

UNIT 2: OBSTETRICS  
SECTION B: ABNORMAL OBSTETRICS

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## Educational Topic 26: Intrapartum Fetal Surveillance

**Rationale:** Intrapartum fetal monitoring helps evaluate fetal well-being.

**Intended Learning Outcomes:**

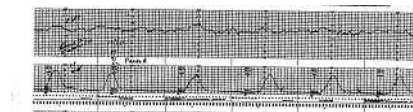
A student should be able to:

- Describe the techniques of fetal surveillance
- Interpret intrapartum electronic fetal heart rate monitoring

### TEACHING CASE

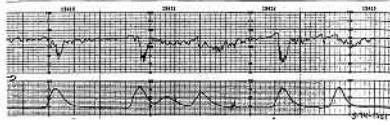
**CASE:** A 27 year-old G3P2 woman at 39 weeks gestation is admitted to the labor and delivery unit in early labor. She has had an uncomplicated pregnancy similar to her other two pregnancies, both of which delivered vaginally. Her last labor was 4 hours in length, and the infant's birth weight was 3900 grams after an uncomplicated delivery.

At the time of admission, her physical examination reveals a healthy appearing woman in moderate distress with contractions every 4-6 minutes, described as 7 on a pain scale of 1-10, with 10 being most severe. Her weight is 165 pounds, blood pressure is 135/82, and fundal height is 37 cm. The estimated fetal weight is around 4000 grams, the fetus is in the vertex presentation and her pelvic examination reveals a gynecoid pelvis with cervix dilated to 5cm/80% effacement/-1 station. Fetal heart rate is noted to be 120 beats per minute when the external monitor is applied.



This patient appears to be having a normal labor at term. The fetal heart rate is normal and the fetus is having accelerations of the fetal heart rate, also a reassuring finding. You determine she has a “category 1” tracing. Her contraction pattern appears normal, and we should expect a vaginal delivery in the next few hours.

Two hours later, the nurse calls you to the labor suite to review the fetal heart tracing below. She expresses concern about the changed appearance of the fetal heart tracing and asks for your opinion.



### COMPETENCY-BASED DISCUSSION & KEY TEACHING POINTS:

Competencies addressed:

- Patient Care
- Medical Knowledge
- Systems-Based Practice

1. What is the purpose of intrapartum fetal heart rate monitoring?
2. What are the commonly used methods of intrapartum fetal monitoring?
3. What are the periodic changes that occur in the FHT? What is the physiology, and what interventions, if any, would be appropriate?
4. What is the most important aspect in the evaluation of any fetal heart tracing?
5. Define the three-tiered FHR interpretation system.

#### Category I

*Category I fetal heart rate (FHR) tracings include all of the following:*

#### Category II

*Category II FHR tracings include all FHR tracings not categorized as Category I or Category III. Category II tracings may represent an appreciable fraction of those encountered in clinical care. Examples of Category II FHR tracings include any of the following:*

### Category III

*Category III FHR tracings include either:*

### REFERENCES

Beckman CRB, et al. *Obstetrics and Gynecology*. 7th ed. Philadelphia: Lippincott, Williams & Wilkins, 2013.

Hacker NF, Moore JG, et al. *Essentials of Obstetrics and Gynecology*. 5th ed. Philadelphia: Saunders, 2010.

ACOG Practice Bulletin 106, Intrapartum Fetal Heart Rate Monitoring: Nomenclature, Interpretation, and General Management Principles, July 2009; Reaffirmed 2013.

ACOG Practice Bulletin 116, Management of Intrapartum Fetal Heart Rate Tracings, November 2010; Reaffirmed 2013.

Macones GA, Hankins GDV, Spong CY, Hauth J, Moore T. The 2008 National Institute of Child Health and Human Development Workshop Report on Electronic Fetal Monitoring: Update on Definitions, Interpretation and Research Guidelines. *Obstetrics & Gynecology*. 112(3):661–666, September 2008.