The Journey of Labor: Are You Positioned to Progress?
Risk factors for labor dystocia and nursing interventions that can impact the progression of labor

Content Review

• Definition: Labor Dystocia
• Objective #1 & #2 (risk factors and nursing interventions)
• Focus on positions during labor: Nursing interventions

What is labor dystocia?
Definition: Slow or no progress in labor
• Most common indication for primary C-sections
• 60% of all C-sections (primary and repeat) in US attributable to dystocia (ACOG)
• dysfunctional labor, failure to progress, arrest of labor, arrested descent.
Objective #1: Identify risk factors for labor dystocia during the latent and active phase of labor

1. Intrinsic Factors:
   - Power
   - Passenger
   - Passage
   - Pain
   - Psyche

2. Extrinsic Factors:
   - Environment
   - Hospital or caregiver practices
   - Ethno culture
   - Psycho emotional care

Objective #2: Describe evidence-based nursing interventions specific for each laboring woman that can impact the progression of labor

1. Labor dystocia may resolve through the use of evidence-based, low-risk nursing interventions and techniques.
   - Meeting basic needs
   - Freedom of movement
   - Woman as key to the solution
   - Lessen undesired effects to mother and fetus

Enhancing labor progress and maintaining comfort

Labor Positions
Why focus on maternal position?

- Dorsal maternal positions tend to exacerbate fetal malposition and deny the effects of gravity.
- Subtle changes in position, alters the shape and size of the pelvis.
- Facilitates optimal position of fetal head, flexion, rotation and descent.
- Optimizes “a good fit” between fetus and maternal pelvis, helping resolve malposition, cephalopelvic disproportion and macrosomia.
- Lessens maternal pain when the fetus and pelvis are better aligned.

Evidence:
Movement in labor

1. Safe and healthy, does not disrupt normal physiologic process
2. Coping with the pain of labor
3. Moves bones of the pelvis, facilitating rotation of fetal malposition

(1) Romano and Lothian, 2008
(2,3) Storton, 2007; Simkin and Ancheta, 2011)

Pure Side Lying

When:
- Resting
- Slowing of labor
- Fetal malposition
- Epidural use

How:
- Lies on her side with both hips and knees flexed
- Pillows between legs
- If known side of OP, lay on that side (ex: ROP = on right side)
  30 min, then switch to kneeling or leaning forward position for 30 mins.

Key Points:
- Gravity neutral (may slow labor progress if rapid)
- Avoids pressure on sacrum
Determining Fetal Presentation

Side Lying Release

When:
- Back and hip pain, early labor (one time)
- Slow dilation or descent
- Fetal malposition, asynclitism

How:
- Woman in direct side lying position (shoulders, back and hips perpendicular)
- Helper firmly presses on woman’s hip, 2-3lb weight pressure, with slight rocking
- Woman flexes toes on lower foot towards knee, lifts upper leg up and over thigh, slowly releasing, hanging downward, freely

Key Points:
- Relaxes and lengthens muscles supporting the pelvis
- Perform on both sides for a minimum of three contractions

Special Consideration: Epidurals

- Frequently accompanied by slow progress (limited movement, restricted to bed, recumbent, supine position)
- Useful positions include: side lying, legs abducted (use of peanut ball), adapted upright positions in bed and sitting upright.
- In cases with weight bearing capabilities (low dose epidurals and good physical support), squatting, hands and knees, and kneeling while in bed.
Evidence: Peanut Ball use in labor

1. Tool for comfort
2. Decreases labor length during 1st stage with epidural by >90 mins
3. Decrease need for vacuum extraction, forceps, and C-section
4. Improvement of maternal and fetal outcomes

Evidence: Peanut Ball use in labor

(1,2,3) Tussey and Botsios, 2011
(4) Grant, Craig and Rice, 2014

Side Lying with Peanut Ball

When:
- Slow fetal descent
- Resting
- Fetal Malposition
- Epidural use

How:
- Peanut Ball is placed between the mother’s legs
- Upper leg resting on the indentation of the ball with the lower leg slightly bent
- Alternative: Bring both knees towards abdomen into a tucked position (similar to squat)
- Rolled blanket under other side of peanut ball so it is stable in bed

Key Points:
- Opens pelvic outlet

Semi Prone (exaggerated Sims)

When:
- Fetal Malposition
- Resting
- Epidural use

How:
- Woman lies on her side with lower arm behind or in front of her trunk
- Lower leg extended and her upper leg flexed more than 90 degrees, supported by one or more pillows
- She rolls towards her front
- To enhance OP rotation woman lies on side opposite of fetal occiput (LOP=right side)

Key Points:
- Avoids pressure on sacrum
- Pelvis is rotated so that the pubis is pointing toward the bed
- 30 mins, then evaluate, reposition
- Alters gravity so fetal trunk is encouraged to rotate to OT then OA
When:
• No indicators of fetal malposition
• Position of the occiput is uncertain
• Epidural use

How:
• Semi sitting, right side lying, right semi prone, kneeling on foot of bed, left semi prone, left side lying, to semi sitting

Key Points:
• Use progress or comfort in each position as an indicator of progress
• Consider staying in each position for 5-6 contractions, or 30 mins

Roll-over

Semi Prone Lunge

When:
• Fetal malposition
• Slowed dilation or descent
• Too tired for kneeling or standing lunge
• Epidural use

How:
• While in semi prone, partner stands facing bed and places the woman’s upper foot against the partner’s hip (or supported under knee)
• During the contractions, the partner leans slightly against the woman’s foot to flex her hip and knee more and hold the leg in a more flexed position
• Do not lean with full weight, can overstretch ligaments

Key Points:
• Changes shape of pelvis, slightly opening the upper sacroiliac joint and giving more room on the upper side of the pelvis
• Facilitates rotation of an occiput posterior or asynclitic fetus
• Comfortable and effortless for the mother

Semi Sitting

When:
• Progress is good
• Rest
• Early labor

How:
• Woman sits with trunk at >45 degree angle with bed or support
• Abducted hips with knees bent

Key Points:
• Easy, restful position
• Increase pelvic inlet dimensions
• Pressure on sacrum and coccyx, may impair enlargement of pelvic outlet
• Not used in fetal malposition (OP, OT)
Semi Sitting Lunge with Peanut Ball

When:
• Enhance descent
• Promote cervical dilation
• Epidural use

How:
• Woman is semi-reclined or sitting with one leg over the center of the peanut ball resting on the indentation
• The other leg is bent cross-legged style

Key Points:
• Allows pelvic outlet to be expanded to the side of the leg that is not on the peanut ball
• Pelvic inlet may be increased
• Consider alternating legs

Evidence: Upright Position

1. Shorter labors, >1 hour, compared to recumbent position
2. Decreased Caesarean sections and epidural use
3. Decreased interventions
4. Women report less severe pain and more satisfaction with birthing experience
5. Uses gravity to aid in descent

(1,2) Lawrence et al., 2013
(3,4) Priddis, Dahlen and Schmied, 2011
(5) Storton, 2007; Simkin and Ancheta, 2011

Sitting Upright

When:
• Rest
• Backache
• Active labor, slow progress

How:
• Woman sits straight up, knees lower than hips, abducted hips
• Edge of bed, with support
• High fowlers lowering end of bed
• On ball

Key Points:
• On birth ball rhythmic movements
• Relieves back pain
Sitting Leaning Forward

When:
• Active labor has slowed
• Fetal Malposition
• Back pain
• Restful

How:
• Woman sits, with feet firmly placed, knees apart, below hips, leans forward.
• Arms resting on a prop (tray table with pillow) onto thighs
• Straddle a chair, toilet, leaning forward, resting upper body
• Sitting in bed, foot lowered with birth ball in front of woman on lowered end of bed, leaning forward
• Evaluate after 30 mins, if no progress, change position

Key Points:
• May enhance rotation from OP to OA
• Aligns fetus with pelvis
• Enlarges pelvic inlet
• Relieves back pain by shifting fetal weight and torso off woman’s spine/sacrum

Standing Leaning Forward

When:
• Fetal malposition
• Labor progress is slow
• Back pain

How:
• Woman stands, leans on partner, or raised bed with birth ball placed on bed
• Slow dancing

Key Points:
• Enlarges pelvic inlet
• Promotes flexion of fetal head
• May enhance rotation from OP or OT to OA, especially if combined with rhythmic movements
• Contractions less painful, more productive, may speed up labor
• Relieves back pain by reducing pressure of fetal head on woman’s sacrum
• Free pelvis, facilitates descent

Kneeling Leaning Forward

When:
• Fetal malposition
• Back pain
• Slow labor progress
• High fetal station
• Epidural use

How:
• Woman kneels on bed, floor (knees widened)
• Leans forward onto back of bed or birthing ball
• Consider lowering end of bed
• Upper body resting on peanut ball with uterus hanging freely

Key Points:
• Facilitates adjustment of fetal position, rotation from OP/OT to OA
• Relieves back pain by shifting fetal head off of woman’s sacrum
• Aligns fetus with pelvic inlet, enlarges inlet
• Allows for rhythmic movements
• Peanut ball more stable, taller and comfortable than pillows
### Hands and Knees

**When:**
- Fetal malposition
- Slowed labor progress
- Back pain
- Reducing anterior cervical lip

**How:**
- Woman kneels (knees widened), leans forward and supports herself on either the palms of her hands or her fists
- Alternative: one knee kneeling, the other leg should have both the knee and the foot resting on top of the peanut ball
- Peanut ball is on lowered end of bed, "fire hydrant"

**Key Points:**
- Fetal rotation from OP or OT during descent
- Allows for rhythmic movements
- Increased comfort, relieving fetal head weight from sacrum

---

### Open Knee-Chest

**When:**
- Prolapsed cord
- Active labor, reducing anterior cervical lip, swollen cervix
- Decreasing premature urge to push
- Back pain
- Early labor with suspected fetal malposition or to encourage dilation

**How:**
- Woman onto hands and knees, then lowers chest to floor, buttocks higher than chest
- Hips are flexed
- Stay in position for 30 mins

**Key Points:**
- Uses gravity to lessen pressure of fetal head on cervix
- Gravity may back fetal head out of pelvis, rotate and align with pelvis
- Coupling, irregular, short, frequent, painful, contractions, convexed maternal abdomen signs of possible fetal malposition

---

### Closed Knee-Chest

**When:**
- Back pain
- Reducing anterior or swollen cervical lip

**How:**
- Woman kneels and leans forward, supporting herself on her hands,
- Lowers chest to bed with her knees and hips flexed, abducted beneath abdomen

**Key Points:**
- Less strenuous than hands and knees, and open knee-chest positions
- Enlarges pelvic outlet
- Do not use when fetal rotation desired
When:
• Fetal malposition
• Back pain
• Slowed labor progress

How:
• Woman sits, stands or kneels with one knee and hip flexed, and foot elevated above the other
• Rotates foot and knee to right angle from the direction she is facing
• Keep body upright, rhythmic lunging back and forth with contractions, when standing or kneeling
• Rest/do not lunge between contractions

Key Points:
• Elevate side that is more comfortable or known OP
• Increases pelvic outlet diameter, enhancing rotation
• Lunging in this position widens pelvic outlet even more (shifting towards raised knee during contraction then return to upright position)
• Lunge towards occiput if OP (LOP=Lunge left, left knee up)

Asymmetric Upright

When:
• Enhances fetal descent and urge to push

How:
• Woman lowers herself from standing to a squatting position, with her feet flat on the floor or bed
• Use partner or bar for balance
• If using bed, lower end of bed

Key Points:
• Enlarges pelvic outlet
• Freedom to shift weight for comfort
• Avoid with high station or asynclitism
• Upper trunk presses on fundus, shortens torso length and inhibits fetal head repositioning

Squatting

Special Considerations: Asynclitism

• Definition: fetal head angled so that one parietal bone (located above the ear) is presenting.
• Interferes with flexion, rotation, molding and descent of fetal head.
• Useful Position: supported squat

• Key Points:
  o Shifting the woman may shift the fetus’s weight, so its position resolves.
  o Alters shape of pelvis, allowing more room for fetal head to shift.
  o Elongates torso, relieves pressure on pelvis, allowing fetus to wiggle out of asynclitism.
**Supported Squat**

**When:**
- Fetal malposition, asynclitism

**How:**
- Supported under her arms with no weight bearing by her legs.
- Helper may be seated or standing
- Supported from her upper body.
- Woman’s own body weight lengthens her trunk by providing traction to her spinal column.

**Key Points:**
- Provides more vertical space for the fetus to maneuver
- Free Pelvis
- Absence of external pressures allows fetal head pressure and movements to change shape of pelvic basin finding path of least resistance

---

**Supine**

**When:**
- Medical intervention
- Vaginal exams, instrumental delivery

**How:**
- Woman lies on her back, trunk slightly raised <45 degrees, legs straight or bent with feet flat on bed, in leg rests or drawn up

**Key Points:**
- Reduced pelvic diameters
- Impedes rotation of fetal malposition
- Fetus is in an unfavorable drive angle in relation to pelvis
- Contractions more frequent, painful, less effective than when vertical

---

**Abdominal Lifting**

**When:**
- Pendulous abdomen (multipara)
- High station
- Short waist, previous back injuries, back pain

**How:**
- Woman stands upright, (or kneel) place sheet around the woman beneath her abdomen, crossing it in the back, lifting up and in during a contraction
- Bend knees slightly

**Key Points:**
- Tilts pelvis, aligns long axis of the fetus with the axis of the pelvic inlet
- Improves fetal positioning and efficiency of contractions
- Caution:
  - Rapid progress may occur
  - Monitor Fetal intolerance
Rhythmic Movement

When:
- Fetal malposition
- Facilitates coping
- Slowed labor progress

How:
- Swaying on birth ball, while standing, kneeling, leaning forward
- back and forth or circular movements
- Moaning

Key Points:
- May ease fetus up and out of pelvis, facilitating rotation from OP/OT to OA
- Seems to occur instinctively when coping well with labor
- Calming, comforting
- May alter relationship of fetus, pelvis and gravity to promote progress
- Suggest rocking, rhythmic movement to women, may speed up labor

References

Christina Plamondon
MSN, CNM

cplamondon.cnm@gmail.com