Osteopathic Manipulation in Acute Care Medicine

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No Disclosures

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Objectives

- Review the difficulties and benefits of treating in the hospital
- Discuss the Body as a Unit
- Explore the Structure and Function relationship for common hospital problems
- Practice simple and effective techniques to address the common hospital problems.
Difficulties of Treating in the hospital

- Patients are not very mobile.
- The best position to treat is typically supine.
- Medical equipment ALWAYS gets in the way.
- Time is always limited.
- Most treatments should be limited to indirect due to the distress the patients’ system is undergoing.
Benefits of treating in the hospital

- The patient is held hostage…

- Staff are very curious and education for both staff and patient can be done during treatment

- Patients are very appreciative (most of the time)

- Many times you can see a change quickly
What can be treated in the hospital???

EVERTHING
Autonomics

➢ A good indicator of Autonomic activity is Heart Rate Variability
   ➢ Good HRV = increased parasympathetic tone
   ➢ Decreased HRV = Increased sympathetic tone

➢ Decreased HRV linked to increased morbidity and mortality in most disease processes

➢ OMM helps to increase HRV (Guevarra, JAOA 2016)
67 yo man with a history of COPD and Non Small Cell Lung Cancer was found to have a resectable lesion in the RUL. Osteopathic team was consulted to assist with post surgical complications. Post RUL resection, Patient was requiring 2L oxygen. He had significant pain in the posterior right thorax.

Exam Post surgically
- Swelling in right shoulder and neck
- Decreased expansion of thorax on inhalation
- Right lung sounds diminished, Left lung sounds normal
- Right posterior thorax surgical site clean and dressed
- NSR
- Abdomen benign
Osteopathic findings

- OA compressed, decreased motion bilaterally
- C7-T5 Rr Sl
- Thoracic inlet rotated right with boggy feeling to tissues in supraclavicular area
- Upper and mid sternum tender to palpation
- Rib 11-12 exhaled
Cardiovascular studies

- OMM post CABG→ (O-Yurvati, JAOA 2005)
  - increased peripheral blood flow and decreased resistance

- OMM for Diastolic Heart Failure→ (McCombs, JAOA 2008)
  - Balance autonomics
  - Increased lymphatics (Knott, JAOA 2005)

- OMM for Hypertension→ (Cerritelli, J Bodyw Mov Ther. 2011)
  - Decreased intima media thickness
  - Decreased Systolic Blood pressure
“All channels to and from the heart must be cleared from all hinderance. No nerve can do its part unless it be well nourished. If not it will fail to execute its part for want of power—for by it all blood must move.”

AT Still in Philosophy of Osteopathy
Heart In Relation to the Diaphragm

http://www.rci.rutgers.edu/~uzwiak/AnatPhys/Cardiovascular_System_files/image002.jpg
Lymphatics

Cisterna Chyli: Aquaduct for the lymph below the diaphragm
→ Feeds into the left thoracic duct

Left Thoracic duct: drains head, left chest and arm and lower body

Right Thoracic duct: drains right chest and arm
Pulmonary Studies

➢ OMM and COPD ➔ (Zanotti, Compl Ther Med 2012)
   ➢ Improved 6 min walk test
   ➢ Decreased RV

➢ OMM and Pneumonia ➔ (Noll, 2016)
   ➢ Decreased LOS of 1 day over light touch
   ➢ Mortality decreased by 8% over light touch
Connect the Dots

Every Muscle in the Abdomen and Thorax connect directly with the Diaphragm
"Your breathing test results would be normal ... if you were 3'8" and 150 years old."
Respiratory Dynamics
Osteopathic Treatment

- OA release
- Thoracic Inlet
- Rib raising
- Stills technique to C7-T5
- Diaphragm release
- Rib 11-12 distraction
Outcome

A few hours after OMM treatment, pt developed a common lobe resection complication with an increased need of oxygen to 9L and Chest xray showing a Large pleural effusion of right thorax. Thoracentesis planned for AM.

Less than 8 hours later, the patient was back to 2L oxygen. Chest xray was checked again and fluid seen in xray previously was now a small effusion and not worth doing a thoracentesis.
Rib raising for COPD

https://www.researchgate.net/figure/262418087_fig10_Figure-10-This-figure-demonstrates-the-positional-set-up-for-Rib-Raising-Technique
Rib raising and Pneumonia

The physician places the finger tip pads on the rib heads and applies an anterior (toward the ceiling), lateral, and cephalad force until a release of myofascial tension is felt.

I DON'T ALWAYS USE RIB RAISING

JK I ALWAYS USE RIB RAISING
Ileus Case Study

- 45 yo female patient
  - History of Dysmenorrhea and Hypertension
  - Laproscopic Hysterectomy done 8 days previously.
  - No Bowel Movement post surgically
  - Gynecologic Surgery at wits end and decided to try Osteopathic Manipulative Medicine Team
Case Findings

- Bowel Sounds Diminished, Abdomen mildly tender in all quadrants
- OA Side shifted to right
- T10-12 Restricted Bilaterally
- Left Diaphragm restricted to inhalation
- Left on Left Sacral Torsion
- Inominant Posterior on Right
Gastrointestinal studies

- OMM and Ileus→ (Baltazar, JAOA 2013)
  - Decreased LOS of 4 days for patients receiving OMM

- OMM and IBS→ (Muller, JAOA 2014)
  - Short term improvement with abdominal pain, constipation, diarrhea and general wellbeing.

- OMM and Pancreatitis→ (Radjieski, JAOA 2008)
  - Pilot Study showing 3 days decrease in Length of stay
Anatomy of the Female Body

Lateral View

Anterior View

http://trialexhibitsinc.com/gallery/images/exhibits/small/anatomy-of-the-female-body-0.jpg
Abdominal Plexus

- Celiac Ganglion
  - Approximately 1 inch below xiphoid
  - Distal Esophagus → proximal duodenum

- Superior Mesenteric
  - Approx 1 inch above umbilicus
  - Distal Duodenum → 2/3 of prox colon

- Inferior Mesenteric
  - Approx 1 inch below umbilicus
  - Distal Colon → Rectum

https://www.memorangapp.com/flashcards/86964/ANS-Abdomen/
Parasympathetic release

- **Vagus Nerve**
  - Extends into the peripheral system at the OA joint
  - PNS for everything in the thorax and abdomen to the proximal 2/3 colon
- **Occipital release**

- **Sacral Splanchnics**
  - Distal Colon, Sigmoid, Rectum
  - Must be treated for constipation and helpful for ileus
Case Treatment

OA Release
T10-12 coupled with diaphragm release
Sacral Rocking
Stills Technique to Inominants
Colonic Lift
Case Outcome

Patient had a bowel movement two hours after treatment, tolerated a clear liquid diet, then discharged home.
HEY FOOL!

LET'S PRACTICE OMT
Balancing the Diaphragm

- Bottom hand cupping spine at diaphragm insertion T10-L2
- Top hand resting over the lower sternum/epigastrum/lower anterior ribs
- “Listen” and feel the natural breathing
- Take into preferred position of ease
- Spinal inhibition can be used but not necessary

https://www.slideshare.net/firozhakkim/the-diaphragm-anatomy-embryology
All roads may lead to Rome but...
All roads start at the...
Ensure the Foundation is level and all will be well.—Andrew Taylor Still, MD
- Cuboid
- Fibularis and tibialis posterior
- IT band and Tensor Fascia Latae
- Inominant
- Quadratus Lumborum
- Latissimus Dorsi
- Diaphragm
- Chest wall and arm
- Scalenes and pretracheal fascia
- Navicular
- Tibialis Anterior
- Adductors
- Pectineus
- Iliacus/Psoas
- Prevertebral fascia
- Occiput

Note that where Psoas converge is that same area of the diaphragmatic Crura
- Calcaneus
- Soleus/Gastrocnemius
- Hamstrings
- Pelvic fascia/levatorAni
- Obturator Internus
- Coccyx
- Presacral fascia
- Anterior Longitudinal Ligament
- Basilar Portion of the Occiput
The human foot is a masterpiece of engineering and a work of art.

Leonardo da Vinci
The Point:

A little bit of fancy footwork can make all the difference!
Balanced Ligamentous Tension for Cuboid

http://uncoaxing23.rssing.com/chan-12809785/all_p2.html
Stills Technique for Navicular

BONES OF THE FOOT

DORSAL VIEW
- Fibula
- Tibia
- Talus
- Calcaneus
- Navicular
- Cuneiforms
- Phalanges

PLANTAR VIEW
- Fibula
- Tibia
- Calcaneus
- Sustentaculum tali
- Navicular
- Cuneiforms
- Metatarsals
- Sesamoids
- Phalanges

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http://uncoaxing23.rssing.com/chan-12809785/all_p2.html
“You only initiate treatment...

...all the corrections are going to take place between now and the next time they come into your office”

Rollin E. Becker
References


- Hughes et al. The Effect of Reflexology on the Autonomic Nervous System in Healthy Adults: A feasibility study


References