WELCOME TO KCUMB-COM ACOP
WELCOME TO THE CITY OF FOUNTAINS!
Osteopathic Approach to the Pediatric Patient
Objectives

At the end of the workshop the attendee will be able to:

- Discuss the musculoskeletal aspect of disease relative to respiratory disease (upper and lower) and common infant issues.
- Demonstrate and explain the rationale & techniques for OCMM in the infant.
- Demonstrate and explain the rationale and techniques for the child with chronic/recurrent Otitis media.
Objectives

- At the end of the workshop the attendee will be able to:
  - Demonstrate and explain the rationale and techniques for the child with lower respiratory disease such as asthma or pneumonia
Introduction

- Pediatric patients offer the D.O. the opportunity to examine and begin a program for a patient that is usually healthy.
- Observe for a somatic dysfunction that can affect healthy growth and development.
- Infants and children have different anatomical and functional characteristics unique to the pediatric patient.
  - Diagnosis and manipulative treatment must be modified.
History Reminder

- Pregnancy
  - Complications
  - Maternal drug and alcohol use

- Birth
  - Labor
  - Birth trauma – shoulder dystocia, forceps, vacuum, breech
  - Vulnerability to dysfunction
Manipulative Treatment

- **Infants and pre-school children** only require articular mobilization and soft tissue treatment.
- **School-age children** may require modified adult treatment procedure.
- HVLA is rarely necessary and because epiphyseal plates are still open, may not be the best choice for treatment modality.
Manipulative Treatment

- Cervical treatment in a child below 6 years old probably would not necessitate any thrusting techniques.
- Children with Down’s Syndrome or Rheumatoid Arthritis should not receive HVLA to the cervical spine because the odontoid ligament is susceptible to rupture.
- Myofascial, BLT, FPR, ME, Still’s and CS are all useful and may be modified depending on the ability of the patient to participate.
Manipulative Treatment

- Clinically observed that infants and children respond rapidly to OMT
- Soreness to treatment is rare
- Treatment is usually not difficult because they rarely have fibrosis or chronic fixations -- do not over treat
- Keep the treatment simple and make it fun
Manipulative Treatment

- Fryette’s motion characteristics do NOT apply to the infant
  - Segmental motion is not appreciated until six months of age
  - Spinal motion patterns are nonspecific and restricted motion is usually due to local muscle contraction or fascial pull rather than to bony/joint somatic dysfunction
Figure 25-15. Articulation between the occiput and the temporal bone, superior aspect.
OCMM (Cranial) considerations

- SBS strain patterns begin with birth “trauma” and can be persistent
- The infants first breaths, crying, kicking, and suckling all help to decompress the cranium
  - If these are not strong then patterns of dysfunction may persist
- Cranial dysfunctions are best treated in the first couple days of life
OCMM (Cranial) considerations

- **Temporal Bones**
  - Internal rotation associated with increased incidence of otitis media
  - Impairment of middle ear drainage due to eustachian tube blockage
OCMM (Cranial) considerations

- **Occiput**
  - Most common site of cranial dysfunction*
    - Condylar Compression Somatic Dysfunction
- **Nerve Entrapments**
  - Jugular Foramen
    - CN 9 – poor sucking
    - CN 10 – excessive vomiting
    - CN 11 – colic
  - Hypoglossal foramen
    - CN 12 – poor sucking
OCMM (Cranial) considerations

- **Condylar Decompression**
  - Similar to suboccipital release
    - One hand/two handed technique depending on size of infant

- **Balanced Membranous Tension Technique**
  - Treatment for internal rotation of temporal bone – indirect technique
Newborn Issues

- **Diagnoses**
  - Cranial nerve entrapments
    - Poor suckling
    - Poor swallowing/emesis
    - Excessive molding of the head
  - Suture overlap

- **OMM Techniques**
  - V-spread Techniques
  - Condylar Release Technique
Condylar Release
V-Spread
OCMM and ENT issues

- **Diagnoses examples**
  - Recurrent and Chronic OM, sinusitis, URI, congestion

- **Cranial Techniques**
  - Rocking the temporal bones
  - Release of Petrous Portion of the temporal (aka – Eustachian tube twist)
Rocking the Temporals
Petrosus Portion of Temporal bone Release
ENT issues

- Lymphatic techniques
  - Galbreath’s
  - Sinus Drainage
  - Cervical Stroking
  - Ear Pull Technique
Galbreath Technique

- Patient supine
- Stabilize fronto-parietal region with cephalad hand
- Caudad hand is below zygomatic arch and over TMJ
- Gentle traction towards chin
- Opens eustacian tube
Sinus Drainage Techniques
Cervical Stroking - lymphatic

- Patient supine
- Use thumb to “milk” lymphatic fluid along anterior cervical lymphatic chain.
Cervical Stroking - Posterior

- Stretching method for pavavertebral muscles
- Slowly “stroke” muscles in cephalic direction giving a good stretch
Ear Pull Technique

- Mobilize the underlying fascia in acute otitis media.
- Patient supine.
- Bilateral gentle traction until symmetry or lessening of restriction.
Pulmonary Considerations

- Lymphatic treatments can be used to reduce sympathetic nervous system hyperactivity and move fluids.

- Diagnostic considerations:
  - RSV
  - Asthma
  - Pneumonia
Rib Raising

- Infant or small child
  - Encircle rib cage with both hands, placing finger pads bilaterally on the posterior-inferior rib angles
  - Apply lateral and cephalic traction
  - Remember, ribs are more horizontal than in an adult
  - Rib raising can be done 1-2 times/day for mild illness, and more often if indicated
Rib Raising

- Patient seated towards parent
- DO seated behind patient, thumbs at rib angles bilaterally, moving lateral and cephalic from inferior to superior.
Ribs – Still’s Techniques

- Patient Seated
- Physician standing behind patient
- Monitor with the thumb on the angle of the rib and the fingers draped over the shoulder with the index finger on the anterior portion of the rib
Ribs – Still’s Techniques

- With the other hand the physician grasps the patient’s elbow on the involved side
  - Using the arm as a lever, compress through the humerus until motion is felt with the monitoring hand
  - Adduct the arm, again until motion is felt at the monitoring hand
  - Follow motion by bringing the glenohumeral joint into an arc of motion similar to an overhand throw
Ribs – Still’s Techniques

- Usually a palpable motion is felt at the contact point of the monitoring hand
- Recheck the rib by springing on the angle and also pressing inferiorly on the anterior portion
Ribs BLT

- Patient supine
- Contact rib(s) posterior with one hand and the other hand on the anterior aspect
- Move the rib(s) anterior and posterior noting freedom of motion and maintain that position
- Now move rib(s) in the sagittal plane by moving the posterior hand cephalad and the anterior hand caudad then in the opposite direction. Note the freedom of motion, maintaining that position
- Now move the rib(s) in the transverse plane by moving the posterior hand laterally and the anterior hand medially then in the opposite direction noting the freedom of motion and maintaining that position
- Now allow the patient to breath for a few deep respiratory cycles
- Feel for improved respiratory motion of the rib/ribs and then release and reassess
Diagnosis of Diaphragm Fascia
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FIGURE 68.8. Diagnosis of thoracoabdominal restriction.
Diagnosis of Diaphragm Fascia

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FIGURE 68.8. Diagnosis of thoracoabdominal restriction.
Pedal Pump

OMT INTEGRATION FOR ASTHMA

A review of a clinical trial & clinical OMT approach
Asthma

- OMT to thoracic cage structure and function
  - Increase vital capacity
  - Rib cage mobility – better pressure gradients in cage
  - Improve diaphragm function
  - Enhance clearance of mucus
  - Enhancement of immune factors (as demonstrated in prior slides)
Asthma

• Self sustaining cycle of viscerosomatic/somatovisceral reflexes well noted in literature
  - Pharmacologic treatment not covering these MS component of the disease process.
  - OMT has noted ranges of 25% - 70% improvement in peak expiratory rates (PEFs) and decrease of inappropriate reflexes
Asthma

- Effects of Osteopathic Manipulative Treatment on Pediatric Patients With Asthma: A Randomized Controlled Trial
  - Sham group - touch
  - Treatment group
    - Rib raising, ME ribs, MFR
  - Results (clinical significance set at 95% certainty)
    - OMT group: PEFs 7L to 19L per min., Mean improvement 13L per min (95% CI 7.3-18.7). Control 0.3 (95% CI -9.8-10.4)
    - Mean increase in treatment group of 4.8% (95% CI 2.7-6.9) and 1.4% (95% CI -1.8-4.5) in control group
Asthma

- Effects of Osteopathic Manipulative Treatment on Pediatric Patients With Asthma: A Randomized Controlled Trial

Conclusions:
- Showed significant improvement if pulmonary function in their pediatric population
- Goal of OMT is maximization of physiologic motion of the MS system
  - Thoracic cage, cervical, sacral at minimum
Asthma

- **Parasympathetics**
  - Increased tone – increased volume of secretions and relative bronchiole constriction
  - Vagus nerve
    - OA, AA, C2 (TART findings)
    - Compression of occipitomastoid suture as well as OA joint

- **Sympathetics**
  - Increased tone – decreased secretions and bronchiole dilation
  - T2-7 TART findings
Asthma

- **Motor**
  - C3-5 (phrenic nerve to diaphragm; dysfunction as a result of decreased excursion and overuse) TART findings

- **Other somatic dysfunctions associated**
  - Cranial extension dysfunction
  - Scalenes – tender points and hypertonicity
  - SCM – tender points and hypertonicity
  - Inhalation or exhalation rib dysfunctions
  - Flattened diaphragm
  - Thoracolumbar dysfunction (diaphragm attachment)
Asthma

- **2-Minute**
  - Thoracic seated ME 739.2
  - Still’s Ribs 739.8
Asthma

5-Minute

- Upper Extremity – Pectoralis minor (CS, MFR, Pectoral traction) 739.7
- Thoracic – ME/MFR/ST 739.2
Asthma

Extended

- Head – decreased CRI: CV4 739.0
- Head – vagus: OA release 739.0
- Cervical – C2, 3-5: MFR, FPR, Lymphatics 739.1
- Cervical (scalenes) – CS, ME, MFR 739.1
- Thoracic – MFR 739.2
- Rib dysfunction – ME/Stills 739.8
- Rib raising 739.8
- Abdomen (diaphragm) – Doming technique, thoracolumbar junction ME, MFR, 739.9 739.3
Summary

- Since many adult disease processes may begin in childhood, treatment today may have an impact on the health of these individuals years from now.
Thanks for Attending