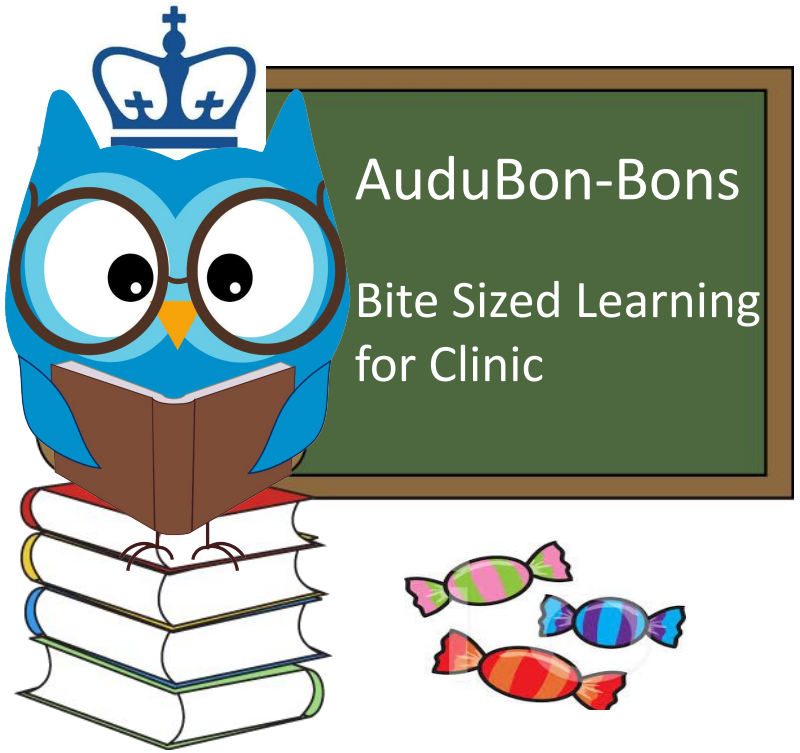
FETAL MOVEMENT COUNSELING

Week 18



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Homework Assignment:

Download **Guidelines for Perinatal Care.**
https://www.acog.org/Clinical-Guidance-and-Publications/Guidelines-for-Perinatal-Care
Read Chapter 6, section on Assessment of Fetal Movement (pg 200-201).

LEARNING OBJECTIVES

- To determine in which patient fetal movement counseling is appropriate
- To be comfortable counseling patients on assessment of fetal movement
- To understand when further evaluation is warranted for a patient complaining of decreased fetal movements

CASE VIGNETTE

- Ms. Dulce Buho is a 33 yo G2 P1001 woman at 34w 2d EGA who presents for a routine prenatal care visit.
  - She reports noticing less fetal movement than normal over the last few days.
  - She wants to make sure her baby is “ok.”

FOCUSED HISTORY

What elements of the patient's history of present illness are most important?

- **Timing:** She reports her fetus is usually most active in the mornings and at night, however she has only noticed 1-2 movements last night and this morning
- **ROS:** Denies contractions, vaginal bleeding, leakage of fluid

- **OBHx:** FT NSVD 2 years ago, uncomplicated
- **PMHx:** cHTN
- **PSHx:** Denies
- **Meds:** None
- **All:** NKDA
- **SocHx:** Denies toxic habits

PERTINENT PHYSICAL EXAM FINDINGS

What elements of the patient's physical exam are most important?

- **Vitals:** T37C, BP 128/84, HR 82, RR 18
- **Abdominal exam:** Nondistended, soft, nontender, no masses
- **Fetal assessment:** FH 33cm, FHR 140bpm

DIFFERENTIAL DIAGNOSIS

- Fetal sleep states
- Maternal medications that cross the placenta (eg, sedatives)
- Maternal smoking
- Poor maternal perception of fetal activity
  - Early gestation
  - Decreased/increased amniotic fluid volume
  - Maternal position
  - Fetal position
  - Anterior placenta
  - Maternal physical activity
  - Mentally distracted
  - Maternal obesity
- Fetal compromise 2’ to pathologic causes

PATHOPHYSIOLOGY

- Functional integrity of fetal regulatory systems can be reflected by a **normal quantity and quality of fetal movements** (and other types of fetal biophysical activity – breathing movements, tone)

- When subjected to **mild hypoxemia**, decreased fetal movements is thought to be a compensatory fetal behavioral response
  - Increased severity and duration of hypoxemia failure of compensatory responses to protect the fetus organ failure or death

RISK FACTORS

- Multiple studies have demonstrated that **women who report decreased fetal movement are at increased risk for adverse perinatal outcomes**
- In developed countries, most prevalent risk factors associated with stillbirth are:
  - Non-Hispanic black race
  - Nulliparity
  - Advanced maternal age
  - Obesity
- Most common modifiable risk factors for adverse pregnancy outcomes:
  - Obesity
  - Smoking
  - Drug and alcohol use

Table 2. Estimates of Maternal Risk Factors and Risk of Stillbirth

Condition	Prevalence	Estimated rate of stillbirth	OR*
All pregnancies		6.4/1000	1.0
Low-risk pregnancies	80%	4.0–5.5/1000	0.86
Hypertensive disorders			
Chronic hypertension	6% 10%	6 25/1000	1.5 2.7
Pregnancy-induced hypertension			
Mild	5.8%–7.7%	9–51/1000	1.2–4.0
Severe	1.3%–3.3%	12–29/1000	1.8–4.4
Diabetes			
Treated with diet	2.5%–5%	6–10/1000	1.2–2.2
Treated with insulin	2 4%	6–35/1000	1 7–7 0
SLE	<1%	10 150/1000	6 20
Renal disease	<1%	15–200/1000	2.2–30
Thyroid disorders	0.2%–2%	12–20/1000	2.2–3.0
Thrombophilia	1% 5%	18 40/1000	2.8 5.0
Cholestasis of pregnancy	<0.1%	12–30/1000	1.8–4.4
Smoking >10 cigarettes	10%–20%	10–15/1000	1.7–3.0
Obesity (prepregnancy)			
BMI 25 29.9 kg/m²	21%	12 15/1000	1.9 2.7
BMI >30	20%	13–18/1000	2.1–2.8
Low educational attainment (<12 y vs. 12 y+)	30%	10–13/1000	1.6–2.0
Previous growth-restricted infant (<10%)	6.7%	12–30/1000	2–4.6
Previous stillbirth	0.5%–1.0%	9–20/1000	1.4–3.2
Multiple gestation			
Twins	2 7%	12/1000	1 0–2 8
Triplets	0.14%	34/1000	2.8 3.7
Advanced maternal age (reference <35 y)			
35–39 y	15%–18%	11–14/1000	1.8–2.2
40 y+	2%	11 21/1000	1.8 3.3
Black women compared with white women	15%	12–14/1000	2.0–2.2

*OR of the factor present compared to the risk factor absent.

Reprinted from Am J Obstet Gynecol, 193, Tretts R, Etiology and prevention of stillbirth, 1923 35, 2005, with permission from Elsevier.

RISK FACTORS

Management of stillbirth. ACOG Practice Bulletin No. 102. American College of Obstetricians and Gynecologists. Obstet Gynecol 2009; 113:748–61.

COUNSELING

- Educate all patients on normal fetal movements across gestation and normal sleep/wake cycles
- At each clinical visit, emphasize the importance of **maternal awareness** of fetal movements
- Counsel women to contact their health care provider immediately if they perceive decreased fetal movements from baseline

COUNSELING

Fetal Kick Counts

- Inexpensive test of fetal well being
- Effectiveness in preventing stillbirth uncertain
- Formal fetal movement assessment
  - Consistent evidence in reduction of fetal deaths in low risk women is lacking
  - May increase the number of antepartum visits and fetal evaluations, however the increased surveillance did not lead to higher rates of intervention
- **All women do not need to perform daily fetal movement assessments. However, if a women notices a decrease in fetal activity, she should be encouraged to contact her health care provider and further assessment should be performed**

COUNSELING

Fetal Kick Counts

- Several counting protocols, however neither optimal number of movements nor ideal duration for counting movements has been defined
- **"Count to ten" method:**
  - Lie on side and count distinct movements
  - Reassuring = perception of 10 distinct movements in a period of up to 2 hours
  - Discontinue counting after 10 movements perceived
- If count is not reassuring, further fetal assessment is recommended

EVALUATION & MANAGEMENT

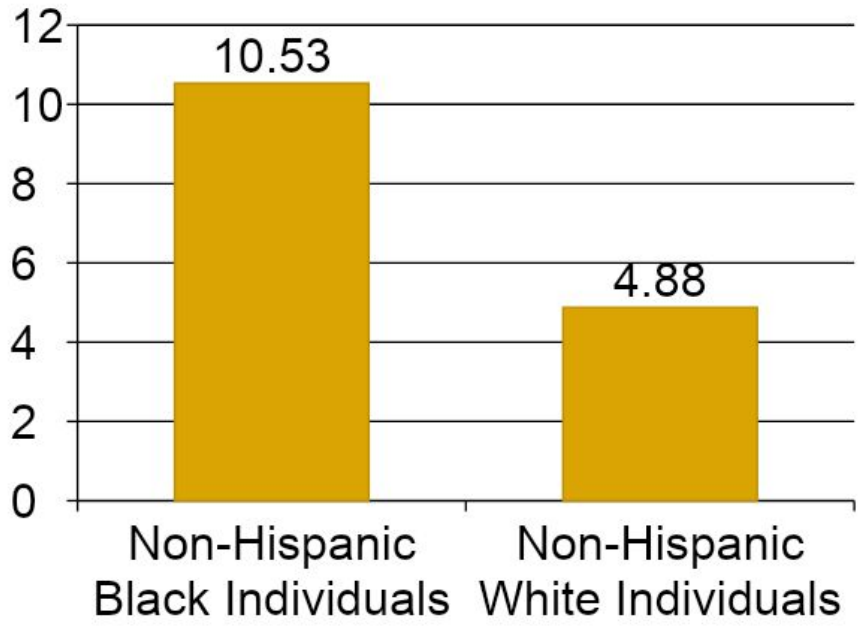
- Assessment of maternal, obstetric and fetal risk factors for stillbirth
- Clinical assessment
  - Fundal height measurements
  - Nonstress test
  - Ultrasound
    - BPP
    - Modified BPP
    - Biometry
- Subsequent management should be individualized based on gestational age, suspected etiology

SOCIAL DETERMINANTS OF HEALTH

Race alone is not a biologic risk factor for stillbirth, however it likely represents the negative influence of racism on health.

Rates of stillbirth are higher in pregnant, self-identified **Black women**, independent of comorbidities

Non-Hispanic Black women have a stillbirth **rate > 2x** that of other racial groups



Further understanding is needed into the effects of racism, race and clinical comorbidities on the inequitable rates of stillbirth.

Epic .phrase

BBonFetalMovementCounseling

Description: Fetal movement counseling

The patient was educated on normal fetal movements for her current gestational age and well as sleep/wake cycles. The importance of maternal awareness of fetal movements was stressed to the patient. The patient was advised to contact the office or L&D if she perceives decreased fetal movement from baseline.

In the event of decreased fetal movements the patient was encouraged to perform fetal kick counts. She was advised to lie on her side and count distinct movements. She was informed that the perception of 10 distinct movements in a 2 hour period is considered reassuring and that she may discontinue counting after 10 movements are perceived. She was informed that if the count is not reassuring, further fetal assessment is recommended.

CODING AND BILLING

- Diagnostic Codes (ICD-10)
  - O36.8130 Decreased fetal movements, third trimester

CODING AND BILLING – NEW PATIENT

HISTORY	EXAM	MEDICAL DIAGNOSIS MAKING	CODE	APPLICABLE GUIDELINES
Problem focused: - Chief complaint - HPI (1-3)	Problem focused: - 1 body system	Straight forward: - Diagnosis: minimal - Data: minimal - Risk: minimal	99201	- Personally provided - Primary care exception - Physicians at teaching hospitals
Expanded problem focused: - Chief complaint - HPI (1-3) - ROS (1-3)	Expanded problem focused: - Affected areas and others	Straight forward: - Diagnosis: minimal - Data: minimal - Risk: minimal	99202	- Personally provided - Primary care exception - Physicians at teaching hospitals
Comprehensive - Chief complaint - HPI (4) - ROS (2-9) - Past, family, social history (1)	Detailed: - 7 systems	Low: - Diagnosis: limited - Data: limited - Risk: low	99203	- Personally provided - Primary care exception - Physicians at teaching hospitals
Comprehensive - Chief complaint - HPI (4+) - ROS (10+) - Past, family, social history (3)	Comprehensive: - 8 or more systems	Moderate: - Diagnosis: multiple - Data: moderate - Risk: moderate	99204	- Personally provided - Physicians at teaching hospitals
Comprehensive - Chief complaint - HPI (4+) - ROS (10+) - Past, family, social history (3)	Comprehensive: - 8 or more systems	High: - Diagnosis: extended - Data: extended - Risk: high	99205	- Personally provided - Physicians at teaching hospitals

CODING AND BILLING – ESTABLISHED PATIENT

HISTORY	EXAM	MEDICAL DIAGNOSIS MAKING	CODE	APPLICABLE GUIDELINES
Expanded problem focused: - Chief complaint - HPI (1-3)	Problem focused: - 1 body system	Straight forward: - Diagnosis: minimal - Data: minimal - Risk: minimal	99212	- Personally provided - Primary care exception - Physicians at teaching hospitals
Expanded problem focused: - Chief complaint - HPI (1-3) - ROS (1)	Expanded problem focused: - Affected area and others	Low: - Diagnosis: limited - Data: limited - Risk: low	99213	- Personally provided - Primary care exception - Physicians at teaching hospitals
Detailed - Chief complaint - HPI (4+) - ROS (10+) - Past, family, social history (3)	Detailed: - 7 systems	Moderate: - Diagnosis: multiple - Data: moderate - Risk: moderate	99214	- Personally provided - Physicians at teaching hospitals
Comprehensive - Chief complaint - HPI (4+) - ROS (10+) - Past, family, social history (2)	Comprehensive: - 8 or more systems	High: - Diagnosis: extended - Data: extended - Risk: high	99215	- Personally provided - Physicians at teaching hospitals

EVIDENCE

- References
  - ACOGs Clinical Guidelines. http://www.acog.org/Resources-And-Publications/Guidelines-for-Perinatal-Care (Accessed on May 21, 2019).
  - Antepartum fetal surveillance. Practice Bulletin No. 145. American College of Obstetricians and Gynecologists. Obstet Gynecol 2014; 124:182 – 92.
  - Decreased fetal movement: Diagnosis, evaluation, and management. Up To Date. https://www.uptodate.com/contents/decreased-fetal-movement-diagnosis-evaluation-and-management
  - Evidence-Based Prenatal Care: Part I. General Prenatal Care and Counseling Issues. Am Fam Physician 2005;71:1307-16, 1321-2.
  - Indications for outpatient antenatal fetal surveillance. ACOG Committee Opinion No. 828. American College of Obstetricians and Gynecologists. Obstet Gynecol 2021;137:e177–97.
  - Management of stillbirth. ACOG Practice Bulletin No. 102. American College of Obstetricians and Gynecologists. Obstet Gynecol 2009; 113:748–61.
  - WHO Reproductive Health Library. WHO recommendation on daily fetal movement counting. (December 2016). The WHO Reproductive Health Library; Geneva: World Health Organization.