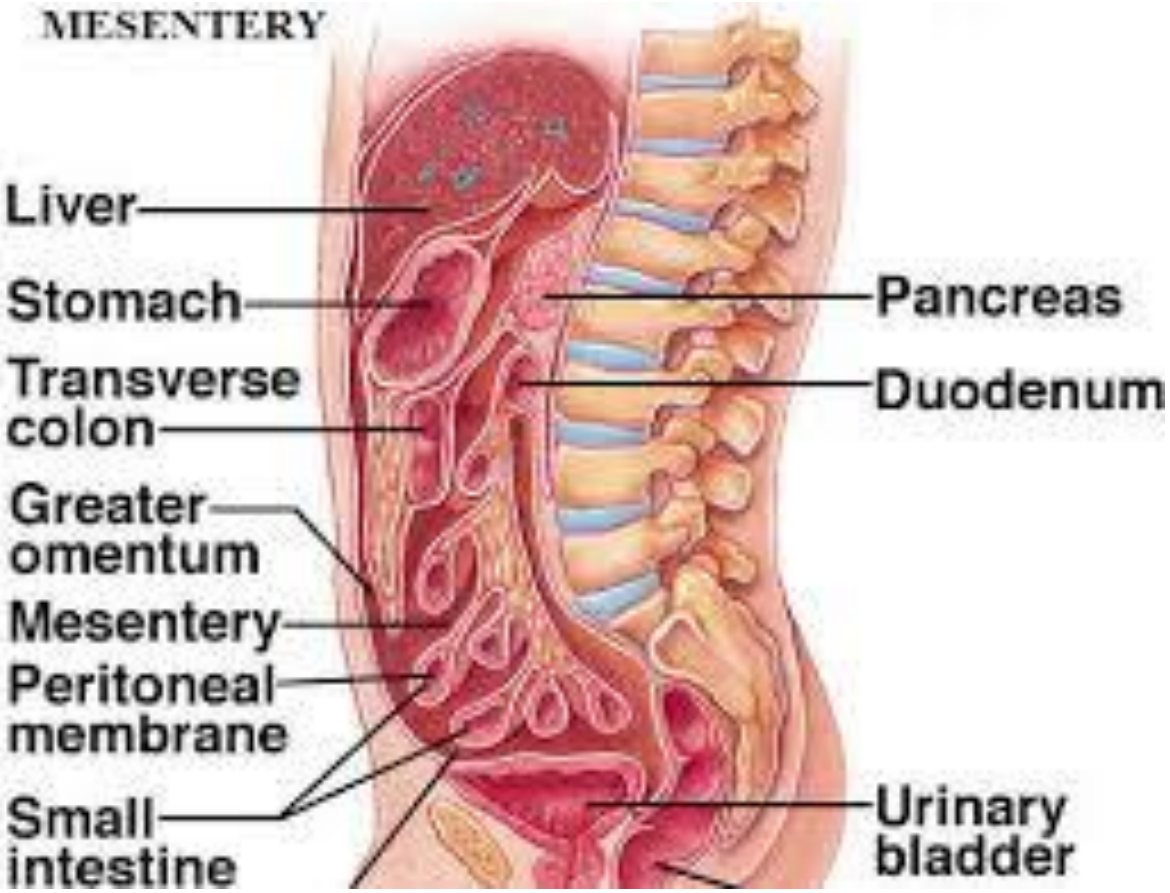
Small Intestine: Lymph Nodes

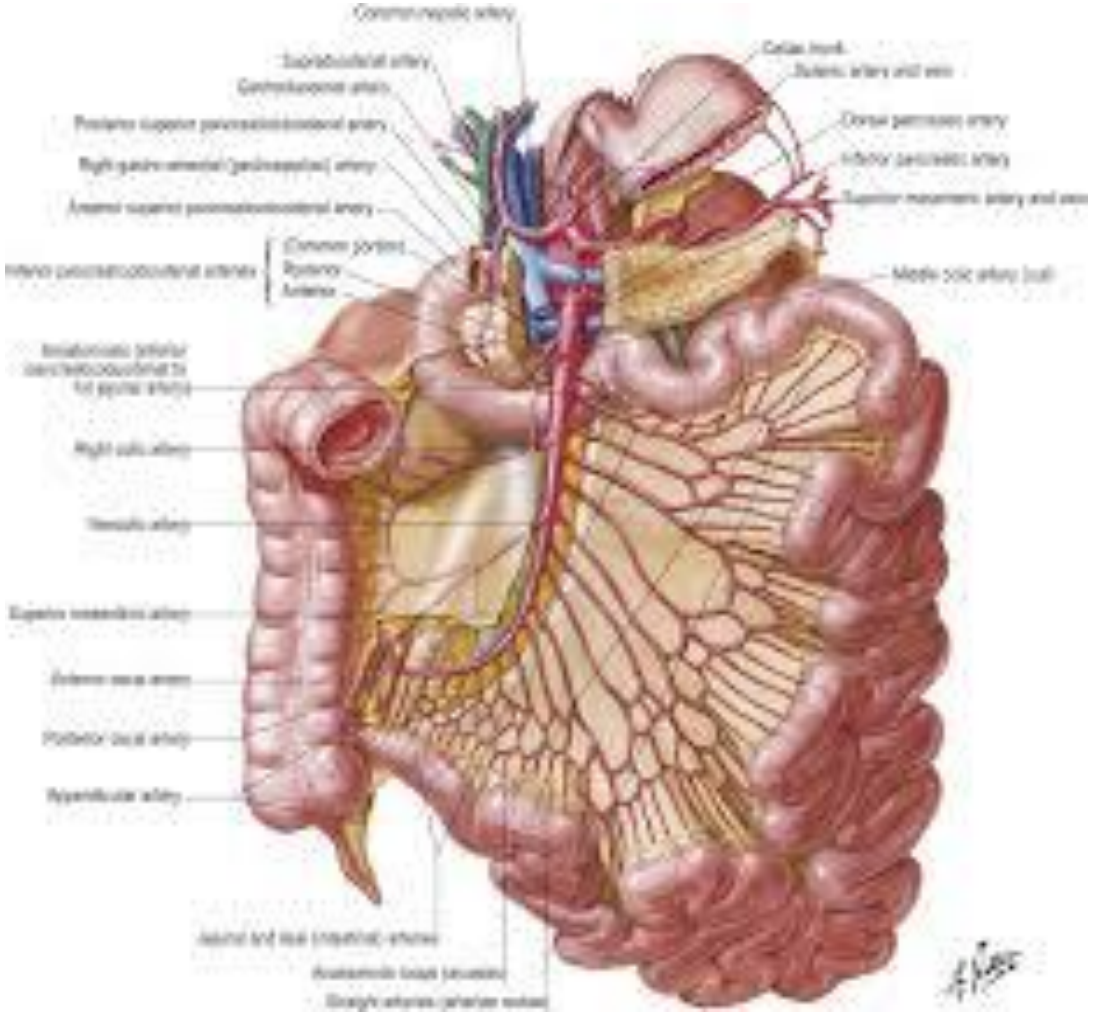
- **Celiac**
- **Superior Mesenteric**
- **Inferior Mesenteric**
- Pt: Laying supine on table.
- Phys: Caudad hand with index finger on celiac node (most caudad), middle finger on superior mesenteric and fourth finger on inferior mesenteric.
- Assess if node is moving clockwise or counter clockwise. Move node into ease/direction it is going. Hold for 20-30 seconds. Reassess.





Small Intestine



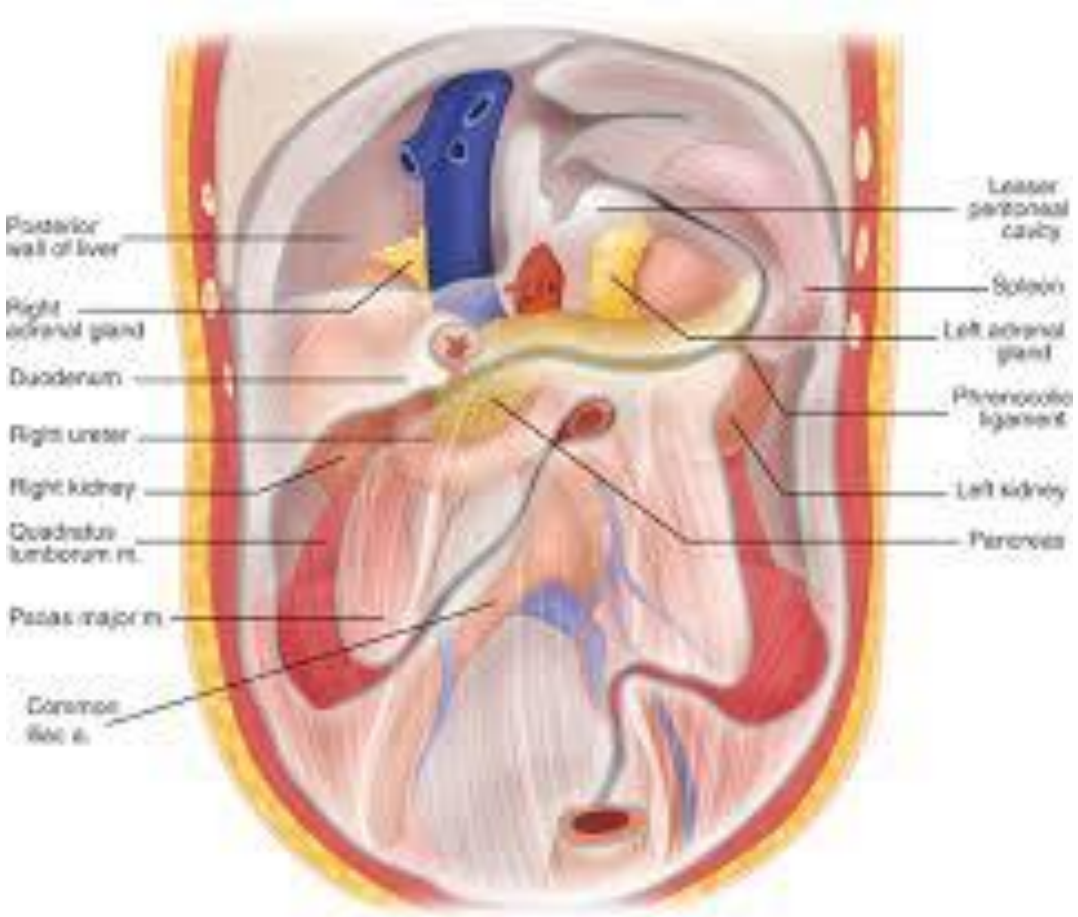


Small Intestine

- Pt: Lying supine on table.
- Phys: Seated/standing on side of table.
- Caudad foot on table. Place pts legs over your legs in flexed position, taking strain of abdominal region.
- Both hands are placed on pts stomach, using finger tips. Assess motion of small intestine, in all directions. Move intestines into place of ease. Hold for 3-5 seconds. Reassess.

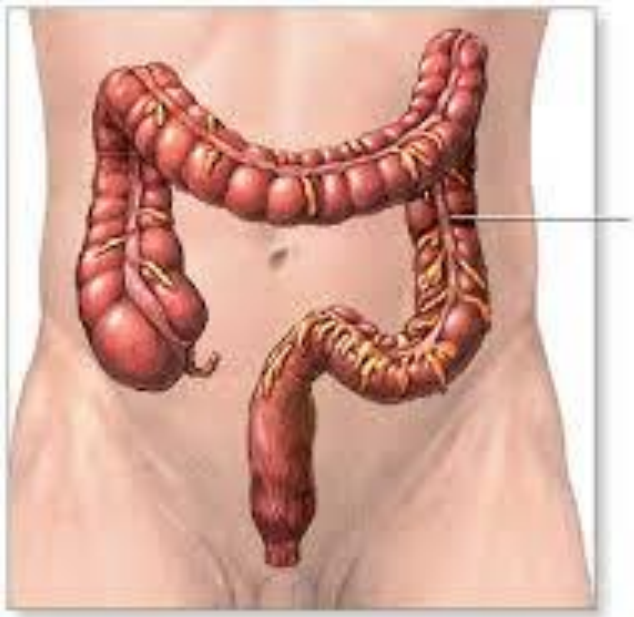
Mesentary

- Pt: Lying on table supine
- Phys: Standing at side of table.
- Phys: One hand on top of the other. With finger tips leading, doing small circular motion, slowly move into and around the small intestine anteriorly until resistance is felt. Aiming to go to the anterior wall of the lumbar region where the attachments originate.
- Phys: Go direct into the tissue, hold for 30 seconds or until a therapeutic response is felt and release. Move to the next attachment area and repeat.



Large intestine

- Pt: Lying supine on table.
- Phys: Standing on right side of pt. Place caudad foot on table, and place pts flexed legs on your knee in order to decrease abdominal tension.
- Left hand over right hand finger tips placed on right abdominal gutter region.
- Slowly apply pressure posterior and medial until resistance is felt. Hold for 3-5 seconds. Release and reassess tissue.
- Move finger tips superior and repeat. Follow the colon from lower right, to transverse colon then to left lower colon/sigmoid.



Questions??

Have a great day