Normal labour

Definition & Stages

By
Dr Suhaila F. Al-Shaikh

Parturition

Means birth of the baby, toward the end of the pregnancy the uterus increase its excitability due to hormonal and mechanical factors.

Then strong uterine contraction develop ending by expulsion of the fetus.

1- hormonal factors: in the mother increase estrogen to progesterone ratio, and increased secretion of the oxytocin by the posterior pituitary.

in the fetus increased oxytocin, incr. cortisol, incr. prostaglandin from the fetal membranes.

2- mechanical factors: stretching of the smooth muscle lead to incr. contractility, so contractions can be induced by fetal movements and over distended uterus in twin pregnancy.

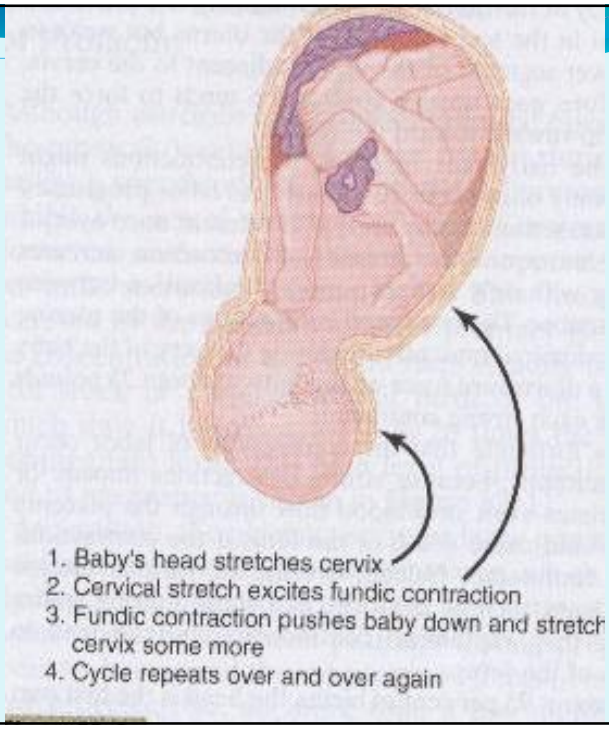
The baby is delivered and this process is called labour, and the contractions are called labour contractions.

Labor contractions continue to occur by a +ve feedback mechanism when the uterine cervix is stretched by the fetal head this will lead to contractions of the uterine body and increase the oxytocin secretion by the post. Pit.

Fergusson reflex

As labour becomes established, the output of oxytocin increases through the Fergusson reflex.

Pressure from the fetal presenting part against the cervix is relayed via a reflex arc involving the spinal cord and results in increased oxytocin release from the maternal posterior pituitary.

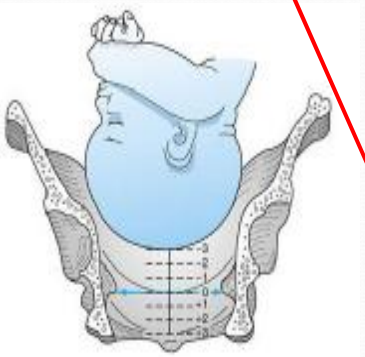


definition

Labor is defined as the onset of a sequence of painful regular uterine contractions that results in progressive effacement and dilatation of the cervix with descent of the presenting part and voluntary bearing-down efforts leading to the expulsion of the products of conception through the vagina.

terms and definitions

YOUR HOMEWORK



[Station of the presenting part]

- **Attitude**
- **caput saccedaneum**
- **effacement of the cervix**
- **Engagement**
- **Position**
- **presenting part**
- **Partogram**
- **show**
- **Station**
- **Term**
- **Vertex**
- **synclitism.**

physiologic Preparation for Labor

- **Lightening:** settling of the fetal head into the brim of the pelvis.
- **Braxton Hicks contractions:** increase in frequency.
- **Cervical ripening:** the cervix begins to soften and become stretchable.

- **Lightening:** occurs 2 or more weeks before labor in first pregnancies.

  it does not occur until early labor in multiparous women.
- Clinically, the mother may notice a flattening of the upper abdomen and increased pressure in the pelvis.
- **Braxton Hicks contractions:** may occur more frequently, sometimes every 10–20 minutes, and with greater intensity during the last weeks of pregnancy. When these contractions occur early in the third trimester, they must be distinguished from true preterm labor.
- These are a common cause of false labour.

Signs and symptoms of labour:

1- lower abdominal and back pain

2- increased vaginal discharge which may be bloody stained discharge or watery (show).

Ø **(Show:** it means the passage of a small amount of blood-tinged mucus from the vagina).

3- there may be nausea and vomiting due to pain

4- in advanced stage of labour (late 1st and 2nd stage) there is increased pain and felling of bearing down

5- increased frequency of micturition, and urge for bowel evacuation when the baby's head press on the bladder and rectum

the definition of a normal labour can only be made retrospectively, there is difficulty in defining exactly when a normal labour becomes abnormal.

Indeed, this definition will be different depending on the gestation, the previous obstetric record and the onset of labour.

The average duration of first labours is approximately 8 hours, and that of subsequent labours 5 hours.

First labours rarely last more than 18 hours, and second and subsequent labours not usually more than 12 hours.

Stages of labour:

- **First stage:** from the time of the beginning of labour until 10 cm cervical dilatation.
- **Second stage:** the period between full cervical dilatation (10 cm) and delivery of the infant.
- **third stage:** the period between the delivery of the infant and the delivery of the placenta.

1st stage

- subdivided into two phases, the latent phase and the active phase.
- Duration: in primipara woman range from 6–18 hours

  while in multiparous woman the range is reported to be 2–10 hours
- The lower limit of normal for the rate of cervical dilatation during the active phase is 1.2 cm per hour in first pregnancies and 1.5 cm per hour in subsequent pregnancies.

1st stage

is divided into latent and active phases

The duration of the latent phase (which start from the onset of labour till 3-4 cm dilatation is variable, it usually lasts between 3 and 8 hours, being shorter in multiparous women.

The second phase of the first stage of labour is called the '*active phase*' and describes the time between the end of the latent phase (3–4 cm dilatation) and full dilatation (10 cm). It is also variable in length, usually lasting between 2 and 6 hours. Again, it is usually shorter in multiparous women.

Cervical dilatation during the active phase usually occurs at 1 cm/hour or more in a normal labour

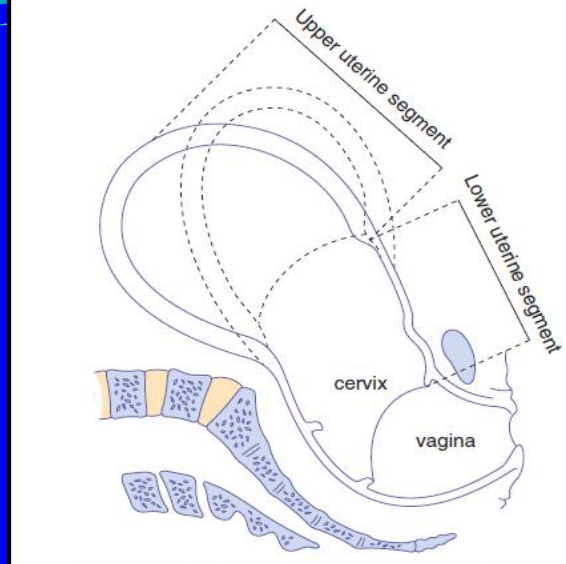


Figure 14.15 The thick upper segment and the thin lower segment of the uterus at the end of the first stage of labour. The dotted lines indicate the position assumed by the uterus during contraction

2nd stage

- duration of the second stage in the primipara is 30 minutes to 3 hours, and is 5–30 minutes for multiparous.
- The upper limit of the normal duration for the primi is 2 hrs, and 1 hr in the multiparous if without epidural analgesia, and you add an hour if the woman is receiving epidural analgesia

third stage:

duration of the third stage is 0–30 minutes for all pregnancies.

Separation of the placenta generally occurs within 2–10 minutes of the end of the second stage

Signs of placental separation

- (a) a fresh show of blood from vagina,
- (b) the umbilical cord lengthens outside the vagina,
- (c) the fundus of the uterus rises up,
- (d) the uterus becomes firm and globular.

Management of labour

When a pregnant woman started labour or when she has spontaneous rupture of membranes at term she should be admitted and full assessment of her condition is accomplished.

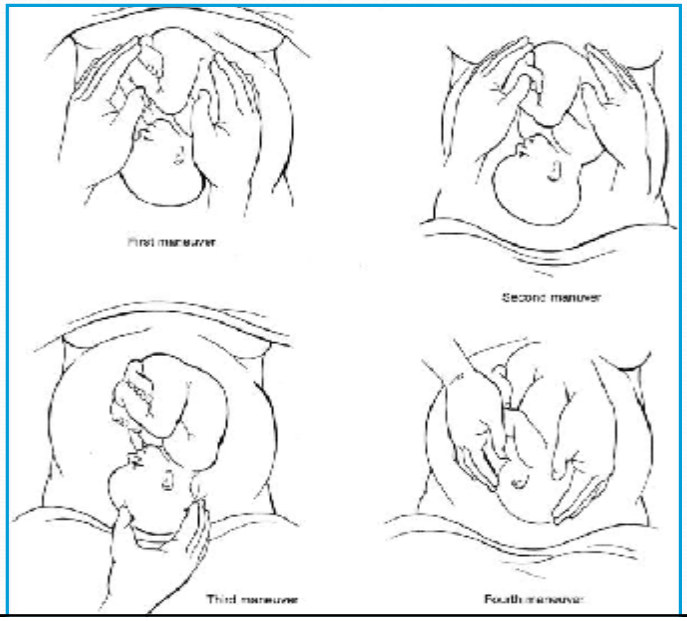
FULL HISTORY ON ADMISSION

- **contractions**
- **watery vaginal discharge or bleeding**
- **LMP, GA , ask her about her bl group and Rh, ANC**
- **past obstetrical history, mode of deliveries, any history of delivering big baby? C/S**
- **recent activity of the fetus**

PROCEED FOR EXAMINATION

- General examination, her vital signs: BP, temp., PR,
- abdominal examination: for any previous scars, and Leopold's maneuvers
- Assessment of the uterine contractions is performed by direct abdominal palpation for at least ten minutes
- FHR should be checked by a pinard stethoscope or sonicaid

Abdominal palpation, Leopold's maneuvers, obstetrical examination



Leopold's maneuvers

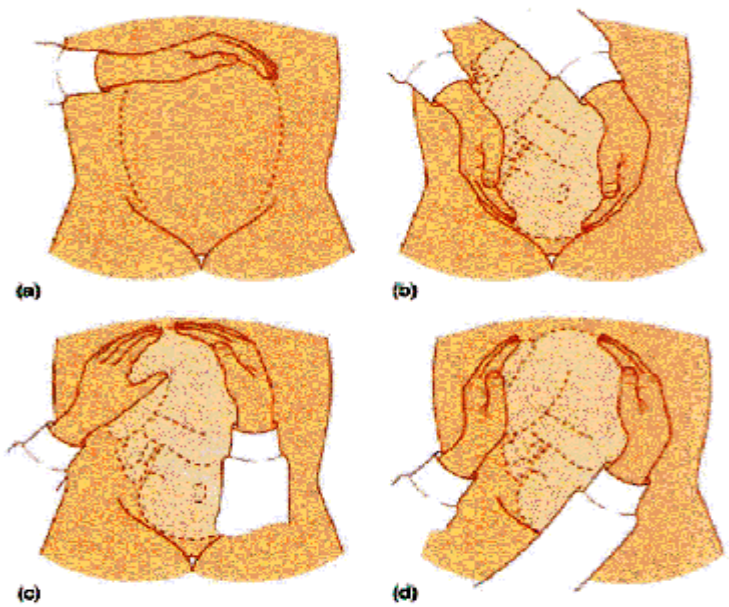


Figure 1.4 Abdominal palpation of the fetus lying transversely.

Vaginal examination

- **the index and middle fingers are passed into the top of vagina and the cervix is gently examined to assess the:**

Bishop's score: (page 12) obstetrics by ten teachers

It include:

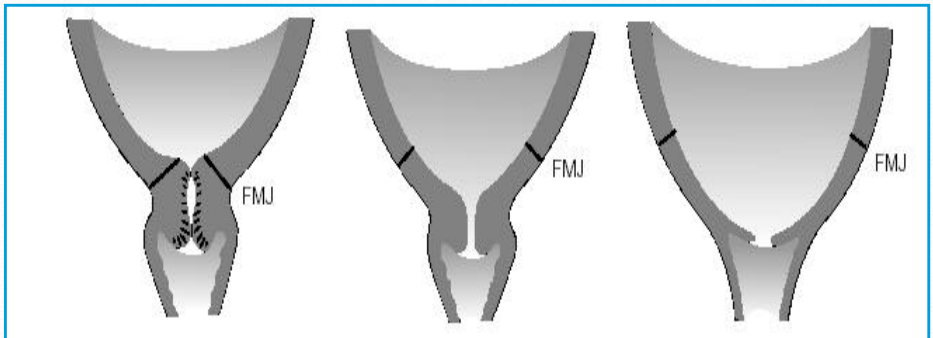
1- dilatation of the cervix digitally in centimeters
2- effacement (shortening of the cervix)
3- station of the presenting part
4- position of the cervix (anterior, central or posterior)
5- consistency of the cervix (soft or firm)

- **effacement by(%) of the cervical canal length which is normally (3) cm at (36) weeks of gestation (if I find it 1.5 cm I can say that it is 50% effaced).**

Table 1.1 – Bishop score

	Score			
	0	1	2	3
Dilatation of cervix (cm)	0	1 or 2	3 or 4	5 or more
Consistency of cervix	Firm	Medium	Soft	–
Length of cervical canal (cm)	>2	2–1	1–0.5	<0.5
Position	Posterior	Central	Anterior	–
Station of presenting part (cm above ischial spine)	3	2	1 or 0	Below

Effacement of the cervix



.5 Shape change in the cervix with the approach of labour (FMJ = fibromuscular junction).

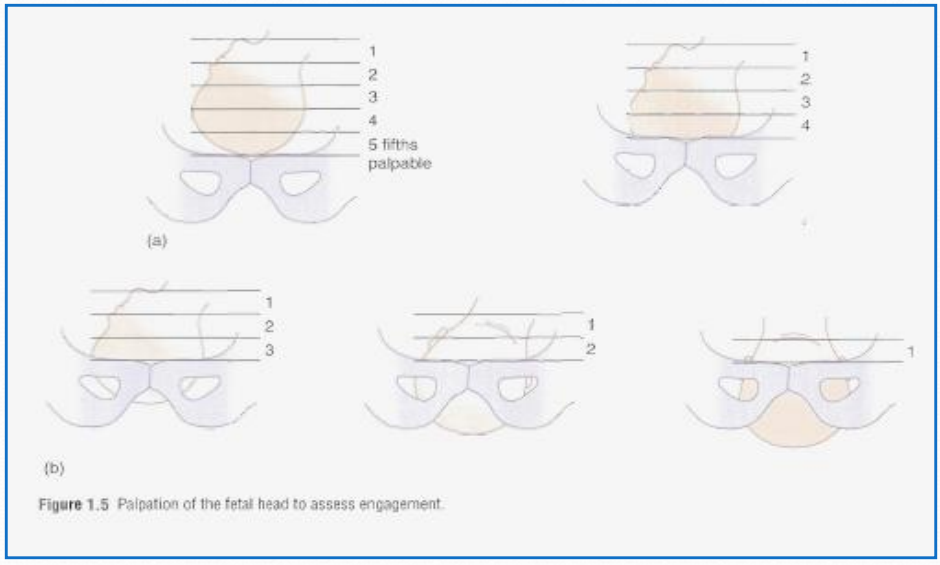
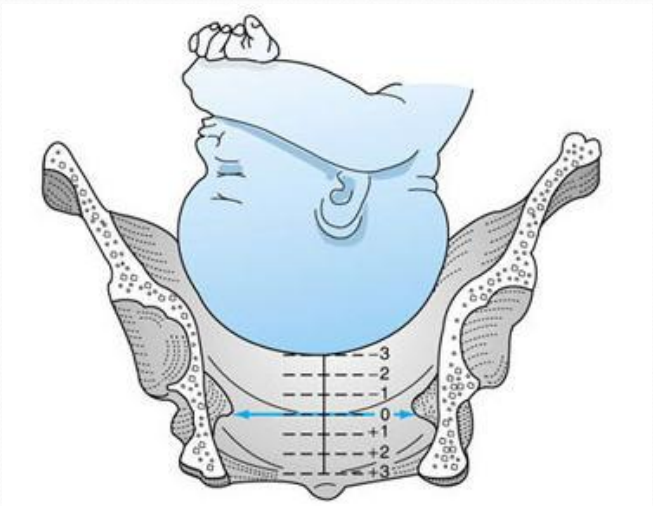


Figure 1.5 Palpation of the fetal head to assess engagement.

station



the position of the presenting part (relation of the denominator of the presenting part to the maternal bony pelvis)