AIM: SAFE PREVENTION OF THE PRIMARY C-SECTION

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Disclosure of Interest

- Nothing to disclose

Primary C-section

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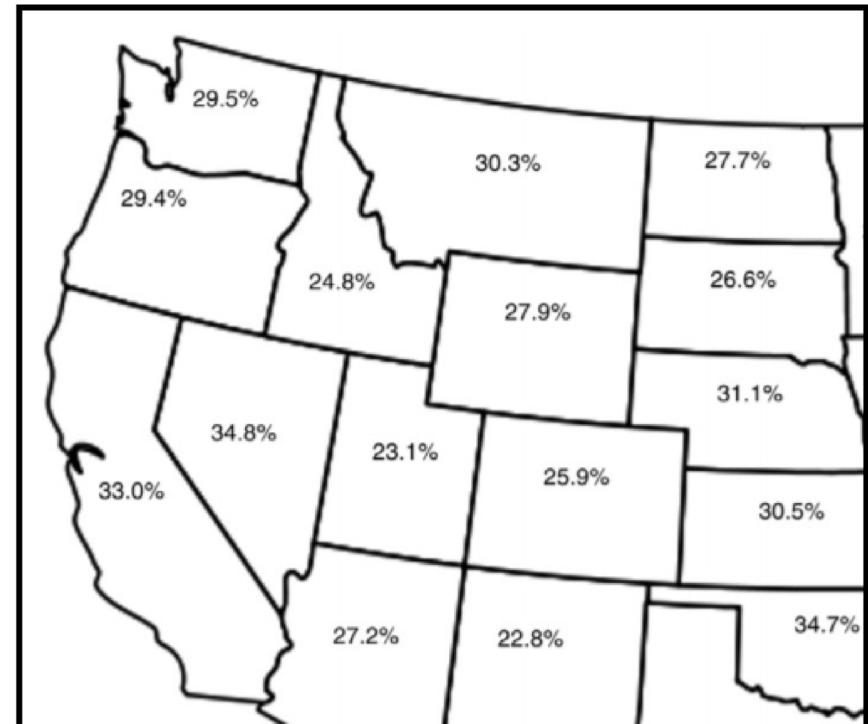
- Cesarean delivery: lifesaving to mother and fetus
- 1/3 of deliveries in the US are CS
  - Rapid rise from 1996 > 2011
- Low risk: Nullipuris, Term, Singleton, Vertex (NTSV)
- Labor dystocia and NRFHT account for 60% of NTSV cesareans



Patient Safety Bundles

- Readiness
- Recognition and Prevention
- Response
- Reporting/Systems Learning

Readiness

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- Every Patient, Provider and Facility
  - Build a culture that:
    - Values, promotes, and supports spontaneous labor to vaginal birth
    - Understands the risks of c-section without medical indication.
  - Optimize patient and family engagement in education, informed consent, and shared decision making about normal healthy labor and birth throughout the maternity care cycle.
  - Adopt provider education and training techniques that:
    - Develop knowledge and skills to maximize the likelihood of vaginal birth
    - Promote patient shared decision making.

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Readiness

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TABLE 1
Risk of adverse maternal and neonatal outcomes by mode of delivery

Outcome	Risk: Vaginal delivery	Risk: Cesarean delivery
Maternal		
Overall severe morbidity and mortality[a]	8.6% 0.9%	9.2%[a] 2.7%
Maternal mortality[b]	3.6:100,000	13.3:100,000
Amniotic fluid embolism[c]	3.3-7.7:100,000	15.8:100,000
Third- or fourth-degree perineal laceration[117]	1.0-3.0%	NA (scheduled delivery)
Placental abnormalities[d]	Increased with prior cesarean vs vaginal delivery, and risk continues to increase with each subsequent cesarean delivery	
Urinary incontinence[6]	No difference between cesarean and vaginal delivery at 2 y	
Postpartum depression[117]	No difference between cesarean and vaginal delivery	
Neonatal		
Laceration[2]	NA	1.0-2.0%
Respiratory morbidity[2]	$<$1.0%	1.0-4.0% (without labor)
Shoulder dystocia	1.0-2.0%	0%

NA, not available.

[a] Defined as $\geq$1 of following: death, postpartum bleeding, genital tract injury; wound disruption, wound infection, or both; systemic infection; [b] Defined as any 1 of following: death, hemorrhage requiring hysterectomy or transfusion; uterine rupture; anesthetic complications; shock; cardiac arrest; acute renal failure; assisted ventilation venous thromboembolic event; major infection; in-hospital wound disruption, wound hematoma, or both. Data from Liu et al[7]; [c] Data from Deneux-Tharaux C et al[115]; [d] Data from Abenhaim et al[116]; [e] Data from Silver et al.[8]

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- Resources
  - Birthtools.org
  - SIVB: Supporting Intended Vaginal

Recognition & Prevention

- Every patient
  - Implement standardized admission criteria, triage management, education, and support for women presenting in spontaneous labor.
  - Offer standardized techniques of pain management and comfort measures that promote labor progress and prevent dysfunctional labor.
  - Use standardized FHR status assessments
  - Encourage methods that promote freedom of movement.
  - Adopt protocols for timely identification and intervention of specific problems

Recognition & Prevention

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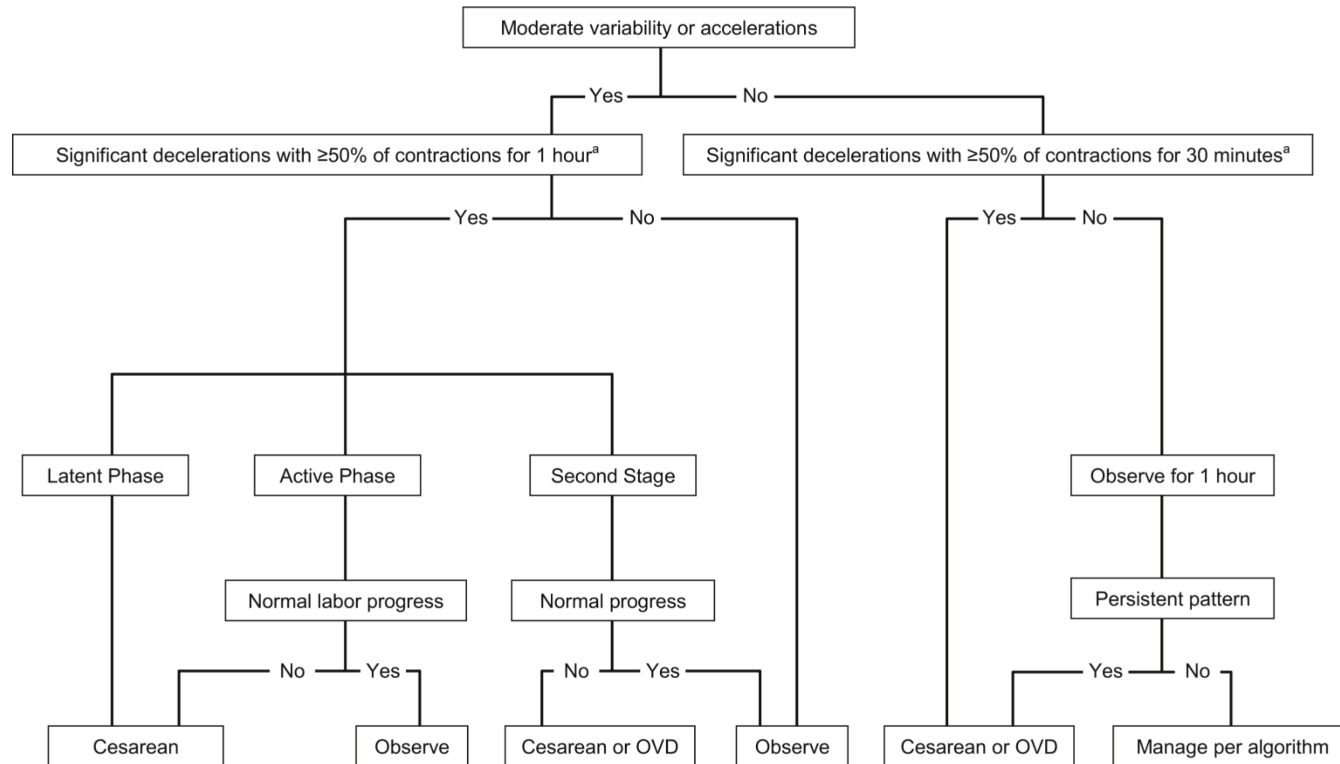
- 5 tier FHT



- There's an app for that!

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Response

- To Every Labor Challenge
  - Have available an in-house maternity care provider for timely and effective responses to labor problems.
  - Uphold standardized induction scheduling
  - Utilize standardized evidence-based labor algorithms, policies, and techniques, which allow for prompt recognition and treatment of dystocia.
  - Adopt policies that outline standard responses to abnormal fetal heart rate patterns and uterine activity.
  - Make available special expertise and techniques

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Response

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- Labor dystocia: First Stage
  - Latent: regular contractions to ~~(4cm)~~ 6cm
    - null >20h; multip >14h
    - Protracted latent labor is not an indication for c-section
      - ? Inc risk of chorio
  - Active: > ~~(4cm)~~ 6cm
    - Protracted
      - null <1.2 cm/h; multip <1.5 cm/h
    - Arrest: > 2h, Ø change

Cesarean delivery in first stage of labor should be reserved for:
> 6cm with ruptured membranes who fail to progress despite
– 4h adequate uterine activity
– 6h oxytocin with inadequate uterine activity and no cervical change.

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Response

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- Labor dystocia: Second Stage
  - Low risk of increased neonatal mortality
  - Increased risk of puerperal infections, third/fourth degree lacerations and PPH
  - >3h second stage
    - 1 in 4 null; 1 in 3 multips progress to spontaneous vaginal delivery
    - 30-50% require operative delivery
  - Dystocia of the second stage
    - >3h null; >2h multip
    - Epidural analgesia >4h null; >3h multip
  - Expectant management, operative delivery or manual rotation of fetal occiput

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Reporting/Systems Learning

- Every birth facility
  - Track and report labor and cesarean measures in sufficient detail to:
    - 1) compare to similar institutions
    - 2) conduct case review and system analysis to drive care improvement
    - 3) assess individual provider performance.
  - Track metrics and balancing measures to assess maternal and newborn outcomes to ensure safety

References

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- ACOG; Society for Maternal-Fetal Medicine. Obstetric care consensus no. 1: safe prevention of the primary cesarean delivery. Obstet Gynecol. 2014 Mar;123(3):693-711.
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- SIVB: Supporting Intended Vaginal

Thank you!

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