

# Mechanisms of Birth



By

Dr. Fatima Makee AL-Hakak

University of kerbala

College of nursing

# Complications of Labor



Adapted from:

Fallon. Textbook on Chiropractic and Pregnancy. Arlington, VA:  
International Chiropractors Association, 1994.

Images:

[Institute and Museum of the History of Science  
Florence, Italy](#)

# Complications of Labor

---

1. Polarity = "Power"
2. Passenger = "Baby"
3. Passage = "Pelvis"

# Complications of Labor

---

Chiropractic care can have an effect...

- ❑ Maintain neuromuscular harmony (polarity)
- ❑ Proper nutrition, proper placement (passenger)
- ❑ Pelvis is un-subluxated (passage)

# Neuromuscular Harmony

---

## Normal Polarity

- Lower Pole (above the cervix)
  - retracts the myometrium upward
  - pulls the cervical tissues into the lower uterine body to remove the obstruction and allow for fetal descent
  
- Upper Pole (fundus)
  - pushes the fetus toward the cervix

# Normal Polarity

---

Essential for a normal labor

However...

- Normal polarity, weak contractions
  - Protracted labor time  $\sim >$  exhaustion
  - Possible fetal distress  $\sim >$  C-section

# Normal Polarity – Weak Contractions

---

- Primary or hypotonic inertia
  - longer labor but NOT exhausting
  - fetus NOT at risk
  - may increase hemorrhage in 3<sup>rd</sup> stage
- Secondary inertia or exhaustion
  - may become dangerous if obstructive
  - causes fetal distress

# Abnormal Polarity

---

## Disordered uterine contraction

- irregular contractions; painful & unproductive
- poor retraction and dilation of the cervix (prolonged labor)

## Hypertonic lower pole

- a 'battle of forces' between the upper & lower poles
- NO progress

## Colicky uterus

- hypertonic & disorganized contractions
- prolonged dilation with irregular contraction phases
- painful



# Abnormal Polarity

---

## Constriction ring aka Bandl's Pathological Ring

- abnormal retraction ring
  - ▣ 'Hour Glass' shape to the uterus
- too tight to allow easy downward progression of the fetus

# Abnormal Polarity

---

## Cervical Dystocia

- Rigid cervix
  - rare situation
  - slow dilation even in a normal contraction state
- Edematous cervix
  - early bearing down before the cervix is softened & dilated causes 'trauma' to the cervix at the anterior lip and it swells
- Annular detachment
  - pressure of the fetal head causes ischemia and necrosis to the cervical ring
  - detaches and is expelled

# Passenger

---

- ❑ Malposition
- ❑ Malpresentation
- ❑ Multiple Pregnancy
- ❑ Excessively large or post maturity baby

\*Can cause subluxations in the newborn

## The Pelvis as a Deterrent to Labor

- Gynecoid (50%)
  - female
- Anthropoid (25%)
  - ape
- Android (25%)
  - male
- Platypelloid (5%)
  - flat, wide or bowl

# Passage

---

## Contracted pelvis

- poor fit increasing the length of labor
- obstructive labor

“a diminution of 1.5 to 2 cm in any important diameter; when all dimensions are proportionately diminished it is a generally contracted pelvis” (Dorland's)

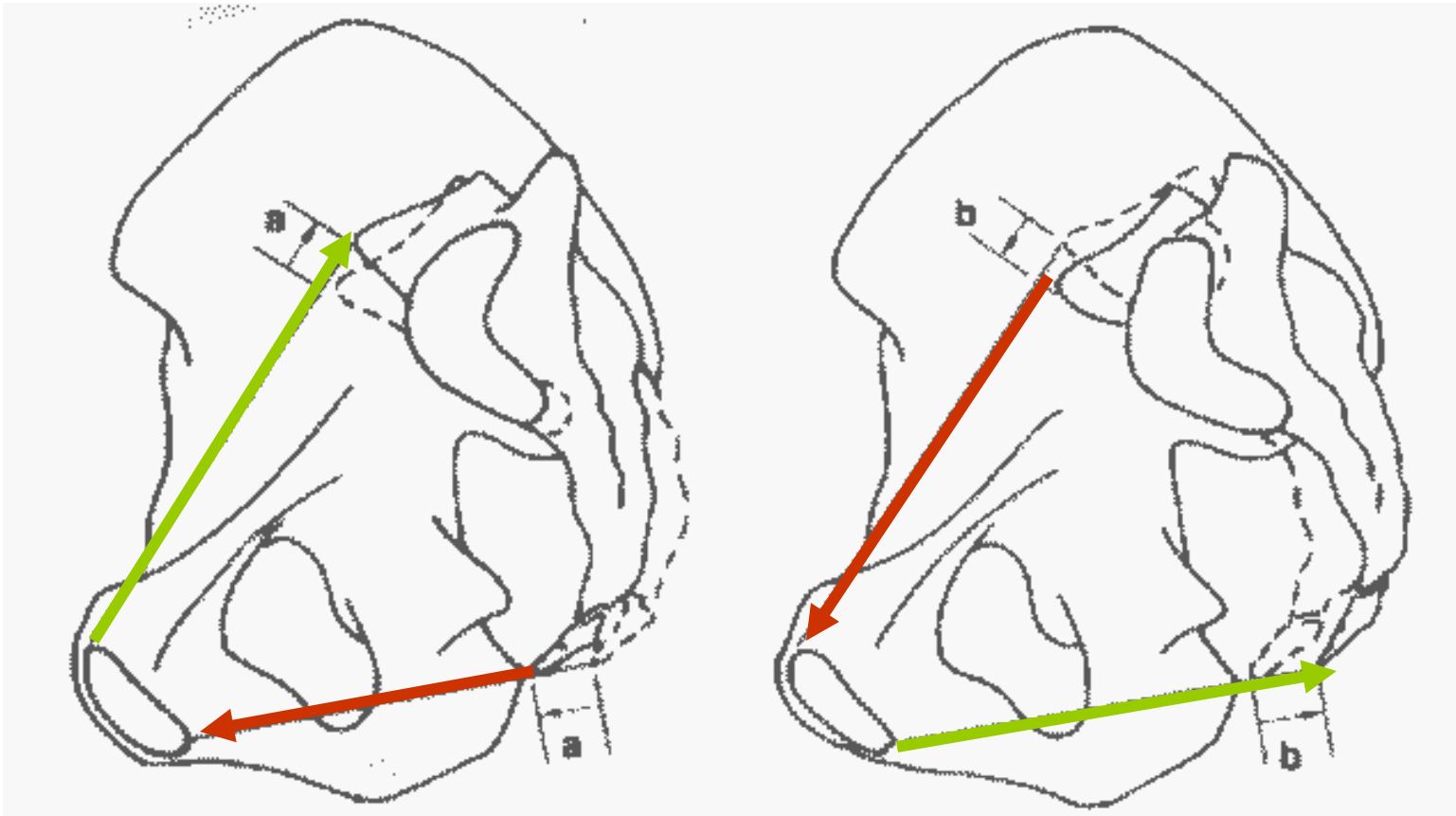
# Passage

---

- Tumors
- Uterine fibroids
- Cysts
- Fractures
- Physiological Changes:  
DJD/TB/rickets/osteomalacia
- Flat pelvis/android
  
- Subluxation

*BRIM*

*OUTLET*



# Malposition Malpresentation





# Occiput Posterior (OP)

---

aka born “upside down” or “sunny side up”

□ 13% of vertex presentations, occiput

## Causes:

- Pendulous abdomen
- Small pelvic size
- Flat sacrum
- Anterior wall placenta

# Occiput Posterior (OP)

---

- Back labor
  - Head of the fetus presses on the sacrum
  - Pressure on sacral plexus
  
  - When the SI's open to permit baby's passage, if there is sacral/SI subluxation, the presence of the head can cause significant back pain
  
- May produce "cone head"
  - Caput succedaneum

# Breech

---

- Presenting part: feet, foot, or buttocks
- 1/40 births
  - Head (largest diameter) is the last to pass through the birth canal
  - Increased risk

# Breech

---

## Risks:

- Intracranial hemorrhage
  - Rapid molding
- Dislocation of the neck
  - Erb's palsy
  - Damage to SCM
- Shoulder dislocation
- Fractured clavicle
- Dislocation of the hip
- Prolapsed cord
- Rupture of internal organs
- Genital edema
- Uterine rupture
- Premature placental rupture/apnea

# Face Presentation

---

□ 1/300 births

## Risk factors:

- Lax uterus
- Flat pelvis
- Multiple fetus
- Anencephaly
- Neck spasm (fetus)

# Face Presentation

---

- Extreme extension of the cervical spine
  - occiput to shoulder; flattening of the frontal
- SCM is stretched
- Anterior neck musculature is affected

## Findings:

- Subluxation: upper C spine
- Abnormal cranial molding

# Brow Presentation

---

- Unstable; A-P diameter is too large to pass  
~> revert to OP or face presentation

If persistent...

- Significant compression on C spine
- Subluxation of C spine and/or upper T spine

# Parietal Presentation

---

- Unusual; flat/platypelloid pelvis
  
- Asynclitic
  - Head is forced into extreme lateral flexion
  - Parietal bone is pushed against pubic bone or sacrum
  
- Traction and/or compression of brachial plexus
  - [www.youtube.com](http://www.youtube.com)



# Shoulder Presentation

---

- 1/200-300 births
- Rare; often converts to a more stable presentation

## Risk Factors:

- Twins
- Hydramnios
- Placenta previa
- Multiparity
- Sub-septae uterus

\*Fracture clavicle

# Compound Presentation

---

Prolapse of limb alongside presenting part

- Nuchal arm – arm alongside of head      MC

Risk Factors:

- Malposition
- Malpresentation
- Small infant
- Multiparous
  - lax abdomen and/or uterus
  - “baby fell out”

# Forceps Delivery

---

- Fetal distress
- Maternal distress
- Labor not progressing favorably

## Trauma:

- Depression fractures
- Birth marks
- Iatrogenic torticollis
- Brachial plexus damage
- Subluxation

# Vacuum Extraction

---

- Subluxation of the parietal bones
  - “cone head”
- Scalp, cranium, and C spine undergo significant stress

# C-Section

---

- Placenta previa
- Fetal distress
- Maternal distress
- Failure for labor to progress
- Breech
- Pelvic distortion (predetermined)

Does not experience...

- Proper head molding
  - Activation of respiratory centers of the brain
- Expulsion of the contents of the lungs