

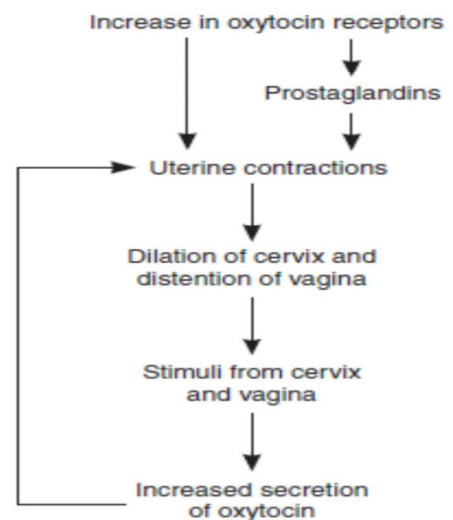
# Parturition

## Parturition

Labor or *parturition* is the process by which the fetus is expelled from the uterus through the vagina. Its onset is determined by complex interactions of several placental and fetal hormones. Since progesterone inhibits contractions of uterus, labour cannot occur until weakening of the effects of progesterone. Toward the end of pregnancy, the levels of oestrogens in mother's blood rise sharply to overcome the inhibitory effects of progesterone. This rise in oestrogens results from increasing secretion by the placenta of corticotropin-releasing hormone, which stimulates the anterior pituitary gland of the foetus to secrete ACTH (adrenocorticotrophic hormone).

ACTH stimulates the fetal adrenal gland to secrete cortisol and dehydroepiandrosterone (DHEA). The placenta then converts DHEA into an estrogen. High levels of oestrogens cause the number of receptors for oxytocin on uterine muscle fibres to increase, and cause uterine muscle fibres to form gap junctions with one another.

Oxytocin from the posterior pituitary stimulates uterine contractions, and relaxin from the placenta assists by increasing the flexibility of the pubic symphysis and helping dilate the uterine cervix. Estrogen also stimulates the placenta to release prostaglandins, which induce production of enzymes that digest collagen fibres in the cervix, causing it to soften.



Contractions of the uterine myometrium force the baby's head or body into the cervix. Stretch receptors in the cervix send nerve impulses to neurosecretory cells in the hypothalamus, causing them to release oxytocin into blood capillaries of the posterior pituitary gland. Oxytocin then is carried by the blood to the uterus to stimulate the myometrium to contract more forcefully. As the contractions intensify, the baby's body stretches the cervix still more, and the resulting nerve impulses stimulate the secretion of yet more oxytocin. With birth of the infant, the positive feedback cycle is broken because cervical distension suddenly lessens.

uterine contractions occur in waves that start at the top of the uterus and move downward, eventually expelling the foetus.

True labour begins when uterine contractions occur at regular intervals, which produces pain. As the interval between contractions shortens, the contractions intensify. Another symptom of true labour in some women is localization of pain in the back that is intensified by walking. The most reliable indicator of true labour is dilation of the cervix and the "show," a discharge of a blood-containing mucus into the cervical canal.

In false labor, pain is felt in the abdomen at irregular intervals, but it does not intensify and walking does not alter it significantly. There is no "show" and no cervical dilation.

### Stages of labour

True labor can be divided into three stages:

1. *Stage of dilation.* Time from the onset of labour to the complete dilation of the cervix is the stage of dilation. This stage typically lasts for 6-12 hours. It has regular contractions of the uterus, usually a rupturing of the amniotic sac, and complete dilation (to 10 cm) of the cervix. If the