PROMOTE study protocol

Pregnancy Research in Osteopathic Manipulation Optimizing Treatment Effects

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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.

PROMOTE study protocol

Pregnancy Research in Osteopathic Manipulation Optimizing Treatment Effects
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
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

Radjieski 268-270
SI Articulation
Frogleg Sacral Articulation
Frogleg 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

Kimberly p189-190, Nicholas 292-293
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)

References

• Whiting LM. (1911). Can the length of labor be shortened by Osteopathic treatment? JAOA (11), 917-921.

• Guthrie RA (1982). Effect of pressure applied to the upper thoracic vs lumbar areas for inhibition of lumbar myalgia during labor. JAOA 82(4), 247-251.

• Guthrie RA (1980). Lumbar inhibitory pressure for lumbar myalgia during contractions of the gravid uterus at term. JAOA 80(4), 246-266.
References

- Taylor GW. (1949). Osteopathic management of nausea and vomiting of pregnancy. JAOA 48(11), 581-582.
- King HH. Osteopathic manipulative treatment in prenatal care: a retrospective case control design study. JAOA;103:577-582.
References


References
