

Hormones Driving Labor and Birth

What powerful hormones affect the process of labor and birth?

It can be especially helpful to know about three of the many hormones involved with reproduction: oxytocin, endorphin, and adrenaline. These hormones play a major role in regulating the process of labor and birth.

What is the role of oxytocin during labor and birth?

Oxytocin ("ahk-sih-TOH-sin") is often known as the "hormone of love" because it is involved with sexual intercourse, fertility, contractions during labor and birth, and the release of milk in breastfeeding. It helps us feel good, and it triggers nurturing feelings and behaviors. Receptor cells allowing your body to respond to oxytocin increase gradually in pregnancy, and then sharply in labor. Oxytocin is a potent stimulator of pressure waves, which help to open up your cervix, move your baby down and out of your body, give birth to your placenta, and limit bleeding from the placenta site. During labor and birth, the pressure of the baby against your cervix and then against tissues in your pelvic floor stimulates oxytocin and pressure waves. So does a suckling newborn. Low levels of oxytocin during labor and birth can cause problems by:

- causing pressure waves to stop or slow, and lengthening labor
- resulting in excessive bleeding at the placenta site after birth
- leading providers to respond to these problems with interventions

What is the role of endorphins during labor and birth?

Endorphins are calming and pain-relieving hormones that people produce in response to stress and pain. The level of this natural morphine-like substance may rise toward the end of pregnancy, and then rises steadily and steeply during un-medicated labors. (Most studies have found a sharp drop in endorphin levels with use of epidural or opioid pain medication.) High endorphin levels during labor and birth can produce an altered state of consciousness that helps women flow with the process, even when it is long. A woman with high endorphin levels can feel alert, attentive, and even euphoric as she begins to get to know and care for her baby after birth. Endorphins may play a role in strengthening the mother-infant relationship at this time. A drop in endorphin levels in the days after birth may contribute to the "blues" that many women experience at this time. Low levels of endorphin can cause problems in labor and birth by:

- causing labor to be excessively painful and to feel intolerable
- leading providers to respond to this problem with interventions

What is the role of adrenaline during labor and birth?

Adrenaline is the "fight or flight" hormone that humans produce to help ensure survival. Women who feel threatened during labor (for example by fear or severe pain) may produce high levels of adrenaline. Adrenaline can slow labor or stop it altogether. Earlier in human history, this disruption helped birthing women move to a place of greater safety.

Too much adrenaline can cause problems in labor and birth by:

- causing distress to the unborn baby
- causing pressure waves to stop, slow, or have an erratic pattern, and lengthening labor
- creating a sense of panic and increasing pain in the mother
- leading providers to respond to this problem with cesareans and other interventions

What steps can I take to help ensure that these hormones work well for me?

Promote your body's production of **oxytocin** during labor and birth by:

- staying calm, comfortable, and confident
- avoiding disturbances, such as unwelcome people or noise and uncomfortable procedures
- staying upright and using gravity to apply your baby against your cervix
- engaging in nipple or clitoral stimulation activities before birth and giving your baby a chance to suckle shortly after birth

Enhance your body's production of **endorphins** during labor and birth by:

- staying calm, comfortable, and confident
- avoiding disturbances, such as unwelcome people or noise and uncomfortable procedures
- avoiding epidural or opiates as a pain relief method

Keep **adrenaline** down during labor and birth by staying calm, comfortable, and relaxed. The following can help:

- being informed and prepared
- having trust and confidence in your body and your capabilities as a birthing woman
- having trust and confidence in your caregivers and birth setting
- being in a calm, peaceful, and private environment and avoiding conflict
- being with people who help you with comfort measures, good information, positive words, and other support
- avoiding intrusive, painful, disruptive procedures