INSTITUTE FOR HEALTHCARE IMPROVEMENT

Perinatal Improvement Community

An IHI Collaborative

Since 2005

Special Meeting

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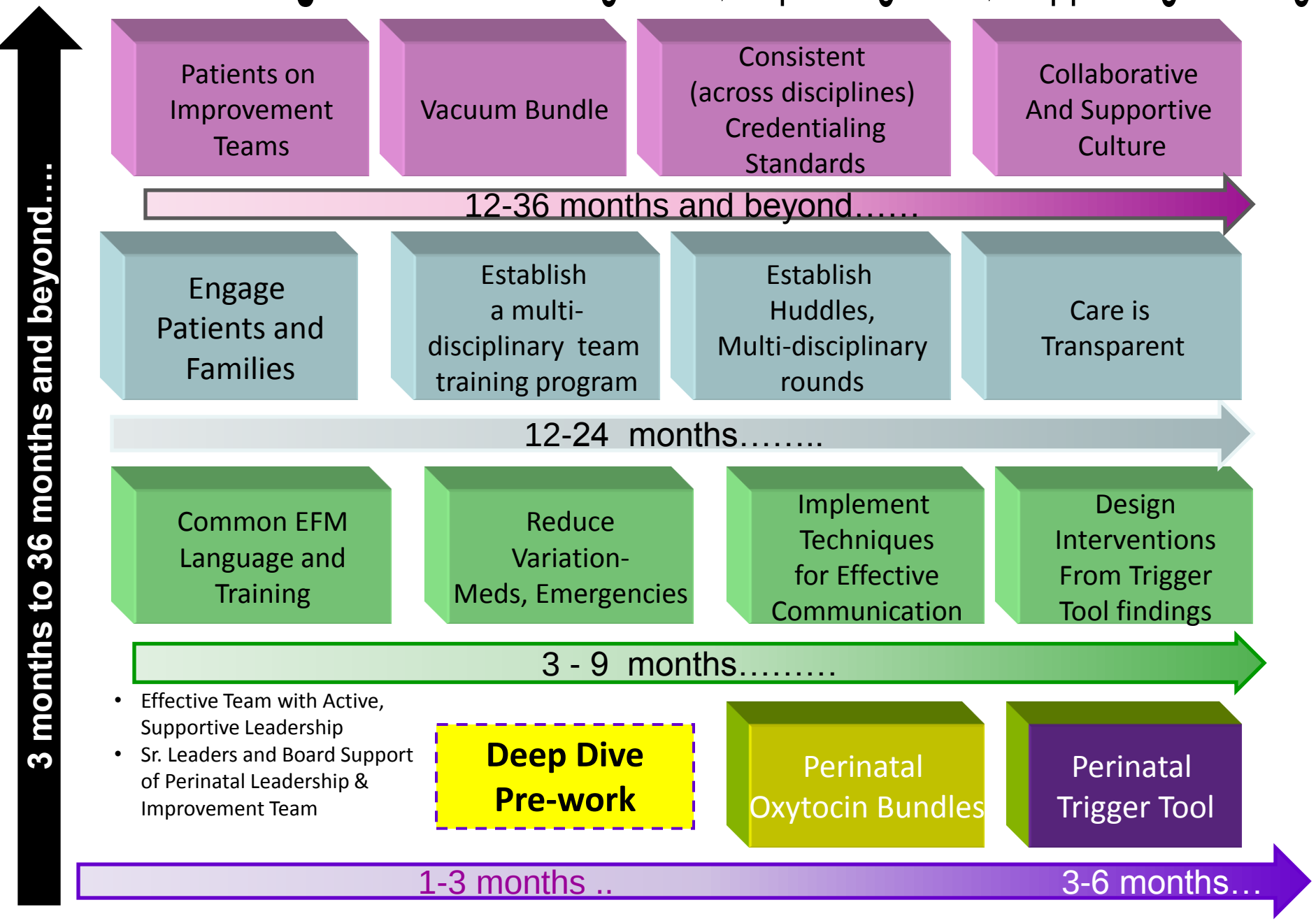
“The First Law of Improvement”

“Every system is perfectly designed to achieve exactly the results it gets.”

Paul Batalden

Perinatal Building Blocks: Reducing Harm, Improving Care, Supporting Healing



Perinatal Community:
Reducing Harm,
Improving Care,
Supporting Healing

Reduce harm to 5 or less per 100 live births

Zero incidence of elective deliveries prior to confirmation of fetal maturity

Augmentation Bundle(s) Composite or Compliance greater than 90%

Improve organizational culture of safety survey scores in Perinatal units by 25%

100% of participating teams will have documentation of Patient & Family Centered Care

Perinatal Leadership

- Align Unit Measures Strategies Projects with Org Strategy and Goals (Clinical , Patient, Exp. Financial and Workforce)
- Channel Senior Leadership Attention and Develop Unit Leadership
- Engage Physicians
- Build Improvement Capacity and Provide Resources for Improvement
- Establish a Just Culture
- Develop a Competent Trained and Available Workforce
- Establish Credentialing of Core Competency and Training for all Providers
- Use ACOG/AWHONN Guidelines for Documentation and Staffing
- Develop a Consumer Advisory Board

Reliable Design / Reduce Variation

- Execute care that meets national standards (Implement Bundles, Perinatal Core Processes)
- Develop standard processes and protocols for response to obstetrical emergency
- Design care process improvement based on trigger tool analysis, event detection, sentinel event
- Standardize administration of high alert medications – oxytocin, magnesium sulfate, epidurals
- Create an environment that Supports Care and Healing
- Consider segments of population and design reliable and appropriate processes for specific needs and characteristics of this segment of the population

Effective Peer Teamwork

- Adopt common language and interpretation of EFM with multi-disciplinary training i.e NICHD criteria
- Implement techniques for effective communication i.e. SBAR
- Establish reliable techniques for handoffs
- Establish Team Response Protocols
- Implement Huddles
- Design Simulations

Respectful Patient Partnership

- Design processes to support partnership in care between provider and patient and family
- Develop with patient a customized interdisciplinary shared care plan
- Design care process improvement based on information obtained about patient experience (interviews, assessments, focus groups, surveys)
- Include patients and families on design and improvement teams
- Communicate openly and honestly with family and patients at regular intervals
- Do what you say, mean what you do

Perinatal Care Measurement Strategy

Required Measures				Optional Measures
Annual / Bi-annual Structure Assessments	**Monthly Outcome & Structure Measures**	**Initial Weekly or Monthly Process Measures**	**Advanced Weekly or Monthly Outcome and Process Measures**	**Outcome, Balance or Process Measures**
Oxytocin Deep Dive*	Perinatal Harm*	Augmentation Bundle Composite and Compliance* (Oxytocin)	Vacuum Bundle Composite/Compliance*	Transfer to Higher Level of Care (A) (B)
	Time Between Elective Deliveries 39 wks	Elective Induction Bundle Composite and Compliance* (Oxytocin)	Advanced Augmentation Bundle Composite /Compliance*	Patient and Family Satisfaction
Culture of Safety Survey				Documentation Reliability (Infant/Mother)*
	Elective Delivery Rate prior to 39 completed weeks gestation (TJC PC.01)	Augmentation Induction Monthly Bundle Compliance (Oxytocin)	Advanced Elective Induction Bundle Composite /Compliance*	Time Between (Decision - Incision)
				Prophylactic Antibiotic in C-section
Labor Deep Dive*	Cesarean rate for low-risk first birth women (TJC PC.02)	Elective Induction Monthly Bundle Compliance (Oxytocin)	Advanced Indicated Induction Bundle Composite /Compliance*	Birth trauma rate measures (NQF)
				Incidence of episiotomy (NQF)
	Patient and Family Centered Care			Gestational Age Reliability (Test Measure)

IHI Perinatal Community Care Bundle Sequencing

Elective Induction Bundle (Initial-Oxytocin)	Augmentation Bundle (Initial-Oxytocin)	IHI Oxytocin Bundles (2004)
• GA>39 weeks • Pelvic Assessment • Recognition and management of tachysystole • Recognition and management of FHR Status (Category I-normal)	• EFW documented • Pelvic Assessment • Recognition and management of tachysystole • Recognition and management of FHR Status (Exclusion of Category III)	Basic Oxytocin Bundles Defined as patient who receives Oxytocin for elective induction or augmentation. Focus on eliminating elective delivery prior to 39 weeks, adoption of team definition and reliable execution of component indicators.

Advanced Elective Induction Bundle	Advanced Indicated Induction Bundle	Advanced Augmentation Bundle	IHI Advanced Bundles (2010)
Defined: Patient without a medical indication for delivery between 39 and 40+6 weeks gestational age • GA >39 weeks • Pelvic Assessment Favorable Bishop Score *(locally defined) • Recognition and management of complications of induction method (including tachysystole) • Recognition and management of FHR Status (Category I-normal)	Defined: Patient with a medical indication for induction • Acceptable medical indication for labor induction documented (locally defined) • Pelvic Assessment • Recognition and management of complications of induction method (including tachysystole) • Recognition and management of FHR Status Exclusion of Category III FHR	Defined: • EFW documented • Pelvic Assessment • Recognition and management of tachysystole • Recognition and management of FHR Status (Category I-normal) (Exclusion of Category III) (May include amniotomy, nipple stimulation, acupuncture, and Oxytocin)	Accept 39 weeks as minimal GA for elective delivery. Focus moves to pharmacologic or mechanical initiation of labor- no longer focused on (just) Oxytocin. Evidence Based Gestational dating is core**

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Gestational Age Reliability Project

Peter Cherouny, M.D.

Gestational Age Reliability Project

- Objectives and Goals
  - Evaluate the accuracy of gestational dating by historic and ultrasound measures
  - Recognize the limitations of menstrual dating
  - Use available data to develop tools to assess the accuracy of gestational dating at your institution

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Gestational Age Assessment

- Accurate assessment of gestational age is core to what we do
  - Periviable counseling
    - Days makes a difference
  - Preterm labor management
    - To treat or not to treat

Gestational Age Assessment

- Accurate assessment of gestational age
  - —Allows better assessment of fetal outcome by one week blocks
  - —Induction protocols
    - ➢< 39 weeks
    - ➢≥ 41 weeks

Gestational Age Assessment

- Risk/benefit balance is used in the assessment of need for delivery
- The “risk” part for the fetus/neonate for delivery is generally driven by the gestational age

Gestational Age: The Problem

- Ask 5 people…

Gestational Age

- Gestational age assessment at your institution – is it reliable?
- How do you know it is reliable?
- What makes it reliable?

Gestational Age Assessment – is it reliable?

- Do you have a standard for determining and “correcting” gestational/menstrual dating?
- Is there consistent use of the gestational dating once it is established?
- Is there frustration among patients and providers over dating criteria?
- Are you assuming added risk for patients and babies based on an unreliable assessment of gestational age?

The Data

- Meta-analysis – Cochrane's database
  - Relative risk for post dates with ultrasound dating is 0.49
  - Induction for any reason RR=0.78
  - Induction for postdates pregnancy RR=0.61
  - No increase in preterm deliveries

The Data

- Based on ovulation dates 1st and 2nd trimester US
  - CRL has error of around 2.1 days
  - BPD error 2.8 days
  - BPD and FL error 2.2 days
  - FL alone 3.1 days

Persson et al. Acta Obstet Gynecol Scand 1986:481-4

The Data

- 208 singleton IVF pregnancies
  - CRL vs IVF dates 0.9 day different EGA
  - BPD vs IVF dates 2.1 day different EGA

- Is the ACOG criteria adequate?
  - ±7 days in first trimester?
  - ±10 days up to 20 weeks?

K.Tunon et al. Ultrasound Obstet Gynecol 2000;15:41-6.

Gestational Age Assessment – is it reliable?

- How do you know it's reliable
  - Have you measured it?
  - Do you have a standard for measurement?
  - Is it consistently used?

What is Reliability?

- "Reliability is failure free operation over time."

David Garvin
Harvard Business School

- "When applied to clinical processes consider the viewpoint of the patient by invoking the all or none measure."

IHI Innovation Team

Design Strategy for Reliability

- Prevent Initial Failure
  using intent and standardization
- Identify failure and mitigate
  - Redundancy function
- Redesign from failure modes (identify critical failures and then redesign)

Why Standardize?

- Contributes to building an infrastructure (who does what, when, where, how and with what)
- Supports training and competency testing to sustain the process
- Achieve front line articulation of key processes by staff
- Allows the appropriate application of evidence-based medicine consistently
- Feedback about defects and application of learning to design is possible

Discussion

- Select a process for improvement.
  Assessment of gestational age
- Are there steps in the process where…
  - if you asked each individual assigning gestational age, would there be differences?
  - this is documented in the medical record?

Gestational Age Assessment

Suggested gestational dating paradigm:

-**First day of LMP should be**

- 1) accurately known and documented
- 2) in a patient with regular menstrual cycles (28 +4d)
- 3) in a patient who has not recently come off hormonal contraception.

Gestational Age Assessment

Suggested gestational dating paradigm:

- If all conditions are met
  - Gestational dating should be considered confirmed by an ultrasound
    - if a first trimester ultrasound CRL is within 4 days of the menstrual dating or
    - If a second trimester BPD is within 6 days
    - After 20 weeks, a significant difference in ultrasound and menstrual dating should be viewed as a gestational range

Gestational Age Assessment

Suggested gestational dating paradigm:

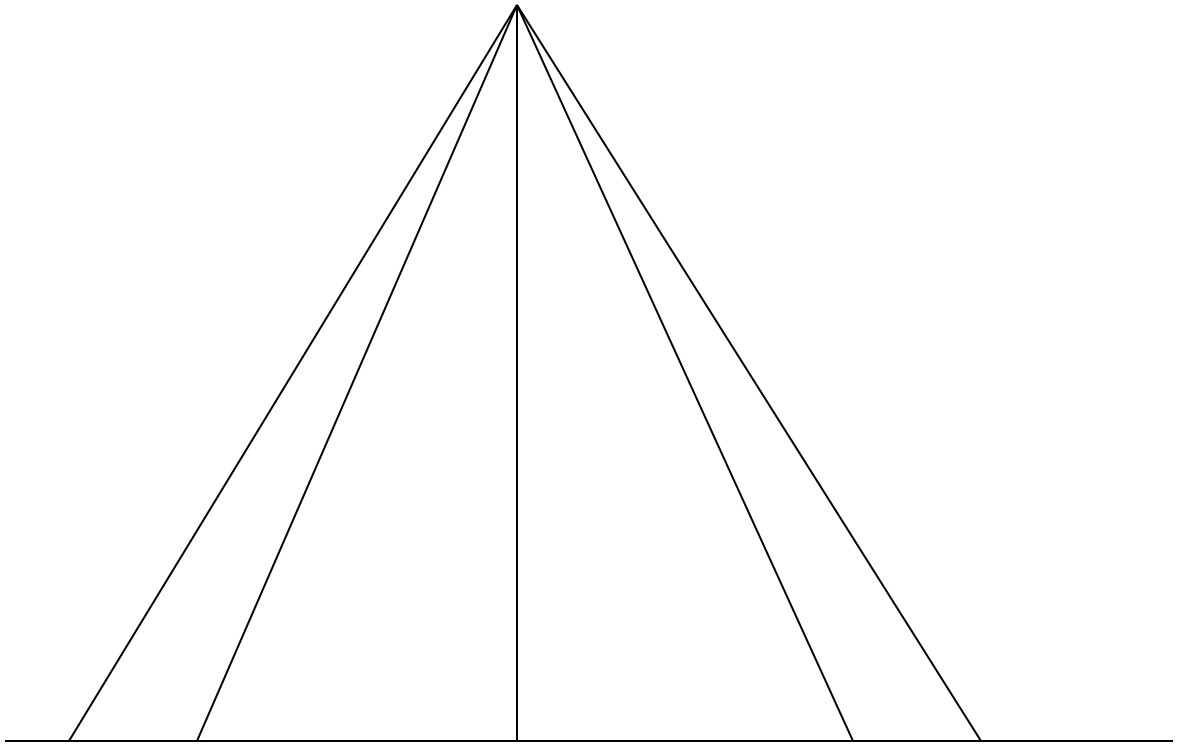
- If all conditions are not met
  - Gestational dating should be established by ultrasound, preferably between 6 and 10 weeks, by crown rump length measurements that are recorded for review as needed (Yolk sac or gestational sac measurement is not acceptable for accurate dating).
  - No matter how the menstrual dates correlate with the ultrasound dating, ultrasound dating should be used

Gestational Age Assessment

Suggested gestational dating paradigm:

- It is always acceptable to use the first trimester ultrasound dating if performed in a quality ultrasound setting that includes quality review. Pregnancies resulting from in vitro fertilization should be dated based on the date of fertilization (as the ovulation date) or the age of the embryos in days at transfer from fertilization date.
- Once established, the gestational dating should not be changed.

Gestational Age Assessment



Gestational Age Assessment

Suggested gestational dating paradigm:

- Accurate LMP
- Regular cycles
- No recent hormonal contraception
- Ultrasound agreement
  - within 4 d of CRL
  - within 6 days of BPD

All Yes

- Menstrual dating confirmed and consistently used

Gestational Age Assessment

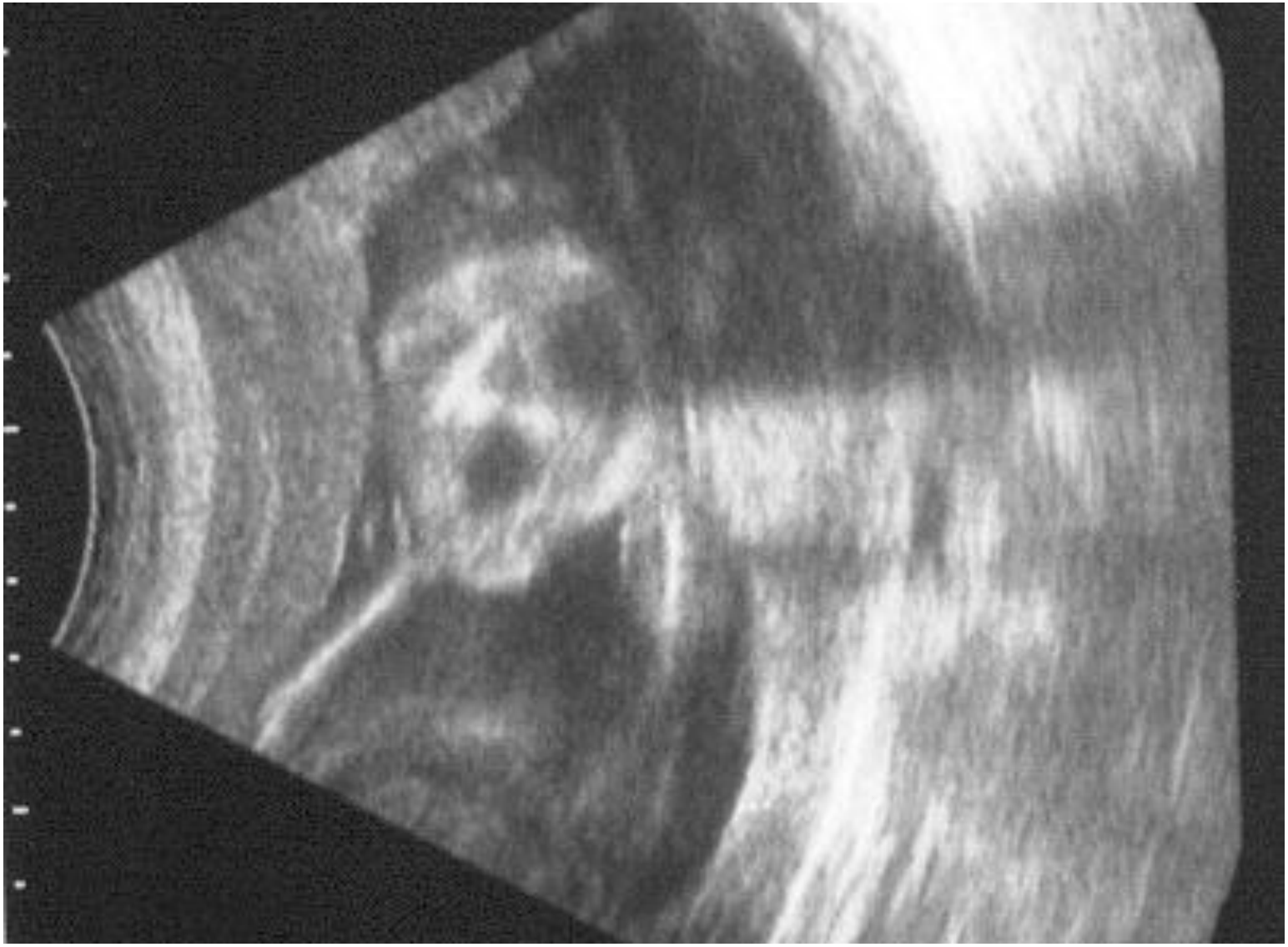
Suggested gestational dating paradigm:

- Accurate LMP
- Regular cycles
- No recent hormonal contraception
- Ultrasound agreement
  - within 4 d of CRL
  - within 6 days of BPD

Any No

- Ultrasound dating recognized and consistently used

Questions?



Public Tool

- Currently, Childbirth Connection and IHI are testing a tool to support the collaborative discussion between providers and patients in determining the most accurate due date.

CHILDBIRTH CONNECTION since 1918
Helping women and health professionals make informed maternity care decisions.

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Which Due Date Should I Use?

It's easy to get confused about your "official" due date. You might come up with one date yourself, get a different due date from your doctor or midwife, and hear another date at your ultrasound visit.

Even though a due date is just an estimate of when your baby will be born, it is important to have an accurate date because you might have to make decisions about your care that depend on how far along you are in pregnancy. **An accurate due date can prevent problems, such as your baby being born too early and having health problems.**

This worksheet will guide you to your most accurate estimated due date. Ask your care provider to check your records to make sure that your most accurate due date correctly appears there. **Once you have an accurate due date using this method, that is the date you and your providers should use for the rest of your pregnancy.**

Worksheet to Find Your Most Accurate Due Date

Answer these questions below, in order, until you reach **STOP.** Discuss your answers with your care provider to agree on an accurate due date.

1. Do you know the exact day your last period started?
□ Yes – **go to #2.**
□ No – an ultrasound is the best way to establish your due date. **STOP**

2. Do you know what date you expect your next period to start?
□ Yes – **go to #3**.
□ No – an ultrasound is the best way to establish your due date. **STOP**

3. In the past 3-4 months, have you:
   - Used a hormonal birth control method (pill, ring, shot, implant or hormonal IUD)
   - Breast-fed
   - Been pregnant

□ No – **go to #4.**
□ Yes – an ultrasound is the best way to establish your due date. **STOP**

4. If all three conditions above have been met, you and your care provider should calculate your due date based on your menstrual cycle. You don't need an ultrasound right away to confirm your due date. However, you may have an ultrasound for another reason. If there is a big difference between your menstrual due date and the ultrasound due date, your provider may switch your due date to the ultrasound date.

Most accurate due date based on this guidance: _____.

Thank you!

Please address additional inquiries to IHI Programs to info@ihi.org