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**NORMAL LABOUR**

At the end of this chapter students will be able to:

- Define labour

- Describe – the mechanism of labour

- List the stages of labour with their features

- Identify the false sign of labour

- Mention management of second stage of labour

- Mention care of mother during labour

- Identify types of episiotomy with its indications.

**Definition-** Labour is described as the process by which the fetus, placenta and membranes are expelled through the birth canal.

**Normal birth** is where the woman commences, continues and completes labour with the infant being born spontaneously at term with cephalic presentation without any surgical, medical or pharmaceutical intervention but with the possibility of referral when needed.

**(ICM, 2008 pg 1, keeping birth normal, position statement, adopted at council meeting in Glasgow)**

**NB:** In primegravidas it can last for 12-14hrs, in multigravida can be 8-10hrs.

**Stages of Labour**

It has three stages. These stages are described as:

**The first stage** of labour it begins with regular rhythmic contraction and is complete when the cervix is fully dilated. It is that of the dilatation of the cervix. This is the longest stage

**This has 2 phases**

• The latent first stage is a period of time characterized by painful uterine contractions and variable changes of the cervix, including some degree of effacement and slower progression of dilatation up to 5 cm for first and subsequent labours (WHO, 2018).

• The **active first stage** is a period of time characterized by regular painful uterine contractions, a substantial degree of cervical effacement and more rapid cervical dilatation from 5 cm until full dilatation for first and subsequent labours

**Duration of the first stage of labour**

• Women should be informed that a standard duration of the latent first stage has not been established and can vary widely from one woman to another.

• However, the duration of active first stage (from 5 cm until full cervical dilatation) usually does not extend beyond **12 hours in first labours,** and usually does not extend beyond **10 hours in subsequent labours**. •

**The second stage** 2

The second stage is the period of time between full cervical dilatation and birth of the baby, during which the woman has an involuntary urge to bear down, as a result of expulsive uterine contractions.

Women should be informed that the duration of the second stage varies from one woman to another. In first labours, birth is usually completed within 3 hours whereas in subsequent labours, birth is usually completed within 2 hours.

**The third stage** is that of the separation and expulsion of the placenta, membranes and control of bleeding.

**Recovery phase (or the fourth stage)** is a period of time from 1-4hrs after delivery in which the physiological readjustment of maternal body begins until vital signs become stable.

**PREMONITORY SIGNS OF LABOUR**

These occur 2-3 weeks before the onset of labor,

➢**Lightening**: before the onset of labour the lower uterine segment expands and allows the fetal head to sink lower and engage. The fundus no longer crowds, breathing is easier, the heart and stomach function more easier and the mother experiences a relief known as lightening. At this time the symphysis pubis widens, the pelvic floor becomes more relaxed and softened, thus allowing the fetus to extend further in the pelvis. Because of this walking is more difficult as the symphysis pubis is more mobile and the relaxation of sacroiliac joint may give rise to backache. Relief of pressure in the fundus results in an increase in pressure within the pelvis. This is accounted for by the presence of the fetal head, venous congestion. Vaginal secretions also become more profuse at this time.

➢**Frequency of micturition:** Congestion in the pelvis limits the capacity of the urinary bladder requiring to be emptied frequently. The laxity of the pelvic floor muscles may give rise to poor sphincter control and a degree of stress incontinence.

➢**Spurious labour**; mothers experience contractions before the onset of true labour which may be painful and regular for sometime but with absence of retraction and dilatation of the cervix.

➢**Taking up of the cervix**; the cervix is drawn up gradually and merges into the lower uterine segment. In a primegravida it may result into complete effacement but in a multgravida a perceptible canal remains

➢**Late pregnancy feelings**; towards term many mothers feel large and clumsy and are impatient for the pregnancy to end. They often experience a surge of energy and a compassion to clean everything in sight. Their mood swings from -elation to depression in the later weeks. So comfort the mother that such responses are normal.

**Causes of the onset of Labor**

The proper cause is not known but there are predisposing factors:

➢Hormonal, Biochemical and mechanical changes that occur around term may trigger labour.

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**PHYSIOLOGY OF THE FIRST STAGE OF LABOUR**

**Duration**: The length of labor varies widely and is influenced by the following: Parity, birth interval, Psychological state, presentation and position, pelvic shape and size, character of uterine contractions.

The first stage takes the largest phase of labour, it is expected that the active phase should be completed within 12hours. On average a primegravida will take most of the time while a multigravida within 6hours to reach second stage of labour.

**CHANGES THAT TAKE PLACE**

**1. UTERINE ACTION**

➢**Fundal dominance:** Each uterine contraction starts in the fundus near the cornua and spreads across and downwards. The contraction lasts longest in the fundus and that’s where it is most intense. The peak is reached simultaneously over the whole uterus and it fades from all parts together. This partern permits the cervix to dilate and strongly contracting fundus expels the fetus

➢**Polarity:** This is a term used to describe a neuromuscular harmony that prevails between the two poles of the uterus. During each contraction the two poles act harmoniously, the upper pole contracts strongly and retracts to expel the fetus while the lower pole contracts slightly and dilates to allow expansion to take place. If polarity is disorganized the onset of labour is inhibited.

➢**Contraction and retraction:** Uterine muscle has a unique property, during labour the contraction doesn’t pass off completely but the muscle fibers retain some of the shortening of contraction instead of becoming completely relaxed. This is termed as **retraction.** This assists in the expulsion of the fetus, the upper segment becomes gradually shorter and thicker and its cavity reduces. In early labour uterine contractions occur 15-20 and may last for about 30 seconds, are fairly weak and the mother may not feel them. They are rhythmic and regular in occurrence and the interval between them gradually lessens while their length and strength gradually increase. By the end of the 1st stage may occur at 2-3 interval lasting 50-60seconds (almost a minute) and are very powerful.

➢**Formation of the upper and lower segments:** Towards the end of pregnancy, the body of the uterus is divided into two distinct segments. The upper uterine segment is usually concerned with contraction and is thick and muscular while the

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lower segment is prepared for distention and dilatation and is thinner. The lower segment develops from the isthmus and is about 8-10cm in length. When labour begins the retracted longitudinal fibres in the upper segment pull on the lower segment causing it to stretch and this is aided by the descending presenting part.

➢**The retraction ring:** Aridge between the upper and lower uterine segments which is known as the retraction ring. When exaggerated e.g. in obstructed labour becomes visible is called the Bandl’s ring. The normal retraction ring gradually rises as the upper uterine segment contracts and retracts and the lower segment thins out to accommodate the descending fetus. Once the cervix is fully dilated the retraction ring rises no more.

➢**Cervical effacement:** If the cervix was not taken up during the last days it will be taken up in the 1st stage. The muscle fibres surrounding the internal os are drawn upwards by the retracted upper segment and the cervix merges into the lower uterine segment. The cervical canal widens at the level of the internal os. In PG the external os remains closed until the cervix is flattened over the presenting part and completely effaced , where as in multigravidas the external os begins to dilate before effacement is complete. In high parous mothers the cervix will never be effaced completely.

➢**Cervical dilatation:** This is the process where by the external os enlarges from a tightly closed aperture to an opening large enough to permit the passage of the fetal head. Dilatation is measured in cm and full dilatation equate to about 10cm. Dilatation occurs as aresult of uterine action,the counter pressure applied by the bag of membranes and the presenting part. A well flexed fetal head closely applied to the cervix favours efficient dilatation.Pressure applied evenly to the cervix causes the uterine fundus to respond by contraction hence labour progresses normally.

➢**Show:** As a result of the dilatation of the cervix, the operculum which forms the cervical plug during pregnancy is lost.The mother will see abloody, stained mucoid discharge a few hours after labour starts.The blood comes from the ruptured capillaries in the parietal deciduas where the chorion has been detatched and from the dilating cervix. There should never be more than ablood stain, frank bleeding is abnormal.

**2. Mechanical factors**

➢**Formation of the fore waters**: As the lower uterine segment stretches the chorion becomes detatched from it and increased intra uterine pressure causes this loosened part of the sac of fluid to bulge downwards into the dilating os .The well flexed head fix snuggly into the cervix and cuts off the fluids in front of the head from that which sorrounds the body and is known as fore waters that surrounding the body is called the hind waters. The effect of this separation is to prevent the pressure applied to the hind waters during the contractions from being

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applied to the fore waters and this keeps the membrane intact during the 1st stage of labour.

➢**General fluid pressure**: As the membrane s remain intact pressure of the uterine contractions is exerted on the fluid and as the fluid is not compressible the pressure is equalized throughout the uterus and over fetal body and this is known as general fluid pressure. When the membranes rupture and the quantity of fluid emerges the placenta is compressed between the uterine wall and the fetus during contractions and the oxygen supply to the fetus is diminished. Preserving the integrity of the membranes optimizes the oxygen supply to the fetus and it also helps to prevent intra uterine infection.

➢**Rupture of membranes**: The physiological moment for the membranes to rupture is at the end of the 1st stage of labour when the cervix becomes fully dilated and no longer supports the bag of fore waters. The uterine contractions are also applying increasing force at this time membranes may rupture days before labour begins or at the end of 1st stage of labour. If for any reason there is a poorly presenting part the fore waters are not cut effectively as membranes rupture but in some cases there may be no definite cause, sometimes membranes don’t rupture even in second stage as you will need to rupture them artificially.

**First stage of Labour**

**Objectives:**

* • Explain the histories taken in labour
* • Discuss the examinations carried out in the 1st stage of labour
* • Describe the partogragh
* • Discuss the different parts of the partograph
* • Discuss the care of the mother during labour

**Recognition of first stage of labour**

It is the mother who recognizes the onset of labour and many mothers feel offended if they misdiagnose the onset. Education during the antenatal period is important to enable the mother recognize the beginning of labour to avoid wasting time and energy in preparing for an occurrence that is not yet about to happen.

**Signs of 1st stage of labor (recognition by the mother)**

**Show:** It is quite common to lose a jelly like discharge to relate to pregnancy but when a pink jelly like loss is noted labour is likely to be imminent.

Note this may be lost after a vaginal exam.

**Contractions**: The Braxton Hicks contractions are more noticeable in late pregnancy .And mothers experience them as painful. They are erratic (irregular and not maintained) and they often last 1 minute. True labour contractions exhibit a pattern of rhythm and regularity usually increasing in length, strength and frequency as time goes on. The mother in early labour feels contractions and may only be aware of a backache and if she places a hand on the abdomen she 6

perceives the simultaneous hardening of the uterus. These contractions will be short initially lasting 30-40 secs and may be as half an hour apart.

**Rupture of membranes:** The mother will have no difficulty in recognizing a sudden gush of fluid as rupture of membranes and she should be instructed to inform the midwife immediately this happens. It is difficult to recognize a dribble of amniotic fluid and the easiest way of differentiating it from urine is by smell, if she confirms that it is urine there is no worry but if she has doubt let her inform the midwife. The midwife will pass the vaginal speculum and test the fluid with nitrazine swab. The swab changes from orange to navy blue in the presence of amniotic fluid.

**Confirmation by the midwife or doctor**

From the history of the mother the midwife or doctor will examine the abdomen to evaluate the character of contractions and on doing a vaginal examination the state of the cervix and the uterine os will be assessed.

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| **Differentiation between the true and false labour contractions False labour** | **True labour** |
| Contractions begin and remain irregular | Begin irregularly but become regular and predictable |
| Felt first abdominally and remain confined to the abdomen | Felt first in lower back and sweep around to the abdomen in a wave |
| Often disappear with ambulation | Continue no matter what the women’s level of activity |
| Do not increase in duration, frequency or intensity | Increase in duration, frequency, and intensity. |