OMM / OPP for OB Boards

SCS OB Board Review
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4 Tenets and 5 Models

• From *Foundations of Osteopathy, 3rd Edition*:
  • The human being is a dynamic unit of function
  • Structure and Function are interrelated at all levels
  • Rational Treatment is based on these principles

• So, 3+1 tenets. 3 argued physiologic phenomena plus 1 call to action

4 Tenets and 5 Models

• Biomechanical Model – Addresses structures, joints, myofascial restrictions
  • goal to remove restrictive barriers or forces and to enhance motion

• Respiratory-Circulatory Model – Addresses the “diaphragms” / transverse restrictors of motion for venous and lymphatic drainage and cerebral spinal fluid
  • Goal to improve all of the diaphragm restrictions of the body

• Neurological Model – Addresses autonomies, facilitated segments / areas, afferent signals, neural reflex arcs
  • Atain autonomic balance, remove facilitation, decrease afferent signal “noise”, and release pain

• Metabolic-Energy Model – addresses some structure with eye on ease of its use (i.e., improved ease of tidal breathing), nutrition, exercise
  • Attain autonomic and self-healing mechanisms, balance energy use, enhance immune, endocrine, and organ function

• Behavioral Model – Addresses emotional balancing, compensatory mechanisms, behavioral adaptation, (and “reproductive processes”, per AACOM glossary)
  • Improve biological, psychological, and social components of health
Barriers (Motion Barriers)

- Physiologic Barrier: limit of active range of motion
- Anatomic barrier: limit of passive range of motion; limit of motion due to anatomic structure (something's gonna break if you go through this)
- Elastic Barrier: the section of range of motion between the physiologic and anatomic barriers, where passive ligamentous stretch occurs and ramps up as it nears the anatomic barrier
- Pathologic Barrier: restriction of joint motion due to a pathologic change in tissues (aka Restrictive Barrier)
- Restrictive Barrier: a functional limit that is abnormally less than the normal physiologic range

Sympathetics and Parasympathetics

- Common model used in OMM questions on Board Exams
  - Viscerosomatic Reflex: Visceral Dysfunction leads to Somatic Dysfunction
  - Somatovisceral Reflex: Somatic Dysfunction disturbs Visceral Function
  - Facilitation: neurons being maintained in a state of partial excitation such that very little stimulation is needed to fire those nerves

Sympathetics and Parasympathetics
For OB/GYN

- T10-11 to Ovaries (circulation)
- T11-12 to Fallopian Tubes
- T10-L1/L2 to Uterus
- T11-L2 to Cervix
- T11-L2 to Bladder and Clitoris
- Vagus nerve influences as far down as kidneys, upper half of ureters, ovaries
- S2-4 to Cervix (“all organs of the pelvis not covered by vagus”)
- Abdominal Ganglia Correlations
  - Superior Mesenteric Ganglion – T9-12 – Ovaries, tubes and some uterus
  - Inferior Mesenteric Ganglion – T12-L2 – Uterus
Lymphatics

- Lymphatic Trunks from pelvis flows into Cisterna Chyli anterior to L1-2 which empties into Thoracic Duct
  - Common “Pinch Points” will be Aortic Hiatus of Diaphragm at T12
    - Back up may lead to Pelvic and Lower Extremity Edema
  - Thoracic Duct travels up along right anterior vertebral bodies – crosses to left side at T5 crosses laterally between vertebral vein and internal jugular vein, then flows into Left Subclavian Vein
    - Common “Pinch Points” will be Clavicle, 2nd Rib, Anterior Cervical Muscles, and Sibson’s Fascia
      - Back up may lead to Abdominal Edema and UE edema
    - BUT it doesn’t end there! (hopefully)
    - Venous flow passes through kidneys which pull out excess water
    - Excess Water flows to Bladder and finally leaves the body
      - “Pinch Point” of poor Urine Output may cease back up of fluid which could show up as Pulmonary Congestion/Edema

Pain Trends

- Postural Decompensation during Pregnancy
  - Gravity plus Ligament Laxity plus vast changes in volume
  - Rib pain, Abdominal pain, LBP, neck pain, thoracic outlet syndrome pains, carpal tunnel pains, HAS, foot pain
- Psoas pain
  - Mid Back, PSIS/SI area
- “Evolution of Man” Walk
- Piriformis
  - External rotator of lower extremity
  - Sciatic irritation

Pain Referral Trends

- Referring Pain to Lower Back
  - Uterine Fibromas
  - Ovarian Cysts
  - Ectopic Pregnancy
  - Endometriosis
Pain Referral Trends

- Round Ligament of Uterus
  - Attachment to uterine horns where fallopian tubes also attach
  - Travels through inguinal canal to attach / enmesh with mons pubis and labia majora
  - Pain, sharp and jabbing, can be noted at the low abdomen and groin
    - Pain here commonly attributed to round ligament during pregnancy, especially in second trimester

Pain Referral Trends

- Iliolumbar Ligament (ILL)
  - Attaches on anterior side of posterior iliac crest by PSIS upward and medially to transverse processes of L5 and L4
  - Kuchera proposes this ligament is often the first area strained in postural decompensation (in pregnancy, for example)
  - Referral of pain can be to
    - Sites of ILL attachment
      - Inguinal line
      - Lateral hip by greater trochanter
      - Proximal medial thigh including labia (or scrotum)
      - Upper lateral gluteal attachment area

Pelvis: Sacrum and Innominates

- Innominates – 3 parts: ilium, ischium, pubis
  - Fuse by age 20
- Sacrum – 5 vertebrae with Intervertebral Discs and Foramina
  - begin fusing in response to weight bearing and usually done around age 18

- Standing Flexion Test = Lateralizes to Innominate Dysfunction
- Seated Flexion Test = Lateralizes to Sacral Base / SI Dysfunction
Pelvis: Sacrum and Innominates

- Sacral Axes for motion reference
  - Vertical / Longitudinal (midline)
  - Superior Transverse “respiratory axis”
    - at level of S2 but posterior to attachment of the dura
  - Middle Transverse “postural axis”
    - at level of S2 but anteriorly, in bend of the articular surface
    - rotation / counterrotation in standing position
  - Inferior Transverse “innominate axis”
    - at level of S2 but posterior to attachment of the dura
    - Motion of the ilia on the sacrum
  - Left and Right Oblique
    - From ipsilateral superior part of sacral articulation across to contralateral inferior part of articulation
    - Motion involved in gait

Common Pelvic SD Diagnoses
(in Muscle Energy World)

- Innominates
  - Pubic Symphysis Upshear / Downshear
  - Innominate Upshear / Downshear
  - Anterior / Posterior Innominate Rotation

- Sacrum
  - Unilateral Flexion / Extension (Right or Left)
  - Torsions
    - Anterior / Forward: Left on Left and Right on Right
    - Posterior / Backward: Right on Left and Left on Right

Pelvis: Sacrum and Innominates
It’s All Related

- Trends for Sacrum with L5 Somatic Dysfunction
  - Sidebending at L5 engages Sacrum’s Oblique Axis on same side
  - Rotation at L5 tends to relate to sacrum rotating to opposite side
  - Type 2 (FRS, ERS) so L5 FRSr will often go with Sacral L on R Torsion
  - Type 1 (NSRl or NSrR) so L5 NSRl will often go with a R on R Torsion
  - Standing/Seated Flexion Test is Positive Right because right PSIS moves farther RELATIVE TO left PSIS
  - Sacral base or ILA is posterior on left only RELATIVE TO a deeper right base or ILA
Innominate MET Diagnosis

- For Pubic Symphysis
  - If one is higher than the other
  - Whichever is positive standing flexion test (StFT) is the one that’s sheared (also usually more tender)
- For Innominate Rotations
  - ASIS on one side is higher while same PSIS is lower.
  - Again problem side is based on StFT.
- For Innominate Upshear or Downshear
  - All above mentioned landmarks (plus ischial tuberosity) are higher on one side versus the other.
  - Yep, problem side based on StFT.

Sacral MET Diagnosis

- Torsions have Bases and ILAs together (both posterior, both anterior)
  - Named as “____ (rotation) on _____ (axis)"
  - R on L, L on R
  - L on L, R on R
- Unilaterals are more like “just one side” flexes or extends (which would mean base and ILA will not be the same, one will be anterior while the other is posterior)

Sacral MET Diagnosis

- Standing Flexion Test – Points toward a side with Innominate Dysfunction (Pubic Shears, Upslips, Ant/Post Rotations, etc)
- Seated Flexion Test – Points toward a side with Sacral Dysfunction (Unilaterals, Torsions, etc)
- Sphinx Test: as you scoop the whole back into extension, the sacral base SHOULD get deeper, or more anterior, bilaterally. If they do, then bases are moving WNL or they are stuck anteriorly. If they do not then one or both are stuck posteriorly
- Spring Test: As with most parts of the body, there should be some compliance, or give, when subjected to pressure. With patient lying prone, push down on the sacral base. It SHOULD give a little. If one side or the other (or both) is non-compliant, then the test is considered “positive” as in “I’m positive there is something wrong here.” The base that tested positive is stuck posteriorly.
Chapman’s Reflexes

- Hypothesized to be part of a Neuro-Lymphatic Reflex as part of the many homeostatic mechanisms in the body
- Changes in deep fascia argued to be "Gangliaform Contractions" (argued not to relate to specific visceral role but rather to "gangliaform" activity)
- Much easier to find anteriorly (and usually more tender)
- Posterior points usually noted as simply edematous or deep stringy areas rather than the discreet gangliaform contractions
- Treatment:
  - Identify Anterior Gangliaform Contractions
  - With finger and apply gentle circular pressure to anterior point (goal to dissipate the local lymphatic congestion)
  - Treat corresponding posterior point same way
  - Recheck anterior point (and retreat if necessary)
  - If pattern or immediately returns, increased concern for visceral pathology or heightened MSK facilitation

Chapman’s Reflexes

- **Bladder (Cystitis)**
  - Anterior Points: cluster closely around the umbilicus (and medial PS midway from superior to inferior pole)
  - Posterior Points: superior edge of traverse processes of L2

- **Broad Ligament**
  - Anterior: "From the trochanter downward on the outer aspect of the femur to within two inches of the knee joint" (via anterior points indicated above)
  - Posterior: Between PSIS and Spine of L5

Chapman’s Reflexes

- **Uterus**
  - Anterior: "Upper edge of the junction of ramus of pubes and ischium"
  - Posterior: Between PSIS and spine of L5

- **Ovaries**
  - Anterior: from upper border of pubic bone by round ligament attachment downward to the attachment of muscles along lower pubic border
  - Posterior: Intertransverse space between T9-10 and T10-11
Chapman’s Reflexes

- “Groin Glands”
  - “very important in establishing drainage in all cases of infections involving pelvic organs or in feet and legs”
  - Anterior: lowest two fifths of the Sartorius muscle including its tendinous attachment on the tibia and the inner condyle of the femur
  - Posterior: “on sacrum, close to ilium, at lower end of iliosacral synchondrosis”

- Salpingitis
  - “Anterior”: midway between acetabulum and sciatic notch
  - Posterior: Between PSIS and spinous process L5

References / Further Reading

- Osteopathic Considerations in Systemic Dysfunction by Kuchera, D.O. and Kuchera, D.O.
- An Endocrine Interpretation of Chapman’s Reflexes by Charles Owens, D.O.
- Glossary of Osteopathic Terminology from American Association of Colleges of Osteopathic Medicine, 2011