# Labor, birth and fetal monitoring

**True vs false labor, stages, station, pain relief, oxytocin, emergencies, reading the tracing**

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★ high yield



## 1 AT A GLANCE

Labor is a normal process: support it, watch both patients, and recognize when it stops being normal.

### False or true labor?

| | False (Braxton Hicks) | True labor |
|---|---|---|
| **Pattern** | Irregular, usually short | Regular, about 5 to 10 minutes apart |
| **Over time** | Taper off | Longer, stronger, closer; spread to the back |
| ★ **With activity** | Walking or lying down may stop it | **Doesn't stop**, whatever she does |
| ★ **Cervix** | No change | **Only true labor changes it** |

**Timing:** Time contractions from the start of one to the start of the next.

### Signs labor is near, and when to call

- Lightening: the baby drops into the pelvis. Bloody show: the cervix is starting to open, though labor may be days away.
- ★ **Water breaks: she calls right away and notes the time, color and odor**, because infection risk rises.
- Also call for less fetal movement, bleeding beyond spotting, or painful contractions every 5 to 10 minutes for an hour.

### Stages of labor

| Stage | What, and how long |
|---|---|
| ★ **First** | Start of labor to **full dilation, 10 cm**: the cervix effaces and dilates. Longest, often 12 to 19 hours; ends with transition |
| **Second** | Pushing and birth, usually 20 minutes to 2 hours. Crowning: the head appears |
| **Third** | Delivering the placenta: shortest, 5 to 30 minutes |

**Transition:** Very strong contractions, little rest, shakiness, nausea. Help her relax between contractions: ice chips, a cool cloth, back rubs.

### Station and position

| | Means |
|---|---|
| ★ **Station** | Presenting part compared with the ischial spines. **Zero station: level with the spines**; above them, minus 1 to minus 5 |
| **Occiput anterior or posterior** | **Anterior, facing the mother's back, is best.** Posterior, facing her front, is harder, often with back labor |
| **Breech, transverse** | Breech: usually delivered by C-section; vaginal breech birth is only for selected cases. Transverse: a C-section unless the baby can be turned |

### Pain relief

| | What it does, and what to watch |
|---|---|
| **Comfort** | Breathing and relaxation, warm showers, massage, heat on the lower back, position changes, ice chips, a supportive person |
| ★ **IV or IM opioids** | Make pain bearable without affecting pushing; short-acting; drowsiness, nausea, itching. **Not right before delivery**: they may slow the baby's breathing and heart rate at birth |
| ★ **Epidural** | Numbs the lower body; relief in 10 to 20 minutes. **Main risk: her blood pressure drops**, which can slow the baby's heart rate. IV fluids; if pressure falls, she turns on her side and may get medicine to raise it. Pushing can be harder |
| **Other blocks** | Spinal: one injection, fast relief for 1 to 2 hours. Pudendal: numbs the vaginal area just before birth |

### Induction and oxytocin

- Reasons: ruptured membranes without labor, past the due date, high blood pressure or diabetes, fetal concerns.
- Prostaglandins ripen the cervix, with the fetal heart monitored. Amniotomy needs a dilated cervix and the head down in the pelvis.
- Oxytocin: IV by pump, slowly increased, **piggybacked so it can be stopped without stopping the IV**.
- ★ Watch the fetal heart and contraction strength. **Too strong or too long: stop the oxytocin.**

### C-sections and emergencies

- C-section: about 1 in 3 births. Risks: infection, more blood loss; later previa, uterine rupture or accreta. The baby has more breathing problems right after birth.
- ★ **Cord prolapse: lift the presenting part off the cord** while the team prepares; an emergency C-section is usually needed.
- VBAC usually succeeds; its most serious risk is uterine rupture, so continuous monitoring, with a team ready.

### Testing before labor

| Test | How, and results |
|---|---|
| ★ **Nonstress test** | Usually after 28 weeks; no risk; two belts, about 20 to 30 minutes. **Reactive: the heart rate rose at least twice, reassuring.** Nonreactive: the baby may be asleep; not proof of a problem, but more testing follows |
| **Contraction stress test** | Oxytocin or nipple stimulation causes mild contractions. Heart rate slows after them: the baby may struggle in labor |
| **Biophysical profile** | Nonstress test plus ultrasound: movement, tone, breathing, amniotic fluid. Often next after a nonreactive test |

**Educational use only.** Not a substitute for clinical judgment, your facility's policy or the provider's orders. Where practice varies, follow facility policy and state law. No patient information.

# Labor, birth and fetal monitoring

## 1 AT A GLANCE, CONTINUED

### Reading the tracing

| | Reading it |
|---|---|
| ★ **Baseline** | Average rate over 10 minutes. **Normal 110 to 160 bpm.** Above 160: tachycardia (maternal fever or infection, terbutaline, cocaine, abruption). Below 110: bradycardia |
| ★ **Variability** | **Moderate, 6 to 25 beats, is normal.** Minimal: 5 or less. Absent: flat. Marked: over 25 |
| **Accelerations** | 15 beats for 15 seconds after 32 weeks; 10 for 10 before. Moderate variability or accelerations strongly suggest the baby is well oxygenated |

### Decelerations

| | Shape and timing | Means, and what to do |
|---|---|---|
| **Early** | Gradual dip that mirrors the contraction, lowest at its peak | Early decelerations fit a normal tracing: **no action needed** |
| ★ **Late** | Gradual, but **lowest after the contraction's peak** | Poor blood flow through the placenta: **side-lying, an IV bolus, check the contractions**, and oxygen only as ordered. After an epidural, check her blood pressure |
| ★ **Variable** | Abrupt drop that varies from one contraction to the next | Cord compression: **reposition her first**; amnioinfusion if they keep recurring. Occasional variables usually need no treatment |
| **Prolonged; sinusoidal** | Prolonged: 2 to 10 minutes. Sinusoidal: smooth sine wave, 20 minutes or more | Prolonged 10 minutes or more is a new baseline. Sinusoidal is Category 3 |

### Categories

| | Tracing, and response |
|---|---|
| 1 | Baseline 110 to 160 bpm, moderate variability, no late or variable decelerations. Routine care |
| 2 | Everything in between: evaluate, correct the cause, watch closely, reassess |
| ★ 3 | **Absent variability with recurrent lates, variables or bradycardia; or sinusoidal.** Resuscitate in the uterus and prepare for delivery |

### Contractions and resuscitation

- Normal: 5 or fewer contractions in 10 minutes, averaged over 30.
- ★ **More than 5 is tachysystole**: with a worrisome tracing, stop the oxytocin or ripening agent. A short-term tocolytic injection, such as terbutaline, may be ordered; watch her heart rate.
- Resuscitation in the uterus combines side-lying (either side), fluids and fewer contractions, with oxygen only as ordered.
- Scalp blood pH: below 7.20 is abnormal; 7.20 to 7.25 borderline.

## 2 PRIORITY AND SAFETY CALLS

★ Blood pressure falls after an epidural: **turn her onto her side first**, then fluids, and call the provider about medicine to raise it.

★ On oxytocin with recurrent late decelerations and minimal variability: **stop the oxytocin and turn her to her side**, then fluids and oxygen as ordered, and notify the provider.

Head about to crown, and she asks for an IV opioid: question it, because it may slow the baby's breathing at birth.

The nurse feels the cord ahead of the head: lift the presenting part off the cord and expect an emergency C-section.

## 3 EXAM ANCHORS

1. Expect true versus false labor, station, the first action after an epidural, and oxytocin that's too strong.
2. Traps: an opioid just before birth, skipping fluids before an epidural, continuing oxytocin when contractions are too strong.
3. Expect reactive versus nonreactive, naming a deceleration, the first response to lates, and tachysystole on oxytocin.
4. Traps: treating early decelerations as an emergency, and raising oxytocin with late decelerations.
5. Category 3: prepare for delivery. Tachysystole: stop the oxytocin.

## 4 SELF-QUIZ

1. Full dilation is _____ cm.
2. At zero station, the presenting part is level with the _____ spines.
3. A normal fetal heart rate baseline is 110 to _____ bpm.
4. A late deceleration is lowest after the contraction's _____.
5. More than 5 contractions in 10 minutes is called _____.

**ANSWER KEY** 1. 10 · 2. ischial · 3. 160 · 4. peak · 5. tachysystole

## 5 SOURCES

1. ACOG Practice Bulletin 116, Management of intrapartum fetal heart rate tracings (copy hosted by the Illinois Perinatal Quality Collaborative) (2010). ilpqc.org/ILPQC%202020+/PVB/Toolkit/FI/ACOG%2…
2. MedlinePlus, Nonstress test. medlineplus.gov/lab-tests/nonstress-test
3. MedlinePlus, Epidural block - pregnancy. medlineplus.gov/ency/patientinstructions/000484.htm
4. DailyMed, Pitocin (oxytocin). dailymed.nlm.nih.gov/dailymed/drugInfo.cfm

**Built from RN PocketPal course lessons:** Labor and birth (c17-l03); Fetal monitoring and internal monitoring (c17-l04). Every line on this sheet comes from those lesson scripts.

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