Physiologic Birth

EVIDENCE TO REDUCE PRIMARY CESAREAN SECTIONS

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A normal physiologic labor and birth are powered by the innate human capacity of the woman and her fetus.

Goal: To reduce primary cesarean sections

- **Primary (NTSV) Cesarean Sections** defined here must meet the following criteria
  - Nulliparous
  - Term
  - Singleton
  - Vertex

AIM – Alliance for Innovation on Maternal Health

- Goals: to reduce maternal mortality
- Action plan: Partner with states and hospital systems
  - Implement safety bundles:
    - Obstetric hemorrhage
    - VTE
    - Severe Hypertension
    - Primary cesarean rate reduction

AIM – Reducing NTSV Cesarean

- The AIM criteria are designed to review indications for primary cesarean sections in the following categories
  - Labor dystocia/Failure to Progress
  - Failed induction before 6cm
  - Fetal concern

AIM – Reducing NTSV Cesarean

The AIM criteria

- **Labor dystocia/Failure to Progress**
  - **Did the patient reach 6cm dilation or greater?**
  - **Were membranes ruptured?**
  - **After ROM, was there no cervical change for 4 hour of adequate contractions OR after 6 hours of Pitocin?**
- Failed induction before 6cm
- Fetal concern

AIM – Reducing NTSV Cesarean

The AIM criteria

- Labor dystocia/Failure to Progress
- **Failed induction before 6cm**
  - **Was the patient induced?**
  - **Was Pitocin used for a minimum of 12 hours after ROM?**
  - **Was the Bishop Score ≥6 before elective induction**?
- Fetal concern

AIM – Reducing NTSV Cesarean

The AIM criteria

- Labor dystocia/Failure to Progress
- Failed induction before 6cm
- **Fetal concern**
  - **Does your unit have criteria for performing a c-section for fetal concern?**
  - **If NO, stop – do not review these cases as you need to develop unit criteria**
  - **If Yes, did the case meet your unit criteria for performing a c-section for fetal concern?**

What does physiologic birth have to do with it?

“Many common obstetric practices are of limited or uncertain benefit for low-risk women in spontaneous labor.”

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-ACOG, 2017

Many Women in Labor Receive

- Electronic fetal monitoring: 85%
- Induction: 40%
- Pitocin augmentation: 70%
- Cesarean: 32.8%

more than 60% increase since 1996

Hamilton et al., 2013; Murthy, Grobman, Lee, & Holl, 2011

How is JHH doing?

Measure	2011	2012	2013	2014	2015	2016
Severe Maternal Morbidity among All Delivering Women	6.4%	6.2%	4.7%	4.5%	5.0%	5.3%
Severe Maternal Morbidity (excluding transfusion codes) among All Delivering Women	2.3%	2.3%	2.0%	2.0%	1.7%	1.6%
C/S Delivery Rate among Nulliparous, Term, Singleton, Vertex (NTSV) Population	No Data	31.2%	28.9%	30.8%	33.3%	36.7%
C/S Delivery Rate among Nulliparous, Term, Singleton, Vertex (NTSV) Population after Labor Induction	No Data	43.1%	43.3%	41.9%	41.0%	45.4%
Overall Cesarean Rate	No Data	No Data	No Data	No Data	No Data	41.5%

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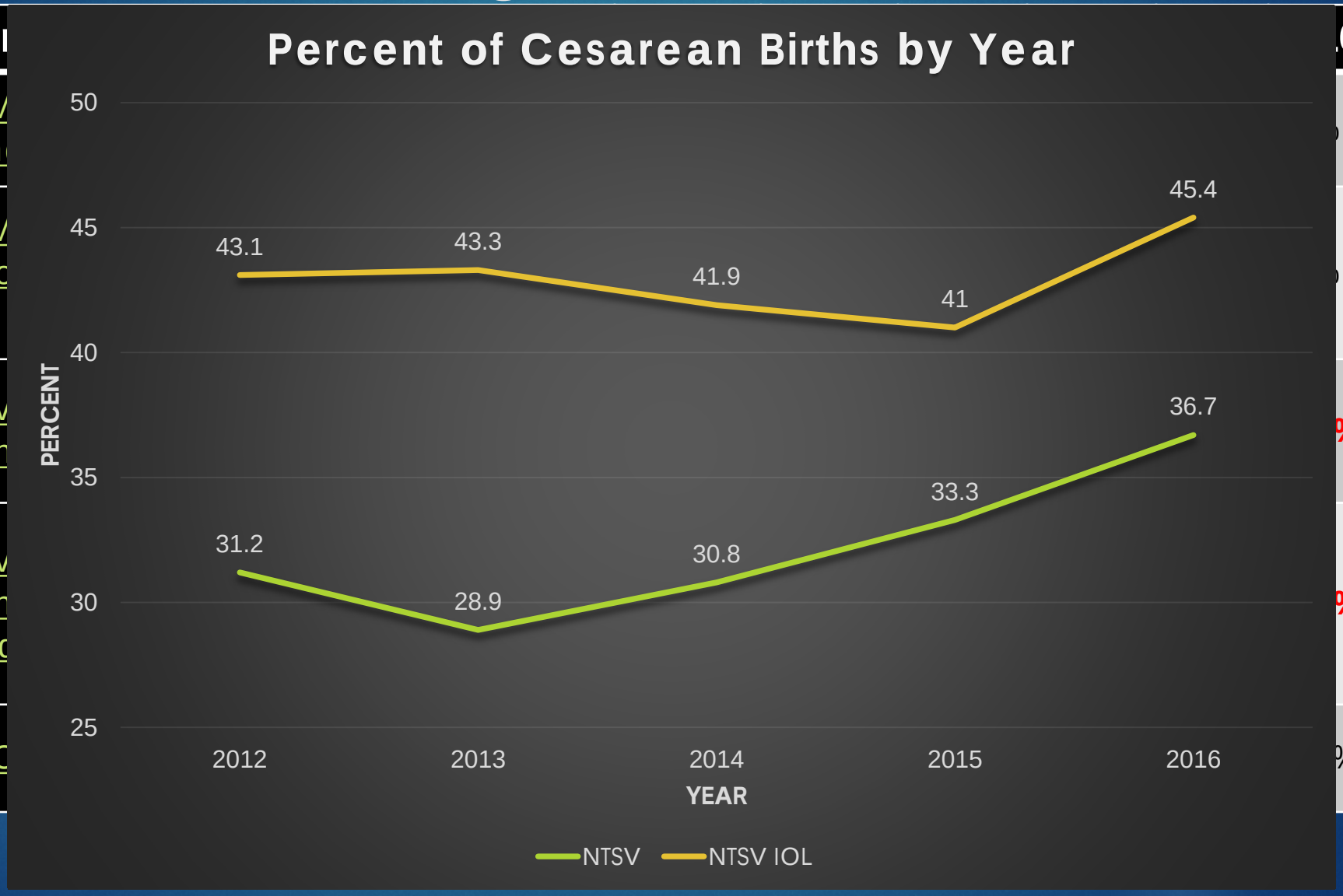

Risks of cesarean birth

- **Risks in current pregnancy**
  - Postpartum hemorrhage
  - Postpartum Infection
  - Venous thrombosis
  - Maternal morbidity and mortality

Risks of cesarean birth

- **Risks in subsequent pregnancy**
  - Future cesareans
  - Abnormal placentation
    - Placenta accreta (4-fold increase over the past 2-3 decades)
  - Hysterectomy
  - Maternal and neonatal morbidity and mortality

ACOG/ SMFM Consensus Statement (2014) – Safe Prevention of the Primary Cesarean Delivery

- **Recommendations**
  - Revisit the definition of labor dystocia
  - Improve FHR interpretation and management
  - Increase women's access to non-pharmacologic interventions in labor
  - Provide continuous labor support (doula care)
  - Increase ECV attempts for malpresentation
  - TOL for twin gestation when presenting twin is cephalic presentation

Areas where JHH could improve

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Safe Prevention of Primary Cesarean Delivery in the United States: Why and How? (Caughey, 2015)

- 6 cm is the new 4cm
  - Arrest of dilation = no cervical dilation despite 4 hours ADEQUATE contractions or 6 hours of Pitocin
- Second stage
  - At least 2 hours in 2nd stage for multiparas, 3 for nulliparas without epidurals
    - May be longer with use of epidural so long as fetus tolerates, and so long as progress is documented can continue
- OP
  - Manual rotation
- Variable FHR decelerations
  - Amnioinfusion
- IOL
  - At 41 0/7 weeks for postdates or prior with medical indication

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ACOG 2017-Limiting Interventions

- **Recommendations**
  - Delaying admission in latent stage labor
  - Non-pharmacologic interventions for pain relief
    - Massage, hydrotherapy etc.
  - Expectant management for PROM
  - No delay in antibiotics for GBS +
  - 1:1 nursing care
  - Labor support (doula)
  - No routine amniotomy
  - Intermittent auscultation for low risk women (ACOG, 2017).

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ACOG 2017-Limiting Interventions

- **Recommendations (cont.)**
  - Hydration and Oral Intake during labor
  - Maternal position changes during labor
  - Pushing technique (open glottis versus Valsalva)
  - Optional delayed pushing for nulliparas with epidural (“laboring down”)

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Intermittent Auscultation

- We have a policy!
- Low risk pregnancy
  - Listen every hour in latent phase, 30 minutes in active phase, and 15 minutes in second stage
  - Also assess fetal heart rate at key transition times (meds, position changes, after exams or rupture of membranes, etc.)
  - Baseline FHR requires 30-60 seconds between contractions
  - When auscultating, need to assess before, during and for 30-60 seconds after a contraction to asses for decelerations.

Hydration and Oral Intake

- We have a policy!
- Low risk patients can have clear liquids
  - 120 ml/hour or 240 ml/2 hours
- High risk patients and those awaiting surgery will remain NPO

Areas where JHH could improve based on recommendations in the literature

1. Maternal movement/position changes
   - Delaying definition of arrest of dilation until at least 6cm, labor positions, peanut ball
2. Non pharmacologic interventions
   - Movement, massage, hydrotherapy (showers!)
3. Expectant Management for PROM
4. Labor support (1:1 nursing, doulas)

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PEARLS OF MIDWIFERY

Ambulation and freedom of movement in labor are safe, are more satisfying for women, and facilitate the progress of labor.

AMERICAN COLLEGE of NURSE-MIDWIVES

Maternal Position Changes

- During labor
  - Encourage walking before admission, walking for two hours if not 6 cm dilated, then recheck dilation
  - Encourage walking in labor, especially in low risk patients
  - If continuous monitoring needed, consider telemetry monitoring
  - Peanut ball
- During second stage (pushing)
  - Side lying
  - Birthing bar positioning (pulling the rope and high fowlers/squat)
  - Hands and knees

The Evidence

- Lying supine decreases blood flow.
- Squatting or kneeling increases pelvic diameters.

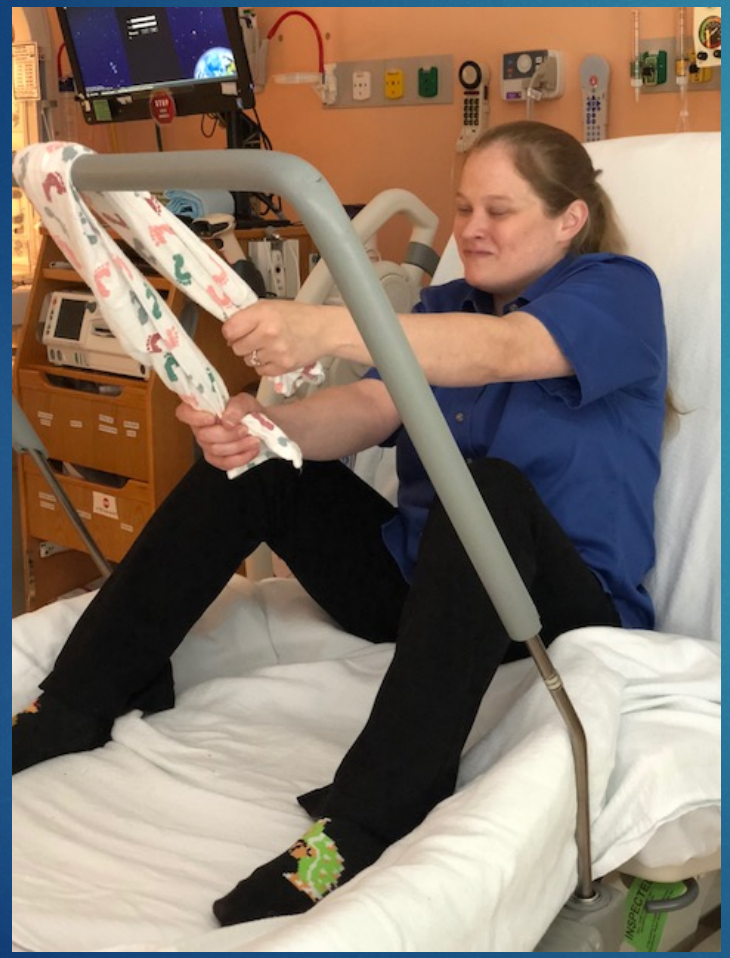
Michel et al., 2002

American Academy of Nursing. Used by permission.

Bed Positions

Bed Positions

Birthing Bar



Walcher's Position

Engleman reported on Midwifery use of this open brim position in 1882. Dr. Walcher then wrote about it and it's been known by his name ever since.

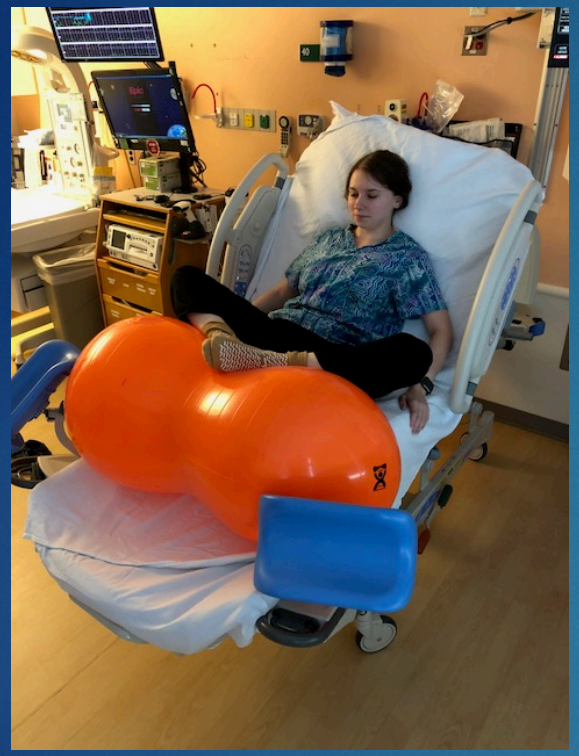
Walcher's position- open the brim of the pelvis and help the baby descend-

Limit time in this position to 3 contractions

Peanut ball information!

- Suitable for patients with/without an epidural
- Non-pharmacologic intervention to improve labor outcomes
- Optimal position changes Q45 min- Q1h
- Studies have shown (Tussey & Botsios, 2011)
  - Decrease first stage by an average of 90 minutes
  - Decrease of second stage by an average of 22 minutes
  - 13% decrease in C-section rate
  - No adverse neonatal outcomes
- Specific positions to aid in internal/external fetal rotation

Peanut Ball



Too big for this patient !

Peanut Ball

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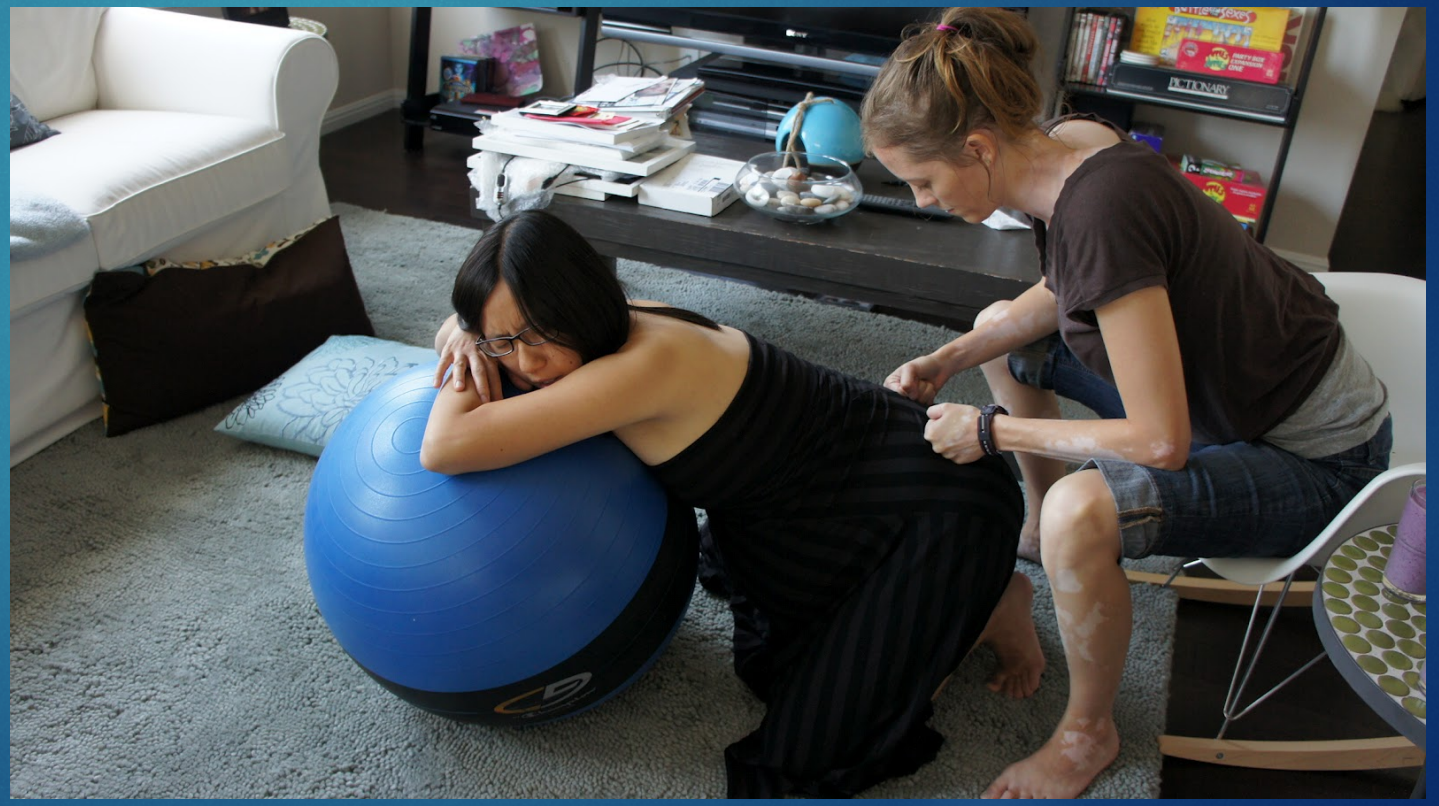
Hydrotherapy

- Showers can be used as non pharmacologic pain relief for low risk women
- Women who are already using intermittent monitoring would be great candidates for hydrotherapy.

Massage and counter pressure

- Education related to counter pressure, massage, and positioning



Bed Positions – counter pressure

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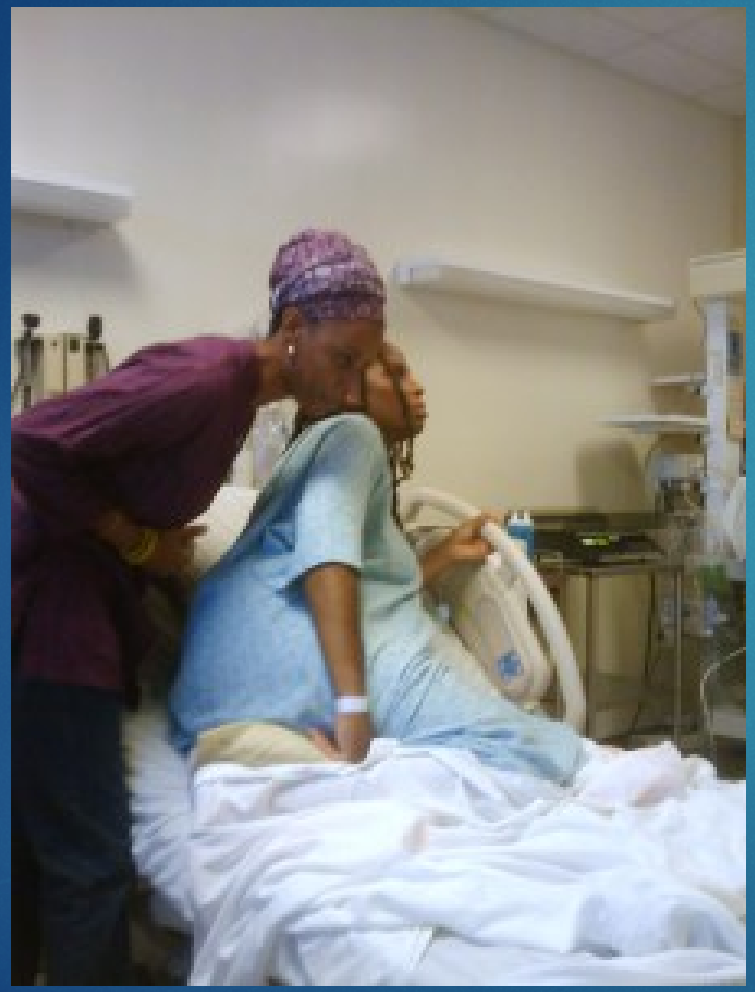
4. **Labor support (1:1 nursing, doulas)**

Doulas



- Provide:
  - Physical support
  - Informational support
  - Emotional support
- Empower the laboring patient
- Promote physiologic birth
- A valuable complement to the maternity team

Doula Support

Calm - Privacy - Comfort

- Familiar / supportive / companion
- Continuous presence
- Minimal interruptions
- Music / quiet
- Aromatherapy
- Shower
- Physical techniques
- Verbal encouragement
- Home during early labor

- **Increased Oxytocin Production**
  - Regulates ANS
  - Provides a **+** feedback loop
- **Increased beta-endorphins**
  - Natural analgesia

Doula Support ⮡ **to decrease**
Fear – Tension – Pain

- Lack of privacy
- Fear of birth
- History of trauma
- New environment
- New people
- Vaginal exams
- Interventions

- **Sympathetic Nervous System**
  - Fight or Flight
  - ⇩ Blood flow to the uterus
- **Decreased Oxytocin**
  - ⇩ Contraction frequency /strength
- **Less Endorphins (or too high)**
  - Lack of natural analgesia leading to more pain

Doulas

Additional Benefits

- Fewer Interventions
- Fewer cesarean /instrumental deliveries
- Increased maternal satisfaction
- Fewer neonates with low Apgar scores

Conclusion

- "Continuous support during labour has clinically meaningful benefits for women and infants and no known harm. All women should have support throughout labour and birth."

(Hodnett, Gates, Hofmeyr, & Sakala, 2013;

Ahlemeyer, J., & Mahon, S., 2015)

Doulas

JHU Doulas: Birth Companions

- 75-100 birth companions available in the fall and winter
- 35 birth companions available in spring and summer (due to graduation)
- the client can call in (410-614-6458) or email birthcompanions@jhu.edu

Private doulas

- $800-$1000
- Provide continuous labor support and usually provide postpartum support at home
- Can be found through crowd sourcing or internet search

Doulas

- Communication
  - Situations where doula oversteps role as support person
    - Speak with the entire team (including doula) outside the room
    - Discuss roles of each person in the team
    - Work together toward the optimum end goal for the patient

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