Fetal Monitoring During Labor- Maternal (OB) Nursing

The following are 3 different methods of fetal monitoring:

- **Intermittent auscultation and palpation**
- **External fetal monitoring**
- **Internal fetal monitoring**

Auscultation & palpation	Only appropriate in **low-risk** women Use of a fetoscope or Doppler ultrasound to auscultate fetal heart rate Requires 1-1 nursing care Mother is free to walk around and change positions as she wants Pressure from device is uncomfortable for some women
Electronic fetal monitoring	Supplies more data about the fetus than auscultation Provides a record that can be printed or stored electronically Easy to identify trends in fetal heart rate and uterine activity Allows for one nurse to observe two laboring women Main disadvantage is **reduced mobility for the mother** **External:** -Ultrasound transducer- secured on the mother's abdomen with straps -Less accurate than internal devices but are noninvasive -Toco transducer- this device detects changes in uterine activity -Fetal size, abdominal fat thickness, maternal position, and location will all affect the reading obtained -Produces a tracing **Internal:** -Accuracy is the main advantage -Requires **ruptured membranes** and about **2 cm of cervical dilation** -Slightly **increased risk for infection** -Fetal scalp electrode -detects electrical signals from the fetal heart –**avoid fetal face, fontanels, and genitals** -Intrauterine pressure catheter -measures uterine activity -solid catheter or a hollow, fluid-filled catheter

Normal fetal heart rate: 110-160
Bradycardia <110
Tachycardia >160

The nurse should be mindful of the following mechanisms that **influence heart rate:**

- **Maternal hypertension**– could reduce flow to the placenta
- **Hypertonic contractions**– decrease placental blood flow
- Placental disruptions
- **Compressed or prolapsed cord**

Fetal Heart Rate Patterns

Variable decelerations	• Caused by reduced flow through the umbilical cord- cord compression • Shape, duration, and degree of fall below baseline rate are variable- fall and rise in rate is abrupt • *Change position of mother, apply O2, discontinue oxytocin, assess mother's VS*
Early decelerations	• Mirror images of contraction • Return to baseline fetal heart rate by the end of the contraction • Head compression during contractions- increases intracranial pressure • Maternal position changes usually have no effect on pattern • **Not associated with fetal compromise**
Acceleration	• Temporary increases in fetal heart rate; periodic or nonperiodic • Peaks at 15 bpm above the baseline for at least 15 seconds • Associated with fetal movement • **Reassuring**– baby is moving and is tolerating it • *No intervention needed-Nurse should continue supporting optimal oxygenation*
Late decelerations	• Begins after contraction begins (often near peak) • Reflect possible impaired placental exchange; **nonreassuring** • *Requires nursing intervention to improve blood flow and fetal oxygen supply*

“VEAL CHOP”

Variable decelerations	Cord compression
Early decelerations	Head compression
Accelerations	Ok
Late decelerations	Placental insufficiency

General nursing interventions while monitoring fetal heart rate patterns:

- Identify the cause of the pattern
- Increase placental perfusion- turn mother to left side, administer oxygen, infuse Lactated Ringers
- Tocolytic drug, such as terbutaline, may need to be administered to lessen uterine activity
- Reduce cord compression
- Prepare for c-section if fetal compromise is suggested
- Update and educate the mother and partner
- Communicate nonreassuring signs with the healthcare provider