

# PROMOTE study protocol



**P**regnancy  
**R**esearch in  
**O**steopathic  
**M**anipulation  
**O**ptimizing  
**T**reatment  
**E**ffects

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# Research on OMT's effects on pregnancy, labor & delivery

- Decreased labor time
- Decreased pain medication use during delivery
- Decreased nausea/vomiting of pregnancy
- Decreased use of forceps
- Decreased incidence of meconium-staining of the amniotic fluid
- Decreased preterm delivery

# Summary- pilot study

- N=144
- Pre-delivery outcomes
  - Substantially favorable findings with respect to functional disability
  - Some trends in favorable findings with respect to VAS pain scores
- Labor and delivery outcomes
  - Some trends in favorable findings at delivery (MSAF)
  - No trends in obstetrical complications (sample size too small to assess relatively rare events)
- **Larger study needed to evaluate rarer clinical outcomes**

# Summary-PROMOTE Study

- N=400
- OMT can acutely improve hemodynamic control during engagement of the skeletal muscle pump and this was most likely due to improvement of structural restrictions to venous return.
- OMT was effective for mitigating pain and functional deterioration compared with UCO; however, OMT did not differ significantly from PUT.
- The OMT protocol given during the third trimester of pregnancy is safe with regard to labor and delivery outcomes.

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- Hensel KL, Buchanan S, Brown SK, et al. Pregnancy Research on Osteopathic Manipulation Optimizing Treatment Effects: the PROMOTE study. *Am J Obstet Gynecol* 2015;212:108.e1-9.
- Hensel KL, Roane BM, Chaphekar AV, Smith-Barbaro P. PROMOTE Study: Safety of Osteopathic Manipulative Treatment During the Third Trimester by Labor and Delivery Outcomes. *J Am Osteopath Assoc* 2016; 116(11):698-703.

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# Placebo Ultrasound Protocol

2 minutes each area

- Sitting
  - R then L Scapular
  - R then L Neck
- R Lateral Recumbent
  - TL Junction
  - Lumbar
  - SI
  - Greater Trochanter
- Supine
  - R then L Inguinal
- L Lateral Recumbent
  - TL Junction
  - Lumbar
  - SI
  - Greater Trochanter

# PROMOTE Study

## OMT Treatment Protocol

- Sitting
  - Forward-leaning articulatory T-spine
- Supine
  - Cervical ST/MFR
  - OA decompression
  - Thoracic Inlet MFR
- Lateral Recumbent (R and L)
  - Scapulothoracic MFR
  - Lumbosacral ST
- Supine
  - Ab diaphragm MFR
  - Pelvis
    - AP pelvic diaphragm MFR
    - SI articulation
    - Frogleg sacral articulation
    - Innominate rotations
    - Pubic decompression
  - CV4 (not covered here)

# Seated Forward-Leaning T-Spine Articulator



# Seated Forward-Leaning T-Spine Articulator

- Physician controlling UE and thorax
  - Choose best position based on body habitus and location of restriction
  - Physician's knee blocks against subject's knee to stabilize subject on the table
- Contact on transverse process or costotransverse junction
- Patient is drawn forward to restrictive barrier
- LVMA springing is applied until release is felt
- Component of sidebending and/or rotation may be added
- Focus may be on rib or segmental motion
- Recheck

# Seated Forward-Leaning T-Spine Articulator



# Seated Forward-Leaning T-Spine Articulator

Alternate Positions



# Cervical Soft Tissue



# Cervical Soft Tissue/MFR

- Contact medial aspect of cervical paraspinal muscles
- Draw anteriorly in a kneading fashion
- Continue until relaxation of tissues
- Recheck



# Cervical Soft Tissue/MFR



# Occipital-Atlantal Decompression



# Occipital-Atlantal Decompression

- Contact is on the occiput as close to the condyles as possible
- Tension is applied towards the subject's orbits
- Traction is created between the fingers by moving the elbows medially
- Respiratory assistance may be used to enhance release
- Position is held until release is felt and motion is improved, at least 20-30 seconds
- Recheck

# Occipital-Atlantal Decompression



# Thoracic Inlet Myofascial Release



# Thoracic Inlet Myofascial Release

- Anterior contact is across SC and 1-2 ribs
- Posterior contact T1-2 and CV junction
- Assess rotation with sidebending and flexion/extension
- Use all three planes to approach barrier (direct) or position of ease (indirect) to a point of balance
- Hold 20-60 seconds until tissue creep indicates a release of tissue tension
- Recheck

# Thoracic Inlet Myofascial Release



# Lateral Recumbent Scapulothoracic Myofascial Release



# Lateral Recumbent Scapulothoracic MFR

- Part one:
- Contact is on the superior and inferior medial angles of the scapula with subject's arm over physician's caudad arm
- The cephalad hand initiates a circular motion into the shoulder, and the scapula is carried laterally in a rhythmical fashion to release muscular attachments
- The caudad hand contacts the rhomboids and paraspinal muscles along the medial border of the scapula
- Fascial restrictions are then assessed in superior/inferior, medial/lateral, and rotatory motions
- Scapula taken either directly or indirectly to balance point and held for 20-60 seconds or until release is palpated
- Recheck

# Lateral Recumbent Scapulothoracic MFR



# Lateral Recumbent Scapulothoracic MFR

- Part two:
- Subject's arm is moved to drape over physician's cephalad arm
- Contact is a broad contact over the superior aspect of the shoulder, with the caudad hand's thenar eminence engaged in the posterior axillary fold
- Tissue texture is assessed
- Compressive force is applied into the axillary and subscapular tissues in a rhythmical fashion until a change in tissue texture is felt
- Recheck

# Lateral Recumbent Scapulothoracic MFR



# Lateral Recumbent Lumbosacral Soft Tissue



# Lateral Recumbent Lumbosacral Soft Tissue

- Physician's arms are braced on subject's axilla and iliac crest
- Contact is medial aspect of lumbar (up to lower thoracic) paraspinal muscles
- Three motions are then applied rhythmically:
  - Physician's arms carry subject's arms and ilia apart to stretch and sidebend lumbar area
  - Physician's arms twist, to push the subject's shoulder posteriorly, and her ilia anteriorly
  - Motion with hands is laterally to 'bowstring' the muscles
- Repeat to softening of muscles throughout the lumbar region
- Recheck

# Lateral Recumbent Lumbosacral Soft Tissue



# Supine Diaphragm Myofascial Release



# Supine Diaphragm MFR

- Contact either
  - With fingers spread over lower ribs laterally
  - AP with hands at subxiphoid and TL junction
- Assess rotation with sidebending and flexion/extension
- Use all three planes to approach barrier (direct) or position of ease (indirect)
- Add respiratory cooperation to assist in release
- Hold 20-60 seconds or until release is felt
- Recheck

# Supine Diaphragm MFR



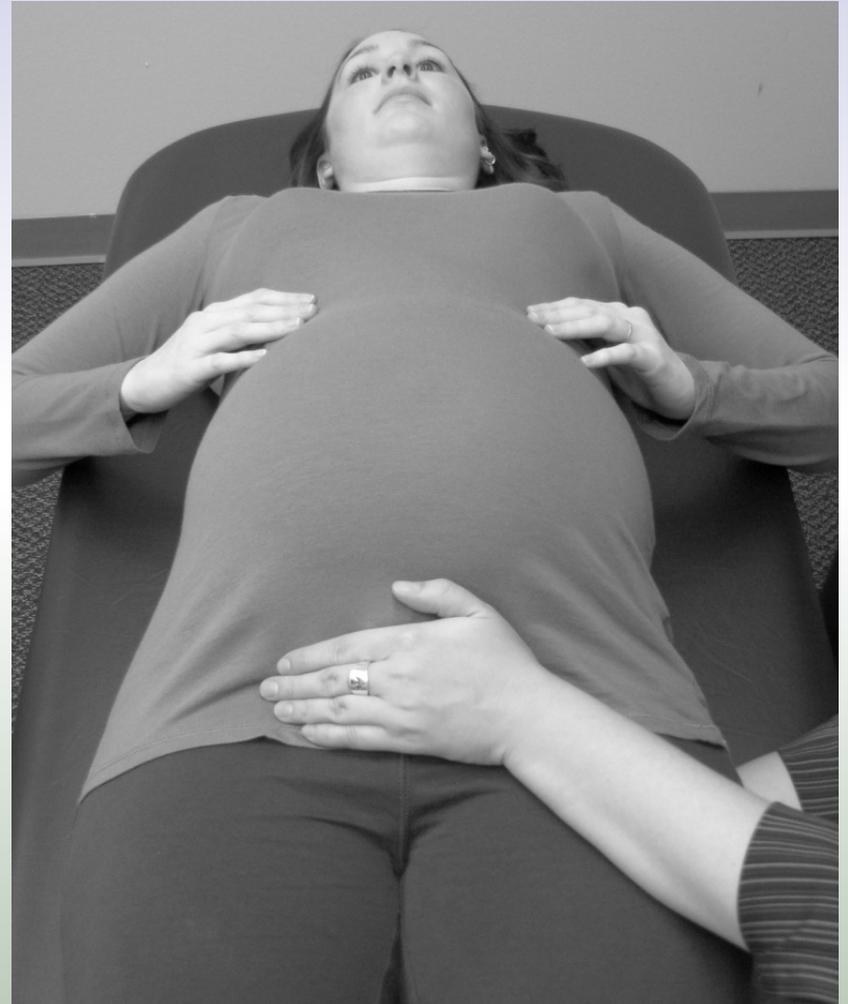
# AP Pelvic Diaphragm MFR



# AP Pelvic Diaphragm MFR

- Posterior contact is low on the sacrum and coccyx with fingers toward contralateral ischial tuberosity
- Anterior contact is across and slightly above the pubic symphysis
- Assess rotation with sidebending and flexion/extension
- Use all three planes to approach barrier (direct) or position of ease (indirect)
- Hold until release is felt
- Recheck

# AP Pelvic Diaphragm MFR



# Sacroiliac Articulation



# SI Articulation

- Use pelvic compression test to assess SI motion
- Contact is on subject's flexed knee and hip with mild compression to engage the femur into the acetabulum
- Hip is externally rotated and circumducted into straightened position, maintaining compression
- Then hip is internally rotated and circumducted into straightened position, maintaining compression
- Repeat technique 4-5 times until motion improves
- Repeated on opposite side
- Recheck

# SI Articulation



# Frogleg Sacral Articulation



# Froleg Sacral Articulation

- Contact is on sacrum with fingers at the base and palm at apex
- Subject's hips and knees are flexed with feet together
- Sacrum is taken to point of ligamentous balance with respiratory assistance
- As subject holds breath in most useful phase, she lets her knees fall to the sides and straightens out legs to rotate innominates
- As subject straightens her legs, inferior traction is applied to the sacrum
- Repeat 3-5 times, until sacral motion is significantly more symmetrical
- Recheck

# Frogleg Sacral Articulation



# Posterior Innominate Muscle Energy



# Posterior Innominate Muscle Energy

- Leg on side of dysfunction is extended off side of table
- Contact is on ipsilateral thigh and contralateral ASIS
- Thigh is extended to restrictive barrier of innominates
- Subject's effort is to pull knee toward ceiling for 3-5 seconds
- After relaxation, innominate is taken to new barrier and forces repeated 3-5 times
- Return to neutral and recheck



# Anterior Innominate Muscle Energy



# Anterior Innominate Muscle Energy

- Leg on side of dysfunction is flexed at knee and hip
- Contact is on ipsilateral PSIS and ischial tuberosity with subject's knee against chest
- Leg is flexed to restrictive barrier of innominates
- Subject's effort is to push knee against physician's chest for 3-5 seconds
- After relaxation, innominate is taken to new barrier and forces repeated 3-5 times
- Return to neutral and recheck



# Pubic Decompression



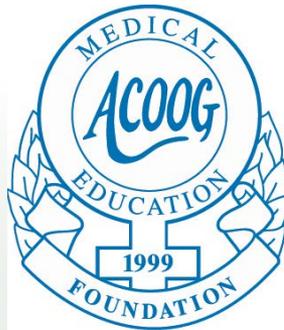
# Pubic Decompression

- Hips and knees flexed with feet together
- Knees are hugged together and subject attempts to pull them apart for 3-5 seconds while physician provides isometric counterforce
- Subject ceases force, and knees are rocked side to side 3 times
- These steps are repeated 2 more times
- Then subject's knees are spread apart to fist-width and subject attempts to pull them together for 3-5 seconds while physician provides counterforce or blocks with fist
- Subject ceases force, and knees are rocked side to side 3 times
- Knees are then spread to two-fist width and steps repeated
- Knees are then spread to forearm width and steps repeated
- Recheck

# Pubic Decompression



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# Protocol video

- [http://jaoa.org/article.aspx?articleid=2578872  
&resultClick=1](http://jaoa.org/article.aspx?articleid=2578872&resultClick=1)
- Pregnancy Research on Osteopathic Manipulation Optimizing Treatment Effects: The PROMOTE Study Protocol. Hensel KL, Carnes MS, Stoll, ST. *JAOA*, November 2016, Vol. 116, 716-724. doi:10.7556/jaoa.2016.142

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