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# LABOR PROTOCOL

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**Abstract**

Series of events that take place in the genital organ to expel out the product of conception through vagina in to the outer world is called labor. First stage of labor starts from the onset of true labor pain and ends with full dilatation of the cervix. Second stage of labor starts from the full dilatation of the cervix and ends with expulsion of the fetus from the birth canal. Third stage begins after expulsion of the fetus ands with expulsion of the placenta and membranes. Fourth stage of labor is the observation for one hour after expulsion of the after births. During this period maternal vitals, uterine retraction and vaginal bleeding are monitored

**Keywords**: labor, expulsion, stage, fetus, cervix, dilatation

## GENERAL INFORMATION REGARDING LABOR:

### DEFINITON:

Series of events that take place in the genital organs in an effort to expel the viable products of conception (fetus, placenta and the membranes) out of the womb through the vagina in to the outer world is called labor.

### CRITERIA FOR NORMAL LABOR:

1. Spontaneous in onset and at room.
2. With vertex presentation.
3. Without undue prolongation.
4. Natural termination with minimal aids.
5. Without having any complications affecting the health of the mother and or the baby.

### FIRST STAGE:

1. It starts from the onset of true labor pain and ends with full dilatation of the cervix. It is, in other words, the "cervical stage". Its average duration is 12 hours in primigravidae and 6 hours in multiparae.

## SECOND STAGE:

1. It starts from the full dilatation of the cervix and ends with expulsion of the fetus from the birth canal. It has two phases: propulsive phase and expulsive phase.
2. **Propulsive phase** – starts from full dilatation upto the descent of the presenting part to the pelvic floor.
3. **Expulsive phase**- is distinguished by maternal bearing down efforts and ends with delivery of the baby.
4. Its average duration is 2 hours in primigravidae and 30 minutes in multiparae.

## THIRD STAGE:

1. It begins after expulsion of the fetus and ends with expulsion of the placenta and membranes (after births). Its average duration is about 15 minutes in both primigravidae and multiparae. The duration is however, reduced to 5 minutes in active management.

## FOURTH STAGE:

1. It is the stage of observation for at least 1 hour after expulsion of the afterbirths. During this period maternal vitals, uterine retraction and vaginal bleeding are monitored. Baby is examined. These are done to ensure that both the mother and baby are well.

## NURSING CARE DURING OF LABOR

### NURSING CARE DURING FIRST STAGE OF LABOR:

a) **Hospital admission:** After physician or nurse has evaluated the patient, and admission order is written
   1) Establish rapport with the women and significant others.
   2) NPO expect ice chips while in labor
   3) Use of fetal monitors
   4) Progress reports
   5) Orient the patient to the surroundings
   6) Obstetric history ( gravida/para, EED, duration of previous labors, problem with previous pregnancies/deliveries)
   7) General condition (Rh status, allergies, history of medical problems)
   8) Current pregnancy ( onset of labor, frequency, duration and intensity of contractions, membranes ruptured or intact, amount and character of show or vaginal bleeding, vital signs, rate, location of fetal heart tones, plans to bottle or breast feed)
   9) Evaluate the current emotional status, for possible danger signs (increase pulse or temperature, excessive vaginal bleeding, presence of meconium in amniotic fluid, alteration in FHR above 160 to below 120, obvious change of uterine contractions)

b) **Perineal preparation:** Shaving of pubic hair to prevent infection of perineal episiotomy/lacerations is rarely done anymore.

**c) Cleansing Enema:**

1) A cleansing enema may range from mini or fleets to a full, soap enema.
2) Some physician consider giving fleets to: prevent fecal contamination of the perineum during delivery, cleanse the bowel, more room for fetal passage, and stimulate uterine contractions.
3) For some physician consider not giving fleets – vaginal bleeding, premature labor, presenting part not engaged, abnormal presentation{breech, transverse}, advanced labor, membranes are ruptured.

**d) Check the Uterine Contractions:**

1) To assess the ability of the uterus to dilate the cervix, help in determining the progress of labor, help to detect abnormalities of uterine contractions, help to evaluate the any signs of fetal distress.
2) To identify the frequency, intensity and duration
3) When palpating for contractions, place your hand over the fundus area of the patient uterus. Contractions can be felt by the fingers before the patient actually became aware of them.

e) **Monitoring and recording Color and amount of show**: As labor progresses, the show becomes more blood tinged. A sharp increase in the amount of bloody show coupled with frequent severe contractions may indicate labor is progressing too rapidly.

f) **Fetal monitoring:** It is done to detect presence of fetal life at time of admission and to detect development of fetal distress during labor. A fetoscope or fetal monitor may be used to obtain FHR. Normal fetal heart rate ranges from 120 to 160 beats per minute.

The rate may increase or decrease by 30BPM during a contraction. It should return to the baseline immediately after the contractions may be indicative of fetal distress.
The FHR should be checked and recorded on admission, every 15 minutes during the first stage of labor, every 5 minutes during second stage of labor, immediately after rupture of membranes. This helps to identify the location of the prolapsed cord.

g) **VITAL SIGNS**: Monitor the patient's vital signs on admission, every hour during early labor, BP, Pulse, respiratory rate every 30 minutes during active, transition and second stage of labor to include the temperature every hour.

h) **Patient should void:** Nurse should offer the patient an opportunity to void every 2hours during labor. The discomfort of contractions often causes the patient to be unaware that her bladder is full. A full bladder may impede the progress of labor.

i) **Patient is NPO during labor:** The patient may have ice chips to prevent drying and chapping of the lips. Vaseline may be applied to her lips to prevent chapping. Once labor is establish gastric emptying is prolonged and while administering analgesics.

j) **Positioning during labor:** assist the patient in turning from side to side. Elevate the head of the bed 30 degrees: this makes it easier for the patient to breathe. Try to keep the patient off her back to prevent supine hypotensive syndrome.

k) **Prevention of infection:** Hand washing is essential before and after performing any procedure. Fresh, clean scrub suits should be worn in the delivery area. Unauthorized persons should not be allowed in the area. A patient with infection should be separated from other patients.

l) **Vaginal Examination:** Only the physician or a trained nurse performs this exam. It is done to evaluate cervical effacement, cervical dilatation, status of membranes, and station of presenting part. Care must be taken to perform good perineal cleansing before and after procedure. Once membrane rupture the exam should be limited even further to prevent the risk of infection.

m) **Artificial rupture of Membranes:** rupture of the membranes is done by physician to induce or hasten labor. Apply an internal fetal monitor lead or uterine catheter. The FHR should be checked immediately following rupture. Determining the fetal distress is secondary to compression of the cord. The cord may be displaced by the sudden gush of waters, which my yield a prolapsed cord. Fluid should be carefully examined for meconium if the fetus is in the vertex presentation.

- Slight green color – light meconium.
- Green to dark color – moderate meconium.
- Dark green with chucks of meconium – heavy meconium.

**Record the following information**:

- Time of the procedure (rupture of membranes)
- Amount of fluid expelled (small, moderate or large)
- Color- clear or meconium stained ( extent of staining- light, moderate or heavy)
- FHR immediately after the procedure and 5 minutes after the procedure.
- Instrument used, if other than amnihook, to provide a slow, controlled release of fluid.

## NURSING CARE DURING SECOND STAGE OF LABOR:

- Never leave the patient alone once she has been transferred to the delivery room.
- Encourage the patients to rest between contractions and to push with contractions. Verbal encouragement and physical contact help reassure and encourage the patient
- Position the patient in lithotomy position. Positioning also depends upon the type of anesthesia to be used and Caesarian section delivery.
- Prepare the patients perineum, a betadine scrub is used for screening. Clean the perineum by washing the pubic area, down each thigh, each side of labia, perineum and the rectal area.
- Monitor the patient Blood pressure and fetal heart rate every 5 minutes and after each contraction.

## NURSING CARE DURING THIRD STAGE OF LABOR:

- Following delivery of the placenta continue the observation of fundus. Ensure that the fundus remains contracted.
- Retention of the tissues in the uterus can lead to uterine atony and cause hemorrhage. Massaging the fundus gently will ensure that it remains contracted.
- Allow the mother to bond with the infant. Show the infant to the mother and allow her to hold the infant.
- Record the time and how (spontaneous or manual) the placenta is delivered.
- Type, amount, time and route of administration of oxytocin are recorded.

**NURSING CARE DURING FOURTH STAGE OF LABOR:**

- Transfer the patient from the delivery table. Assist the patient to move from the table to the bed.
- Provide care of the perineum, ice cap can be applied to the perineum to reduce swelling from episiotomy especially in a 4$^{th}$ degree tear. Apply clean perineal pad between the legs.
- Ensure emergency equipment is available near the bed (oxytoxin to prevent hemorrhage, suction and oxygen in case of eclampsia)
- Ensure the fundus remain firm. Massage the fundus every 15 minutes during the first hour, every 3ominutes during the next hour and then every hour until the patient is ready for transfer.
- Inform the incharge nurse or physician if the fundus remains boggy.

**LABOUR PROTOCOL**

| FIRST STAGE | SECOND STAGE | THIRD STAGE | FOURTH STAGE |
|---|---|---|---|
| **EARLY LABOUR / LATENT PHASE(UNTIL 4 cm DILATATION)**<br>**MATERNAL CARE** **FETAL CARE**<br>**ADMISSION IN LABOUR ROOM**<br>• History collection<br>• Physical examination<br>• Obstetrical examination — FHR monitoring every 30 minutes<br>• Vaginal examination<br>• Review lab investigations<br><br>**ACTIVE LABOUR (4 – 10 cm DILATATION)**<br>**MATERNAL CARE** **FETAL CARE**<br>• Fluids — Check FHR every 30 minutes<br>• Empty bladder<br>• Left lateral position /sitting position<br>• Back massage<br>• Maintain partograph after 4 cm cervical dilatation<br>- Patient information<br>- Fetal condition- FHR, Liquor amnii, Moulding<br>• Progress of labour<br>- Cervical dilatation<br>- Station of head<br>- Time<br>- Uterine contractions<br>- Oxytocin<br>• Monitor the contractions<br>• Bishop score<br>• Orient the mother to labour room | **MATERNAL CARE** **FHR every 5 minutes**<br>• Setting delivery tray<br>Bearing down efforts<br>• Signs of crowning<br>• Episiotomy<br><br>**CONDUCTION OF DELIVERY**<br>perineal support<br>↓<br>Involve family members<br>↓<br>Deliver the baby head<br>↓<br>Identify sex of the baby<br><br>**NEWBORN CARE:**<br>• Clearing the airway and suctioning<br>• Wipe eyes<br>• Clamping and cutting cord<br>• APGAR | **NEWBORN CARE**<br>Mummify the baby<br>↓<br>Place the baby in radiant warmer<br>↓<br>Administer Inj. Vitamin k 1 mg IM<br>↓<br>Initiate breast feeding within ½ hour of delivery<br><br>**MATERNAL CARE**<br>Watch for signs of placental separation<br>↓<br>Deliver the placenta by CCT<br>↓<br>Examine the placenta for completeness<br>↓<br>Observe the perineum for any tear<br>↓<br>Monitor for per vaginal bleeding<br>↓<br>Suture the episiotomy layers<br>↓<br>Provide breast care | **MATERNAL CARE** **NEWBORN CARE**<br>Check involution of uterus — observe the baby<br>- Hypokalaemia<br>-Hypoventilation<br>-Hypoglycaemia<br>-Reflexes<br>-Bowel & Bladder pattern<br>↓<br>Monitor for per vaginal bleeding<br>↓<br>Advice mother regarding nutrition, hygiene ,breast feeding and family planning |

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