

This class is centered around Clinical Correlations- the Viscero-Somatic and Somato-Visceral connection

For every organ system there's at least a colored chart and a handout
Download all handouts from lqweb

Thursday Class is in the Lab

Textbook: Somatovisceral Aspects of Chiropractic
Applied Kinesiology Synopsis- Walters
-has a spread for every muscle

Additional Reading for class- assignments in lqweb
Can do outlines for an additional 25 points in the class- 200 point total
Can back out without penalty up to the 4th week

Quizzes done on Blackboard
★ Complete survey that's currently on blackboard
Also Additional articles available in library
She does give EC for Research Projects up to 5 points

"Bone Doctors" or "Homeostasis Doctors?"

Why do we get Subluxations?

- Simple trauma
- Altered neurology
 - Dysafferentation
 - Improper mechanoreceptor stimulus
 - Pain/excess nociception
 - Altered paraspinal muscle balance and biomechanics
 - Altered systemic and tissue chemistry
 - Viscero-somatic reflexes

Orthopedics- Correcting structure

- Sprains, strains, discs, tendinitis, arthritis, short legs, foot pronation, scoliosis
- Imbalanced muscles -->altered biomechanics
- Altered biomechanics --> injury prone joint
 - Inflammation
 - Joint damage
 - Pain- altered circulation- poor healing- vicious circle of tissue deterioration
- Muscles move bones, bones don't move muscles
 - Muscles can be
 - Too tight
 - Too weak
 - Just right

What determines muscle tone and action?

- The nervous system, responding to sensory input:
 - Voluntary intention
 - Mechanoreceptors, nociceptors, proprioceptors
 - Somato-somatic reflexes
 - Input from organs
 - Chemical stimuli and trophic influences
 - Nutrition
 - Toxins
 - Hormones
 - Allergens
 - Pro and anti inflammatory substances and pain mediators
 - Applies equally to paraspinal, peripheral, vasomotor and smooth muscle

An Invitation to Chiropractic healing

- Palmer: "Too much or not enough nerve energy IS disease"
- The role of the chiropractor is the help the nervous system function properly to restore and preserve homeostasis and health of the whole patient

Chiropractic Tools for Healing

- Adjustment- our prime tool
- Ancillary therapies- aid the restoration of neurologic homeostasis
 - Soft Tissue and Reflex treatments
 - Musculoskeletal and visceral effects
 - Diet, nutritional supplementation, homeopathy
 - Lifestyle changes
 - Acupuncture/acupressure- energetic medicine
 - PT modalities
 - Rehabilitative exercises

Reflex Action: Most reflex actions in man involve a great many reflex arcs

- Awareness of stimulus and effect
 - Stimulus (like stepping on a nail) ★ See chart with guy stepping on nail
 - Receptors (in the skin of foot)
 - Afferent pathway

- Efferent Response eliciting

★ Simplest Reflex

- Axon reflex:
 - Afferent: sensory ending of 1 nerve
 - Efferent: other sensory endings of the same nerve
 - NO SYNAPSE
- Looks like red reaction of skin when scratch it
 - Gentle stimulation of skin (i.e. by warmth or gentle massage)
 - Creates Lewis's Triple Response
 - Stroke skin
 - Blanching followed by red line (local histamine and vasodilator chemicals)
 - Red flare in 20-40 sec- AXON REFLEX- releases vasodilator substances in broader area from sensory nerve endings
 - Wheal ~1 min.- histamine release and transudation into tissue
 - Extent and timing can vary with autonomic state
 - Hypersympathetic (vasoconstrictive)
 - ◆ Reduced response
 - Hyposympathetic or Hyperparasympathetic
 - ◆ Increased response
 - Clinically: stroke up along paraspinal mm to see if there is a red response
 - Some areas may stay white or very red
 - Diagnostic clue for subluxation or visceral autonomic stress

*Receptor --> Afferent neuron-->
Interneuron in spinal cord --> Efferent neuron*

What is a Reflex?

- Specific area of stimulation eliciting a
- Specific distant response
- Predictable
- Neurologically mediated
- If unpredicted response, WHY?
- Aberrant signal at
 - Receptor
 - Effector
 - In the NS between the 2

Types of Reflexes-"Stimulus-Response"

- Somato-somatic
 - Knee Jerk (DTR/myotatic/stretch)
 - Receptor: muscle spindle
 - Effector: Motor end plate in skeletal muscle
 - Clasp-Knife Reflex- with GTO that cause muscle to relax instead of tear
 - Tonic Neck Reflex- righting reflexes
 - Rooting Reflex
- Viscero-visceral
 - Micturition: As bladder extends contraction increase and sphincter relaxes - has higher center mediation but local level reflex
 - Myenteric Reflex- peristalsis in GI tract
 - Hering-Brewer reflex in lung
 - Prevents overinflation of the lungs allowing expiration to occur
 - Abdomino-cardiac
 - Pupillary light
 - Oculo-cardiac/Aschner's phenomenon- as push on eyeball you get a decrease in HR
- Somato-visceral
 - Carotid Sinus Reflex- push on carotid and it affects BP
 - Diving Reflex- stop breathing when your face goes in the water
 - Adjusting affecting organs
 - Pain --> adrenal and cardiovascular effects
 - Body wall reflex treatment procedures
- Viscero-somatic or Viscero-motor
 - Referred Pain/ Referred muscle spasms that happen as a cause of organ problems
 - Contraction of skeletal muscle from pain in organs
 - If long-standing can induce atrophy
 - Pottenger's saucer
 - Mid-thoracic tissue atrophied area that went with TB in bronchial area
 - Hyperalgesia, areas of muscle rigidity and autonomic, vasomotor changes in areas of referred pain. Not an illusion

Mechanism for Referred Pain

- Convergence- Projection model
 - Somatic and visceral pain signals converge in cord
 - CNS interprets pain as if comes from surface
 - Segmental
 - Localizes in dermatomes at levels where organ originated embryonically
 - Example- angina pectoris- cervical and upper thoracic refers to neck and arm
- Some visceral and cutaneous nociceptors synapse on the same transmission cells in laminae I and V. These give rise to the ascending anterolateral spinal tracts... (see slide with drawing of spinal cord)
- Referred Pain vs. Local Pain
 - Local pain

- Changes with motion and stress on joint
- What you get with an orthopedic test
- Pt. can pinpoint area of pain- put one finger on it
- Referred pain
 - No change with motion of part
 - Can't pinpoint- rubs area generally
 - May change with visceral function- stairs, eating fat, etc.

Is it really Sciatica?

- Pottenger: Viscerogenic Reflex:
 - Internal Organ --> Other tissue or organ
- Can we do something about it- somato-visceral effects
 - "Continuous stream of impulses:
 - Sensory somatic nerves -->
 - Sympathetic preganglionic neurons -->
 - Reflexes in the internal viscera
 - It goes both ways!
 - THIS IS HOW TREATMENT OF THE BODY WALL CAN AFFECT VISCERA

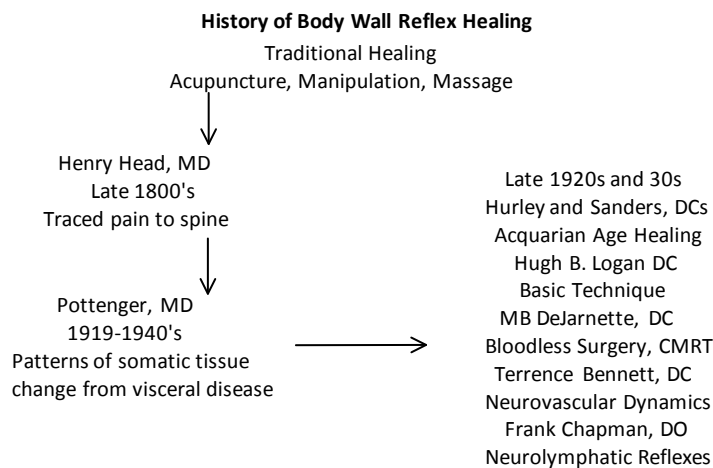
Body wall Reflex Treatments to affect autonomies/viscera

- Ancient healing traditions/Acupuncture
- Acquarian Age Healing (1920s)/Logan Basic technique
- Bennett- Neurovascular Dynamics (early 30's)
- Chapman- Neurolymphatics (1930's)
- DeJarnette- Chiropractic Manipulative Reflex Technique (early 30's)
- Neural Therapy

1/16/09

Body Wall Reflexes: Traditional Healing

- Diagnosis: Specific areas of the body surface tense and tender with specific internal disorders
- Treatment: Soft tissue treatments can normalize visceral function
- Ayurvedic medicien, massage manipulative traditions, oriental medicine/acupuncture



Hyperalgesia

- Visceral referred pain produces hypersensitivity to mild stimuli in the skin and muscle of referred pain areas
- Sensory cell bodies in the cord become hyper-excitabile
- Mild stimuli to skin and mm are perceived as painful
- Head mapped these zones

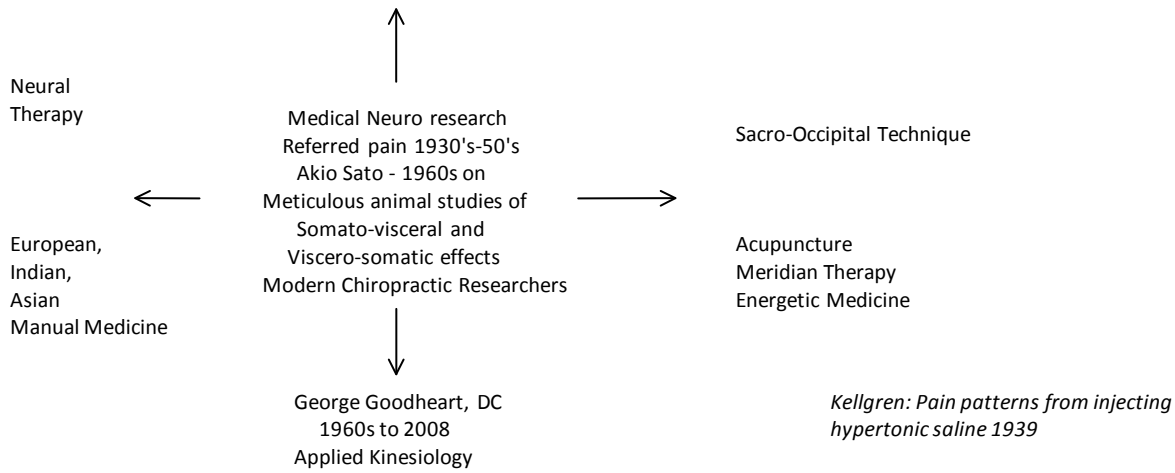
Sympathetic Reflexes Viscerotrophic Effects

- Where mm have been in prolonged spasm due to long-standing visceromotor reflexes, tissues degenerate, due to vascular and neurological changes
- "The long-continued bombardment of nerve cells by harmful stimuli permanently impairs their function"

Trophic changes in chronic disease

- Tuberculosis: Degeneration of tissues innervated by cervical nerves, especially C3 and C4
 - SCM, scalends, pecs, traps, lev. Scarp. Diaphragm and skin and subcutaneous tissues to 2nd rib
- Pleuritis-degeneration of tissues innervated by thoracic spinal nerves
 - Intecostals, broad mm of back, skin and subcutaneous tissues below 2nd rib
- Chronic kidney disease
 - Degeneration of lumbar mm
- Gut inflammation
 - Degeneration of abdominal soft tissues

Neurolymphatic changes chart- Chapman's chart is always related to organs



Sato- Differential Somato-Autonomic Responses

- Noxious vs Innocuous: usually opposite effects
 - Noxious (eg. Pinch)
 - Tends to enhance sympathetic effects
 - Innocuous (eg. Brushing the skin)
 - Tends to lessen sympathetic effects
- Limbs vs. Trunk stimuli:
 - Torso- segmental, spinal-level effects
 - Limb- general, supraspinal effects
- State of Organ- eg. bladder full or empty

Vertebral Levels: Organs

- Traditional Spinal Level for Organs (SOT)
- Level of Autonomic Innervation of Organ (Original Meric Chart)
- Level of Innervation of Associated mm
- Acupuncture Associated Point level
- Ex. Pancreas
 - Vertebral levels
 - Traditional-T6
 - Autonomic-T5-9, vagus
 - Muscle
 - Latissimus Dorsi C6, 7, 8
 - Triceps C6, C7, C8, T1
 - Acupuncture- T11-12

Autonomic Innervation Chart

- Blank is on IQ web
- Print out
- Fill in during class

★ Learn This

Referred Pain Areas- Viscero-somatic Diagnostic -also need to know this

Neurovascular Dynamics

- Terrence Bennett, DC
- Light stretching of tissues elicits
 - Pulsation not equal to heart rate
- Thought to be intrinsic to blood vessels-embryonic
- Related points to viscera with lab studies
- Points on body- spinal reflexes
- Points of head- supraspinal
- Treat with very light tissues traction

Chiropractic Manipulative Reflex Technique

- Major DeJarnette- SOT
- Correlated vertebral levels to occipital and trapezius fibers and organs
- Body wall reflexes similar to NVD
- Treated with soft tissue minpulation-rubbing, holding; visceral manipulation
- Often 2 contacts at once

★ Print Handouts for each organ and bring to class- especially Lab

Neurolymphatic reflexes

- Frank Chapman, DO
- Mapped areas of body-wall congestion and nodulation related to known visceral conditions
- Treated with rotary massage

- Treat until pain begins to diminish and associated muscle is strong

1/20/09

Applied Kinesiology

- Diagnostic Approach for Evaluation and Physiological therapeutics
- Manual Muscle Testing as Functional Neurology
- Using Muscle Relationship and
- Muscle-Organ Relationships
 - Certain muscles reflect state of different organs
- Pre- and Post testing of therapeutic interventions
 - Adjusting- spine, extremity
 - Cranial and pelvic corrections
 - Biomechanical balance, proprioceptive
 - Procedures
 - Soft tissue and reflex techniques
 - Nutrition and visceral protocols
 - Meridian therapies

Science and Art of Muscle Testing

- Know muscle anatomy- attachments, direction of contraction
 - Usually test muscles in contraction or relative contraction
- Position of test correct and repeatable
- Vector precise and repeatable
- Pressure- gradual - listen with hand (hold it for about 1-2 sec) - using 1/10- 1/5 of force muscle can generate- looking to see if can maintain and increase pressure as you increase pressure
- Don't try to overwhelm or "prove" anything
- Don't stress joints
- Non-painful contacts
- Stabilization
- Watch for "cheating"
- Dr's Attitude- no preconceived outcome

Factors Interfering:

- Joint damage/ROM
- Pain
- Medications/drugs
 - Especially those that affect CNS
- Allergies/toxicity
- Cramping
- Severe debility
- Paralysis/paresis
- Age-Very young or old

Muscle-Organ Relationship

- Goodheart: Certain mm tend to dysfunction when particular organs are stressed
 - Weak/inhibited, occasionally "Hyper"/over-facilitated
- Treatments from different systems for the same organ consistently affect the same muscle
 - Neurolymphatics
 - Neurovasculars
 - Acupuncture
 - Nutrition
- A dysfunctional organ is very likely to have an associated dysfunctional muscle
 - Inhibited or hyper-facilitated
- Muscles can dysfunction due to orthopedic problems as well
- Not every weak muscle is a weak organ
- If a structural problem doesn't respond to usual structural care look for a viscerosomatic component
- Evidence
 - Carpenter SA, Hoffman J, Mendel R. An investigation into the effect of organ irritation on muscle strength and spinal mobility. *Thesis, Anglo European College of Chiropractic, Bournemouth, England. 1977.*
 - Jacobs GE, Franks, TL, Gilman PG. Dx of Thyroid Dysfunction: Applied kinesiology...
 - Recent Russian Studies
 - 80 subjects with shoulder pain and stomach dysfunction (fiber-gastroduodenoscopy, esophagography) 40% hiatal hernia. PMC weak
 - ◻ EMGs. Other shoulder mm hypertonic
 - Treating hiatal hernia...
 - Piriforms Syndrome of Visceral Genesis- I.D. Zotov, moscow
 - Shulak A. Cervical Pain at Dysfunction in lungs. ICAK-Russia
 - Caso, M. Evaluation of Chapman's neurolymphatic reflexes via Applied Kinesiology: A case report of low back pain and congenital intestinal anomaly. *JMPT Jan. 2004; 27 (1): 66*

Many Reflexes-Which to do?

- Palpate- treat what is tender or tense
- Trial of therapy
 - Check again next week
- Stimulate reflex --> Neuro change?
 - Change in muscle function

★ **Weak = neurologically inhibited**

Neurolymphatic, Neurovascular, CMRT are the three main treatments we're focusing on in this class

Therapy Localization from a weak muscle

- Find a weak (inhibited) muscle

- Patient touches a related reflex, vertebra, acupuncture point, etc
 - *Has to be the patient's hand*
- Retest muscle
 - If muscle strengthens (facilitation) on T.L. treating this reflex or level will help.
- Can also do it to find a hidden problem
 - Walther Synopsis pg. 37-38
 - 1. Test and find an intact muscle
 - 2. Patient touches area of suspected problem
 - 3. Retest. Inhibition (weakening) of muscle indicates something wrong at that location
 - 4. Test further to determine what (inspection, palpation, challenge, etc)
- Summary of Therapy Localization
 - Patient Touches area
 - Change in muscles: Strong to Weak or Weak to Strong
 - Where it is, not What it is
 - Treatment completely- T.L. clears (no change in muscle)

1/22/09- Watched Movie

T6 Pancreas

1/23/09

Common Problems

- Digestive
 - Poor digestion of protein, carbs, fat
 - Fatty stool
 - Pancreatitis
 - Gallstone in duct
 - Alcoholic
 - Elevate TGs
 - Estrogen, drugs
 - Pancreatic cancer
- Endocrine
 - Hypoglycemia
 - Diabetes-Type I
 - Diabetes-Type II

Labs

- Digestive
 - Serum Amylase
 - Pancreatitis
 - Stool
 - Chymotrypsin
 - Fat in stool
- Endocrine
 - Serum Glucose
 - Glucose Tolerance Test
 - Diabetes starts high and stays high
 - Malabsorption starts low and stays low
 - Reactive hypoglycemia starts normal then goes high and crashes
 - The speed of the drop is what gives you the
 - Most symptoms
 - Liver damage, early insulin resistance starts normal goes high and has a late drop
 - Serum insulin
 - Hemoglobin A1C
 - Gives a read over the last 3 months
 - Urinalysis

Autonomic

- Sympathetic
 - T5-T9
 - Decreases ability to digest
 - Decreases pancreatic enzyme activity
 - Decreases insulin and increases glucagon because raises blood sugar
- Parasympathetic
 - Vagus

Common Symptoms

- Digestive
 - Dry Skin
 - Flatulence
 - Especially from not digesting carbs well
 - Undigested food in stool
 - Digestive distress 2 hours after eating
 - Pain-pancreatitis, cancer
 - Hurt in your gut
 - Not too many "gut pain" hurts in the gut itself-usually more on wall
- Blood Sugar S&S
 - Low: Reactive-sympathetic s & s
 - Tremors, shakiness
 - Faintness
 - Tachycardia
 - Irritability
 - Fatigue, HA
 - Sugar craving
 - Slower Fall (tumor)
 - CNS hypoxia symptoms:
 - Confusion, HA, ataxia, seizures, etc
 - High Blood Sugar
 - Burning eyes
 - Itchy skin
 - Dizziness
 - Polyuria, thirst
 - Poor wound healing
 - Weight loss if severe
 - Neuropathy

Referred Pain

- Pain in the Right Thenar Eminence
- Pain along costal cartilage in lower ribs- a little higher on the left

Muscles Associated

- Latissimus Dorsi
 - Elbow straight hand turned in
- Triceps
 - To get long head have them push back against the table

- Out of base of neck going down the neck
- Does the opposite

Procedures: Treatment Reflexes

Neurolymphatic (NL) Chapman's Reflexes

- Anterior Left (and sometimes Right) 7th intercostal, lateral
- Posterior Left (and sometimes Right) T7-T8
- Treated by massaging (rotary) at the fascial plane to disperse the congestion
- Treat front and back until the pain starts to go away and stops to therapy localize

Neurovasculars

- Right Subcostal level of 7th rib
- Above squamosal suture on parietal, slightly posterior to line of EAM
- Hold 30 seconds-1 minute

CMRT

1. Massage Right thenar pad + pressure on whichever is tender
 - a. Pancreas reflexes each to relaxation, 1, 2, 3 in order
 - b. Diaphragm
 - i. Can also press up while holding Right shoulder down
 - c. Central gastric area

Hold upper traps and most tender/rigid of 3 pancreas points for release and relaxation

1/30/09

Every muscle responds to a particular organ
 Many muscles can respond to an organ but not the other way around
 The Patient does the therapy localization

Lab Purpose

- Hands on experience with
 - Muscle testing
 - Reflex procedures
 - Physical findings before and after
- Medical record keeping
 - Rapid and accurate
- Record findings as you go
 - Never falsify a medical record
- Record pre and post checks even if no tx was done
- Make sure you're on attendance

Lab Grades- 30 points total

- Points for Attendance- 1 per lab (11 labs)
 - Attendance points CANT be made up
- Points for Quality of work- approx 1.5 possible per sheet (19 points/13 sheets)
 - Works points CAN be made up

Ampulla of Vater (Hepatopancreatic Ampulla)- good for pancreas and gallbladder

- Pump down at ampulla and rub right biceps tendon at humeral head

Clavicle Mobilization

- Clavical P -->A
 - Arm to 90° Abduction
 - Circle to Front
 - To Further Flexion
1. *Oesophagus*
 2. *Right Vagus with recurrent laryngeal*
 3. *Left vagus with recurrent laryngeal*
 4. *Right phrenic nerve*
 5. *Left phrenic nerve*

Pancreas- Digestive

- Pancreatic enzymes 1/meal (none with very light meal like salad with no dressing or just fruit), 2 with large meal
 - Indicated if feels lousy after meal, lots of gas, etc
- Hypoglycemia
 - Sugar Handling
 - Bfast with protein
 - Low glycemic index foods
 - Eliminate refined and concentrated CHOs
 - Fat tends to reduce speed of glucose rise after meal (use moderation)
 - Avoid stimulants
 - Support adrenals
 - Supplements
 - 4-6 raw liver or brewers yeast in Am
 - B complex in afternoon
 - Chromium - stabilizes high and low blood sugar (stabilizes cravings)
 - Pancreatic glandulars- especially if also digestive problems
 - Zinc- complexes with and synergistic with insulin
 - May need individual B's especially B1, niacin, pantothenic acid
 - Mg- used in citric acid cycle

Glycemic Index = how quickly food becomes blood sugar

- Adrenal glandulars
- Hyperglycemia (Diabetes)
 - Type I- Insulin Dependent
 - High complex carb, high fiber (HCF) diet may help reduce insulin need
 - HCF Nutrition Foundation
 - www.hcf-nutrition.org
 - An exchange diet, low fat
 - Foundation promotes it for both type I and type II diabetes
 - B Complex
 - Vanadium- insulin-like effect, stimulates glucose uptake in cells
 - Chromium
 - Zinc
 - Gymnema sylvestre- enhances endogenous insulin production, increases number of islet beta cells, improves serum lipids
 - Pancreatic glandulars
 - Type II- Non Insulin Dependent
 - Low carb diet, moderate protein, moderate fat, high fiber
 - EXERCISE!!!
 - Same Supplements as for Type I
 - Vitamin D- increases insulin secretion
 - Adults with serum 25 (OH) D > 40 ng/ml have better insulin sensitivity and lower postprandial glucose

*< 30 isn't good
<18 is a deficiency*

Fructose- High Fructose Corn Syrum

- Alan R. Gaby, M.D. Dietary Fructose. Alternative Medicine Review, Vol 10 #4, 2005
- Long term functions as pro-inflammatory
- Potential Adverse Health Effects
 - Obesity
 - Acceleratd aging
 - Insulin Resistanvce espeically with high intake
 - Diabetes mellitus (NIDDM/Type 2)
 - Diabetic complications- kidney, retina, nerve
 - Non-alcoholic fatty liver
 - Elevate triglycerides
 - Hyperuricemia
 - Chronic diarrhea- may be malabsorbed
 - IBS
 - Urticaria

T5 STOMACH

- Takes a long time for food to completely be digested
- GI Hormones
 - Gastrin (Vagus, Aas, distention) Stomach, Duodenum
 - Stimulate HCL secretion, inhibit gastric emptying
 - Secretin (acid) Duodenum
 - Stimulated pancreas and bile duct secretion of H₂O and HCO₃
 - Inhibits gastric secretion and motility
 - Cholecystokinin (fat)- Duodenum
 - Stimulates pancreas secretion and GB emptying
 - GIP (fat) Duodenum
 - Inhibits gastric secretion and motility
 - Stimulates insulin
 - Motilin (acid, fat) Duodenum
 - Increase motility
- Common Problems
 - Gastritis- infection, toxic, inflammatory
 - Poor digestion- hypochlorhydria
 - Ulcers- hypo or hyperchlorhydria
 - "Only about 30% of ulcer patients over 55 have hypersecretion of acid-pepsin"
 - Carafate- a wax that helps
 - Bleeding- ulcers, drugs, varicosities
 - GERD, Hiatal Hernia
 - Cancer
- Common Symptoms
 - Nausea, vomiting

- Pain- especially immediately after eating
- Poor digestion of protein- heavy feeling, dyspepsia, gas
- Hematemesis or occult blood in stool
- Pain or reflux especially lying down
- Referred Pain
 - Left Thumb-index web
 - Epigastric pain
 - Left shoulder
- Diagnostic Tests
 - Occult blood
 - Comprehensive Digestive Stool Analysis
 - *H. Pylori*
 - Serum antibodies
 - Breath test- *H. pylori* metabolizes labeled urea to labeled CO₂ which can be measured in breath
 - Endoscopy with or without biopsy. Measure biopsy specimens for urease
 - Culture biopsy specimens
 - Upper GI series, endoscopy, CT, MRI

Salivary Glands

Autonomics

- Sympathetic: T1-T4- ascend up cervical spine, synapse in superior cervical chain ganglion
- Parasympathetic: CN VII and CN IX

Stomach Autonomics

Parasympathetic: Vagus

Sympathetic: T5- T9

Muscle Associated with Stomach

- Pectoralis Major, Clavicular Division (PMC)
- Straighten elbow, internally rotate and stabilize other shoulder
- Press 10° down and out

Neurolympahtics

- Posterior: T6-T7 L
- Anterior: 6th intercostal L

Neurovasculars

- Frontal eminences
- Cardiac sphincter- right under xiphoid
- Duodenum- 1 inch above and slightly to left of umbilicus
- Pylorus- right below umbilicus

CMRT

- Hold L Upper Trap OR
- Epigastric oval area of rigidity + manipulate:
 - Most tender area between xiphoid and umbilicus
 - L thumb-index web

Manual Muscle Test

- Can muscle maintain an isometric contraction against gradually increasing pressure by the examiner?
- Functional neurological test
- Changes in muscle test in response to
 - Therapy localization (patient touching body)
 - Challenge (applying pressure or other stimulus)
 - A stimulus such as pressure on a joint or viscus, tasting or smelling a substance, change of posture, etc which can produce a change in neuro-muscular function:
 - Visceral challenge- press on an organ
 - Correct in direction which produces greatest strength in a muscle test

Visceral Challenge: Hiatal Hernia

- Strong muscle
 - ★○ Challenge up; Muscle goes weak
 - Challenge down muscle stays strong -Treat this direction
- Weak muscles
 - Challenge up; Muscles stays weak
 - ★○ Challenge down; muscle goes strong- treat this direction
- Test PMC
 - Press up - S to W
 - Pull down - W to S
 - Either one = Treat
 - No Change = Don't Treat

- Treatment
 - Pull Stomach Down on Expiration
 - Balance Diaphragm: (uneven thoracic excursion)
 - Release tight Psoas
 - (uneven toe-in) because psoas is an internal rotator
 - Correct any fixation at TL Junction
 - Correct any subluxation at C3 area (phrenic n.)
 - Toe- in and thoracic extension should be resolved
 - Flow chart
 - Hiatal Hernia
 - Challenge- Gentle upward pressure on stomach area weakens PMC.
Downward strengthens weak PMC
 - Pull stomach down on expiration
 - CMRT release tender areas of diaphragm L or R
 - NLs for Stomach
 - Diaphragm Release: 1 side of chest less motion on breathing
 - Release ipsi-hyper psoas
 - NL on sternum
 - Adj. lower thoracic and mid cervical

Stomach Nutrition

- Stomach Digestants
 - Vegetable-based Enzymes- sometimes good to start with, less sensitive to pH. Very well tolerated generally
 - Mixed digestive enzymes- HCl, pepsin, pancreatic enzymes, etc. More powerful, more pH sensitive
- Stomach Hypoacid Nutrition
 - Trial doses- HCl relieves, mild alkalizer worsens pain
 - HCl, Betaine HCl, Pepsin, etc
 - Zinc- necessary for carbonic anhydrase and HCl production
- Calcium Absorption and Achlorhydria
 - Normals fasting:
 - Carbonate 22.5%
 - Citrate 24.3%
 - Achlorhydrics fasting:
 - Carbonate 4.7%
 - Citrate 45.3%
 - Achlorhydrics with meals
 - Carbonate 21.2%
 - *Citrate is absorbed better*
 - *Carbonate is absorbed better with meals*
- Hyper Acid/Ulcers Nutrition
 - Mild alkalizer relieves pain, acid worsens
 - Raw duodenum
 - Chlorophyll
 - Bismuth/deglycyrrhizinated licorice (h. pylori)
 - Bismuth turns stool greenish/black
- Gastritis nutrition
 - Acidophilus (or probiotics of some sort)- especially in infective gastritis
 - Raw Duodenum
 - Chlorophyll- also for morning sickness
- Upper Digestion- other nutrition
 - Parotid- chewing and early digestion- if food moves through gut really rapidly, parotid glandulars helpful

Calcium Citrate seems to be the best way to be absorbed- when in doubt give with food

Diet and Lifestyle

- Avoid stomach irritants- caffeine, alcohol, spicy, sometimes acid fruits, veggies, colas, carbonated beverages, tobacco
- Hyper acid may benefit from milk
 - Avoid milk and heavy alkalis or can get stones from calcium precipitation. "Milk-alkalai syndrome"
 - Avoid if allergic to milk
- Avoid known food sensitivities
- Regular schedule, regular sleep and meals. Let the sympathetics calm down
- Melatonin for the treatment of gastroesophageal reflux disease

Terms

- Chol- "bile"
- Angio- "vessel"
- Cholangio- "biliary ducts"
- Docho- "receptacle"
- Choledocho- = common bile duct
- Litho- "stone"
- Cholelithiasis - gallstones
- Choledocholithiasis = stones in duct

Expulsion of Bile (from the GallBladder)

- Bile is secreted continuously by the liver
- It is stored and concentrated in the gallbladder
- Periodically (e.g. during a meal) it is discharged into the duodenum
- Nervous and humoral factors influence

Common Problems with the Gallbladder

- Thick bile, sluggish emptying
- Gallstones
- Infection
- Cancer

Gallstones

- Very often are silent
- 50% are asymptomatic and are incidentally found at autopsy or in the course of Xray studies
- 30% colic symptomatic biliary
 - Right upper quadrant pain, get nausea, feel really bad
 - Of these, 50% have surgery in 5 years
- 15% have minor symptoms
 - Dyspepsia, fat intolerance
 - Of these <25% surgery in 10 years
- 5% are found incidentally in surgery
- 15% of patients with stones get stone in duct
- Of those 75% get biliary colic or cholangitis
- 2% with long-standing stones get GB Carcinoma

Symptoms of Gallbladder

- Dyspepsia, vague upper abdominal complaints
- Intolerance of fatty foods or gas-forming foods-cabbage, beans, onions
- Bloating after meals, belching, heartburn
 - More "ick" feeling to the right- stomach problems are usually more painful
- Acute biliary pain- RUQ, radiates to Right shoulder, subscapular area, back with anorexia, nausea, vomiting

Diagnostic Tests

- Stones may show on plain films
- GB Xrays- Gallbladder series- may include contrast studies of GB emptying
- Ultrasound, CT/MRI
- Serum GGTP elevated in biliary stasis or obstruction

Autonomics

- Parasympathetic- Vagus- makes gallbladder contract
- Sympathetic- T5-T9 (Netter says T7-T10)

Muscle: Popliteus

Want to see tibial tuberosity rotate
 Patient prone, flex knee, Internally rotated foot and dorsiflexed
 Flat hand on medial border of the foot to stabilize

Neurolymphatics

Posterior: T5-T6 Right
 Anterior: 5th intercostal Right

Referred Pain

- Right shoulder
- Right upper quadrant
- Right thumb index
- Low back-sometimes mimics sciatica
- Back of the knee sometimes hurts (popliteus muscle)
- Pain at the front of the heel

★ *A lot of estrogen tends to lead to gallstones
 Inhibits formation of bile acids*

Neurovasculars

- Edge of rib cage on right
- Ampulla of Vater- do this pump before the gallbladder pump - underneath rib spot down two inches
- Back of knees

CMRT

Rub right thumb-index web and Ampulla of Vater
Rub Right foot reflex on sole, in front of heel
+ Steady pressure over Ampulla of Vater point
Relaxing the autonomic to change the reflex pattern

GB pump

1. Flat hand on lower Right ribs, fingers point medial
2. Pump posterior and caudal
3. Other hand-up under ribs then pull down along length of duct. Up, under, down
4. Hold right upper traps under costal arch at the level of the 6th rib for relaxation

Contraindicated in Gall stones

CO₂ Technique

- Steady pressure T5 on R
- Steady pressure T10 Right and Left
- Steady pressure L2 Right and Left
- Repeat 4-5 times
- Sedation of sympathetics to have gallbladder calm down

Acute GB colic

- Add- NLs A and P
- Pressure T6-T7 R and L

Nutrition/Lifestyle

5. Increase veggies and fruits and water soluble fibers- supplemental fiber may be useful like flax seed, oat bran, guar gum, pectin, etc
6. Nuts- shown to reduce risk of gallstones in men
7. Increase water (thins bile)
8. Reduce fat, fried
9. No coffee, CHOH, spices
10. Avoid food allergens
11. Eat slowly, relax after meals, lie down after lunch and dinner for 20 minutes

Supplements

- Lipotropics
 - Substances that hasten the removal of fat from the liver or reduce fat deposition in liver
 - Choline
 - Methionine
 - Betaine
 - Folic Acid
 - B12 bile
- Cholagogues- stimulate GB contraction
- Cholaretics- stimulate bile secretion, may increase solubility of bile
 - Artichoke leaves
 - Berberine
 - Turmeric
 - Methionine/S.A.M. protects against estrogen-induced cholestasis
- Cholagogue- Dandelion root (also cholaretic)
- Lecithin- thins bile, increases solubility of cholesterol, won't dissolve stones on own
- Beet leaf- source of betaine, lipotropic
- Liver glandulars
- Pancreatic glandulars or combined pancreatic and bile salts-help fat digestion
- Bile salts can give sfx in large doses and over time may be hepatotoxic
- Vit C- antioxidant
- Vit E- antioxidant

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Gallbladder Flush- NOT recommended

- Often used in circles to removed gallstones- don't do it
- Prior fast, sometimes with apple juice, apples or malic acid. Thought to soften stones
- Drink 2/3 cup of olive oil
- Stones may pass in stool
- Contraindicated in gallstones!!
- Danger of stone getting lodged in duct
- Conditionally ok only if you KNOW there are no stones

GB Cleanse Diet- 3 weeks MAY reduce stones

- Avoid heavy meats, dairy, eggs, high fat foods
- Eat mainly whole grains, beans, vegetables, fruits

- Increase pears, parsnips, seaweed, lemons, limes, turmeric
- Eat 1 or 2 radishes/day between meals
- 5 tsp of flax oil per day, over food
- Chamomile tea or cleavers tea (Galium aparine)

T3 Respiratory - Ears and Sinuses

Common Problems

- Infection
- Allergy
- Sinus polyps
- Serous otitis media (glue ear)
 - Glue ear is not infected but is thick mucus that doesn't drain well and may cause problems with hearing
- Symptoms
 - Sinuses
 - Facial pain, cheeks, eyebrows, upper teeth
 - Suboccipital pain
 - Ears
 - Ear pain
 - Hearing loss
 - Ear congestion
 - Ear drainage
- Diagnostic Tests
 - Otoloscopic Exam
 - Look in throat
 - Transilluminate sinuses
 - Imaging- Xrays or MRI
 - Mobility of ear drum

Sinuses, Ears: Neurolymphatics

- Sinus:
 - Post: C2 lamina
 - Ant: 1st intercostal
 - 3.5" lat to sternum
- Ears:
 - Post: C1
 - Ant: Upper humerus

Sinus Drainage Massage

Repeat each step 3-5 times. Do whole series one of more times a day

1. Press inward on cheek bones
2. Press inward on medial eyebrow
3. Press inward on forehead
4. Stroke out to the sides of forehead
5. Stroke down in front of the ears
6. Stroke down in front and behind neck muscles
7. Rotary massage under collarbones from shoulder to middle
8. Rotary massage between ribs beside the sternum
9. Rotary massage along lower rib margins

Galbreath Technique- Otitis Media

- Slowly pump jaw down and away from affected area

T3 Lung

Common Problems

- Infection- bronchitis, pneumonia, pleurish
- Allergy/Asthma
- COPD/Emphysema
- Pneumothorax

Autonomics

- Nasal Cavity
 - Parasympathetic- CN VII
 - Sympathetic- T1-T2 via Sup. Cervical Ganglion
 - Sensory CN V

Muscles

- Sinuses: SCM
 - Neck flexor and rotator
- Eyes and ears: Upper Trapezius
 - Slight head rotation to right

Neurovasculars

Sinuses- right in front of angle of jaw
Ears-temple

CMRT

1. Strip Cervical Chains
 - a. Under jaw to SCM, Down front and back of SCM, Back along clavicle
 - b. Lift clavicle gently anterior and inferior
2. Mobilize anterior cervical soft tissues, Hyoid side to side
3. Front sinus Technique
 - a. Stand behind seated patient
 - i. Thumbs on C2 RL, fingers ant to C1, 2, 3 TPs
 - ii. Squeeze gently- Hold 20-30 sc
 - b. Palm on occiput
 - i. Other hand- 2 fingers over frontal sinus, flex cervicals and traction the occiput post and superior
 - c. Maxillary sinus technique
 - i. One hand on occiput
 - ii. Index and middle finger...

Referred Pain

- Intercostal space along anterior ribs
- Cap of the shoulder
- Interscapular area
- Base of the occiput
- Aggravated by activity, relieved by rest

Common Symptoms

- Shortness of breath, dyspnea
- Wheezing, asthma
- Cough
- Chest pain

Autonomics

- Parasympathetic- Vagus
 - Cause Bronchoconstriction and increase mucus secretion
- Sympathetic- T1-T5- some to bronchi via Inferior Cervical Ganglion
 - Cause Bronchodilation and Vasoconstriction

Lung Neurolymphatics

- Posterior: T3-T4
- Anterior: 3rd intercostal

Neurovasculars

- Bronchial cough- just below manubrial notch
- At top of skull on bregma

CMRT

- Psoas release
- Free shoulder restrictions
 - Sternal roll under T/S, supine
 - Hand flat over upper ribs, finger lat. Anchor irbs
 - Other hand stretches humeral head and shoulder to posterior
 - 4X each side
- Free up clavicles
- Relax intercostal muscles
 - Massage medial to lateral
- For Asthma/Bronchitis
 - CO₂ Technique first (T5 R, T10 RL, L2 RL)
 - Asthma attack
 - Press near sternum between ribs 4 and 4 30-60 seconds
 - Press between TPs T3-T4 30-60 sec
 - Adrenal NL (2" up and 1" out from belly button)
 - Bronchitis
 - Manipulated nodules between ribs 2nd and 3rd until they soften
 - Manipulated nodules T2-T3
 - Cough control
 - Mobilize anterior soft tissues
 - Hold TPs of C5 R/L from post until tissues become warm
 - End with holding contact on upper traps

Nutrition/Lifestyle

- Avoid known food and inhalant allergens- especially milk for kids with ear infections
- Supplements
 - Lung Glandulars
 - Vitamin C, or C-A-E-Zinc combo
 - ★◦ Thymus, Spleen glandulars (Infection)
 - Especially for kids with recurring infections
 - Grown up is 6 a day--scale down for age of kid
 - Adrenal glandulars- asthma, bronchoconstriction
 - Echinacea and other herbal supplements
 - Liver support- allergy, toxicity
 - ★◦ Thin mucus- Bile salts (TQ)
 - ★◦ Thick mucus- I₂ (TQ)
 - N-Acetyl cysteine- mucolytic, antioxidant. May help COPD
 - Good for "glue head" and "rubber cement head"

Diagnostic Tests

- Auscultation
- Blood O₂ levels- pulse oximeter
- Vital capacity
- Chest films
- Pulmonary function tests
- Exercise tolerance tests

Muscles

- Serratus Anticus
 - Scapular stabilizer
 - Accessory muscle for breathing
 - Want to see scapula break away from rib cage if this muscle is weak
 - Rhomboids and traps go tight in response which is why interscapular pain is so common
- Middle Deltoid
 - 90/90 and push directly forward

Thoracic Pump

- Stand at head of table and have patient turn their head away
- Both hands on sternum/central chest
- Patient exhales, compress chest, vibrate contact
- Maintain pressure as patient inhales in through mouth
- At end of breath, suddenly release pressure- air rushes in
- Helps get lymphatics working

★ Important People:

Bennett- NV
Chapman- NL
DeJarnette- CMRT
Goodheart- AK

- Magnesium
 - Broncodilator- relaxer
- EFAs- anti-inflammatory
- Acidophilus- break up antibiotic merry-go-round
- Bowel Tolerance Vitamin C- *Robert Cathcart*
 - People who are ill tolerate and use much higher doses of vitamin C than healthy people
 - Optimum clinical results at point just less than that which produces diarrhea, eg. 10-15 g dissolved in 1/2 c. water taken in divided doses through the day
 - Patient titrates the dose per symptoms and tolerance
 - Ex
 - Normal 4-15 g/24 hr. in 4 doses
 - Mil cold 30-60 g/day in 6-10 doses
 - Hay fever, asthma 15-50 g/day in 4-8 doses
 - Influenza 100-150 g/day in 8-20 doses
 - Powdered Vitamin C. Dissolve in water or tolerated juice. Mixed mineral ascorbates good
 - Eg. Start with 500 mg 4-8 times a day, increas by 500 mg/day until diarrhea, back down to just less (proportionately less for child)

T1/T2 Heart

Common Problems

- Coronary Artery Disease
- Ischemia, Coronary artery spasm or MI
- Arrhythmias
- Valves- stenosis or regurgitation
- Blood Pressure- Hyper/Hypo
- Myocardial weakness- Congestive Heart Failure

Common Symptoms

- Chest pain, Angina pectoris
- Increased pulse rate, irregular pulse, palpitations
- Epigastric pain, nausea
- Lower extremity edema, CHG signs
- Cyanosis
- Dyspnea, SOB
- Orthopnea

Cardiac Sympathetics

- Increase heart rate, force of contraction
- Left Sympathetics
 - T1-T5 (T6)
 - ★○ Direct and via all 3 cervical ganglia
 - No effect on rate, BIG effect on **force** of contraction
 - "Sympathetic augmenter fibers"
 - "Inotropic"
- Right Sympathetics
 - T1-T3
 - Direct and via all 3 cervical ganglia
 - Increase heart **rate**
 - "Sympathetic accelerator fibers"
 - "Chornotropic"

Adrenal stress

- Excess epinephrine, norepinephrine
- Sympathomimetic
- Hypercontraction of heart muscle
- Receptor densities down-regulate, control is less fine-tuned
- Gradual results with regular steady treatment and patient management to allow autonomics and receptor densities to re-regulate

CMRT

- Pain point on front of shoulder
- Left Thenar Pad-pulse volume indicator- left anterior

Referred Pain

- Left Thenar Eminence
 - T1- proximal- Coronary aa
 - T2- distal- myocardium

Earlobe Crease- associated with coronary artery disease

Heart Diagnostics

- Auscultation
- Blood Pressure
- Heart Rate
- Chest Film
- EKG
- Echocardiogram
- Advanced testing- Stress tests, Cardiac Catheterization, etc.

Cardiac Parasympathetics

- Slows heart rate, constricts coronary artery
- Left vagus
 - Mainly to AV node
 - Little influence on SA node
 - Can cause heart-black type arrhythmias
- Right vagus
 - To SA node- influence on rate
 - Some control of AV node
 - Most go to GI system
 - ★○ Right to gut

Muscle

- Subscapularis - start in full internal rotation
 - Should be able to hold in full internal rotation
- Shoulder stabilizer
- Test prone- observe for scapular motion
- This is why you can get referred pain to the shoulder

Neurolymphatics

- Posterior: T2-T3
- Anterior: 2nd intercostal

Neurovasculars

- Bregma

- shoulder pain
 - Massage thenar pad gently- rotary, squeezing
 - Patient opens and closes hand in slow rhythm
 - Monitor radial pulse
- L costal arch release- indicator - pain below xiphoid
 - 2 hands, fingers flat, work up under costal arch, massage medially and laterally to release tension and nodulation
- Angina Control
 - Ulnar knife-edge over sternum, moderate pressure
 - T10 costo-vertebral pressure- hold for decrease of pain

T2- Myocardium CMRT

- Psoas release
 - Side of restricted toe-in, reduced diaphragm excursion
 - a. Check C3, don't adjust
 - b. Release psoas
 - c. Adjust T/L fixation
 - d. Recheck mid cervicals
 - e. Adjust as needed
- Left Distal Thenar Pad
 - Circular massage and Ant. L shoulder
- Valvular reflexes
 - Hold anterior L shoulder
 - Light rub over each valve area
- Tachycardia: Clavicle mobilization
 - Oculo Cardiac Reflex- temporary
 - Light pressure on the eye ball temporarily
 - End: L Upper trap and xiphoid
- High Blood Pressure
 - CO₂ Technique
 - RT5, RL T10, RL L2
 - Cranial Work can also help

Supplements

- Vit E- tocotrienols, mixed tocopherols seem best- caution in CHF
- Lecithin - emulsifier that helps pull cholesterol down
- Essential Fatty Acids, especially fish oil, flax oil
- Vit C, C with minerals
- Wheat germ oil concentration/Octacosanol
 - Check calf pressure tolerance
- Lipid problems: lipotropics, fiber, niacin
- ★ High triglycerides: Carnitine (TQ)
 - Helps pull TGs down
- Statins stop body from making Coenzyme Q10- supplement if on cholesterol-lowering meds
- Taurine- helps hold minerals in heart tissue, antioxidant
- Heart glandulars
- Adrenal nutrition, especially if high stress, extra beats
 - Phosphatidyle serine if high cortisol
 - Helps blunt stress response at hypothalamus/pituitary axis

T7 Spleen, Thymus, Lymphatics

- Anatomy
 - Right Lymphatic Duct
 - Thoracic Duct
 - Cysterna Chyli
 - Thymus (sits on top of heart)
 - WBCs mature
 - Spleen
 - Filters old RBCs

★ Venous return is aided by muscular tone

T1-2 Heart- Exercise

- Exercise with a *heart monitor*!!!!
- Proper training heart rate = 180 minus age
 - Minus 5-10 beats if has been ill or has serious health condition
- Build up to training heart rate for 10 min, maintain it for 10 min, cool down for 10 min
- Build an aerobic base- several weeks to months of only aerobic exercise
- Then add some anaerobic, muscle-building/resistance exercise

Appropriate Diet

- Syndrome X diet best for most; low carbs, (thyroid or pituitary body type)
 - Lots of fresh veggies, low caffeine
 - Moderate, good quality fat
 - Moderate protein
- For adrenal or gonadal body types, Vegetarian
 - (see Dean Ornish: www.pMRI.org)
- Salt restriction if BP is salt sensitive
- Balance of rest and activity
- Constructive approach to stresses of life

- Can be ruptured and can cause bleeding out
- Spleen's can be swollen from mono for example

Common Problems

- Infection
- Lymphedema
- Spleen rupture- trauma
- Auto-immune problems
 - Body is fighting itself and there is an imbalance in the different type of T cells
- Blood pathologies alterations in WBCs, RBCs, platelets

Symptoms

- Lymph node swelling, hypertrophy
- Edema
- Fatigue, irritability
- Non-specific aches and pains; groin, axilla
- Memory problems
- Balance problems
- Feels worse in the morning
- Malabsorption (gut --> liver is lymphatic)

Muscles

- Spleen
 - Middle Trapezius- horizontal fibers
 - Arm in External rotation- thumb turned back
 - Stabilize other side of the shoulder- patient face down
 - Scapula will move away from spine if weak
 - Lower Trapezius- vertical fibers
 - Thumb turned back- 45 degrees past horizontal
 - Stabilize opp shoulder or hip
- Thymus
 - Infraspinatus
 - Start in full external rotation - 90 degrees
 - Stabilizes shoulder and try to push into external rotation
 - Opposite of subscapularis test

CMRT

- Spleen Pump
 - Right hand broad contact over left lower rib cage
 - Left hand over abdomen, fingers pointing toward stomach
 - Patient inhales, lift ribs with right hand
 - Press in and under spleen toward stomach with left
 - Repeat 3 Xs
 - "Lift and sweep"- gets circulation in
 - Don't do if swollen, has CA, ruptured

Retrograde Lymphatic Test

- Muscle weakens with feet higher than head- recline to 20 degrees
- Muscle strengthens with both arms over head
 - Opens up area where drainage should go
- Helps edema, lymphatic drainage
- Balance the biomechanics of the shoulder is the goal
- Usually pec minor is the problem
 - Mechanically not reflexively connected to the lymphatics
- Look at balance between traps and pecs

Nutrition/Lifestyle

- Encourage exercise and more active lifestyle if lymphatic congestion
- Upper ribcage mobility to enhance lymphatic drainage
- Spleen glandulars
- Thymus glandulars
- A, C, Zn formulas- often include glandulars, B's, Arginine, Selenium, bioflavonoids
- Echinacea based herbal formulas for immune support

Referred Pain

- Below the umbilicus
- T7

Diagnostics

- CBC with differential
- Palpation of lymph nodes and spleen
- Inspection of possible infection sites: throat, ears, skin, etc
- Lab tests for specific infections
- Labs for autoimmune diseases
- Advanced imaging of areas of concern

Autonomics

- Spleen
 - Parasympathetics: Vagus
 - Lets capsule relax and let spleen store blood
 - Sympathetics: T6-T7
 - Constrict and Dumps blood out in system
 - Ultimately will shut down immunity
- Thymus
 - Parasympathetics: Vagus
 - Sympathetics: T1-T4

🌟 Note on chart the addition of Acupressure points

Neurolymphatics

- Spleen
 - Posterior: T7/T8 especially Left
 - Anterior: 7th intercostal, especially Left
- Thymus
 - Posterior: T12 lamina
 - Anterior:
 - Walther: 5th R intercostal
 - Schmitt: 6-7 intercostal space RL

Neurovasculars

- Spleen- lambda suture
- Thymus- sternal angle

2/20/09

- An Lozenges for colds
- Adrenal or adrenal/thymus/spleen glandulars
- Spleen glandulars
- Hematinics: blood builders- Iron, Cu, folic acid, B12, Zn- often with raw liver, stomach substance (for intrinsic factor)
- Herbs
 - Echinacea
 - Elderberry (sambucus nigra)
 - Garlic (Allium Sativa)
 - Ginseng (Panax quinquefolium)
 - Kan Jang (Eleutherococcus senticosus + Andrographis)
 - Larch arabinogalactans (Larix occidentalis)
 - Olive leaf extract (Olea europaea)
 - Astragalus
 - Baptisia
 - Isatis

2/24/09

See ppt midterm review

Extra Notes

- Oculo-cardiac reflex is viscero-visceral NOT somato-visceral
- *Head* is responsible for research done on segmental distribution of referred pain
- *Sato* is responsible for neurophysiology experiments on animals to demonstrate viscero-somatic and somato=visceral effects
- Know traditional associated level of simplified Meric chart but more importantly know autonomic innervations when determining where to adjust
- Right sympathetics and right vagus have more control over rate
- Left sympathetics and left vagus have more control over the force of the contraction
- Know contraindications for visceral manipulation
 - Gallbladder pump
 - Stones, cancer, ulcer, flaming infection of liver/gallbladder
 - Spleen pump
 - Cancer, splenomegaly, trauma and you're not sure if spleen is ruptured
 - Lymphatic pump
 - Trauma to the ribs, osteoporosis, Mets
- Psoas muscle serves as a shelf for the viscera
- Nutrition
 - Vegetable based enzymes are used for bad gut people
 - Chlorophyll used for morning sickness and low dose Mg in kids
 - There is no real effective way to dissolve a gallstone
 - Lecithin can help thin bile but it's not enough to dissolve a gallstone
 - Liver, pancreas and adrenals are the most important organs in sugar metabolism
 - Know the types of diets for Type I and Type II Diabetes
 - Know nutritional supplementation for mucus that's too thick and mucus that's too thin
 - Caution the amount of Vit E with CHF
 - Wheat germ oil helps with circulation
 - Need proper mineral balance for Mg, Ca, Na, and K to allow proper contractile tissue
 - Patients on statins MUST supplement with CoQ10
- Know the hand referred areas of pain
 - Right Thenar Eminence = Pancreas
 - Right Thumb Web = Gallbladder
 - Left Thenar Eminence = Heart
 - Left Thumb Web = Stomach