PROTOCOL FOR: **<u>Monitoring: External Fetal Heart Rate / Uterine Activity: Care of the Patient on</u>**

POLICY:

1. Any patient requiring fetal and/or uterine assessment, fetal observation or routine testing shall be placed on a fetal monitor.
2. The monitoring of the FHR for multiple gestation should be done simultaneously.

DESIRED PATIENT OUTCOMES:

1. Fetal well-being will be maintained and fetal injury avoided while external fetal heart rate / uterine activity monitoring is utilized.

CLINICAL ASSESSMENT AND CARE:

1. Explain the need for fetal monitoring to patient.
2. Have patient empty her bladder.
3. Position patient for maximal uterine flow, i.e., left lateral, hip roll under right hip.
4. Assess maternal vital signs prior to monitoring as per unit protocols.
5. Place patient on monitor as directed by procedure below.
6. Monitor fetal hear pattern / uterine activity pattern per MD order.

PROCEDURE:

ACTION	POINTS OF EMPHASIS
1. Place patient in a comfortable position, i.e., semi-fowlers, side lying. Avoid supine position.	1. Restriction of uterine blood flow may cause uterine irritability and/or changes in fetal heart pattern. If supine position is necessary, place hip roll under patient.
2. Determine fetal heart rate baseline.	2. Report non-reassuring fetal heart rate changes, such as: • Prolonged (>10 min) increase in baseline • Decelerations • Bradycardia • Absent or minimal long-term variability not associated with cyclicity • Tachycardia Report a pattern of contractions that differ from patient's norm.

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Refer to the attached addendum for pattern definition (p. 3,4)

3. Secure Tocotransducer to maternal abdomen.

3. Calibrate per manufacturer's recommendation.

4. In multiple gestations, identify and mark FHR tracing to distinguish between the different fetuses.

4. Monitoring of twins, triplets, etc. should be done simultaneously. This may require 2 monitors of the patient has triplets or quadruplets. It may be helpful prior to monitoring to ascertain fetal position with ultrasound whenever possible to determine better ultrasound transducer placement for fetal heart monitoring.

5. Instruct patient on use of marker button.

5. External marker button may be used for recording fetal movement, contractions, etc. Note activity that marker is indicating on strip.

DOCUMENTATION: Document the following on monitor tracing:

1. Label placed at beginning of tracing filled out as applicable.
2. Note position of patient and any changes in position during monitoring.
3. Document any interventions and administration of medication.
4. Document fetal heart rate patterns based on the attached addendum.

APPROVAL: Nursing Standards Committee

EFFECTIVE DATE: 12/85

REVISION DATES: 5/88, 2/92, 10/93, 1/97, 3/00, 5/06, 10/06

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Definitions of Fetal Heart Rate Patterns

Pattern	From ACOG Practice Bulletin No. 62 ***Definition***	University of Connecticut Health Center
Baseline	• The mean FHR rounded to increments of 5 beats per min during a 10 min segment, excluding: - -Periodic or episodic changes -Periods of marked FHR variability -Segments of baseline that differ by more than 25 beats per min The baseline must be for a minimum of 2 min in any 10-min segment	
Baseline variability	• Fluctuations in the FHR of two cycles per min or greater (*LTV implied)* • Variability is visually quantitated as the amplitude of peak-to-trough in beats per min -Absent-amplitude range undetectable -Minimal-amplitude range detectable but 5 beats per min or fewer -Moderate (normal)-amplitude range 6-25 beats per min -Marked-amplitude range greater than 25 beats per min	*Short term Variability (STV, beat-to-beat)* *Present, absent, intermittent* ****Sinusoidal* *Amplitude usually 5-15 BPM, absence of reassuring variability or accelerations* *Pseudosinusoidal* *Reassuring FHR variability and accelerations may be present*
Acceleration	• A visually apparent increase (onset to peak in less than 30 sec) in the FHR from the most recently calculated baseline • The duration of an acceleration is defined as the time from the initial change in FHR from the baseline to the retum of the FHR to the baseline • At 32 weeks of gestation and beyond, an acceleration has an acme of 15 beats per min or more above baseline, with a duration of 15 sec or more but less than 2 min • Before 32 weeks of gestation, an acceleration has an acme of 10 beats per min or more above baseline, with a duration of 10 sec or more but less than 2 min • Prolonged acceleration lasts 2 min or more but less than 10 min If an acceleration lasts 10 min or longer, it is a baseline change	
Bradycardia	Baseline FHR less than 110 beats per min	
Early Deceleration	• In association with a uterine contraction, a visually apparent, gradual (onset to nadir 30 sec or more) decrease in FHR with return to baseline Nadir of the deceleration occurs at the same time as the peak of the contraction	*** Uniform in shape* ****Rarely falls more than 20 - BPM below baseline*

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Late deceleration	• In association with a uterine contraction, a visually apparent, gradual (onset to nadir 30 sec or more) decrease in FHR with return to baseline • Onset, nadir, and recovery of the deceleration occur after the beginning, peak, and end of the contraction, respectively	*** Uniform specific FHR pattern whose shape reflects the shape of the associated uterine contraction* ****Rarely falls more than 30 BPM below baseline and usually not more than 10 to 20 BPM* *****Duration proportional to duration of contraction*
Tachycardia	• Baseline FHR greater than 160 beats per min	
Variable deceleration	• An abrupt (onset to nadir less than 30 sec), visually apparent decrease in the FHR below the baseline The decrease in FHR is 15 beats per min or more, with a duration of 15 sec or more but less than 2 min	*** Varies markedly in shape from contraction to contraction* ***Onset bears a variable time relationship to the beginning of the associated uterine contraction* ***It usually falls below 100 BPM* ****Variable in duration, intensity and timing relative to uterine contractions*
Prolonged deceleration	• Visually apparent decrease in the FHR below the baseline • Deceleration is 15 beats per min or more, lasting 2 min or more but less than 10 min from onset to return to baseline	

** From an Atlas of Fetal Heart Rate Patterns; Edward. H. Hon
*** Fetal Heart Rate Monitoring; Roger K Freeman, Thomas J. Garite, Michael P. Nageotte
****Exercises in Fetal Monitoring; Barry S. Schifrin