

Obstetrics & Gynecology TEAM



Management of labour

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◆ very important ◆ mentioned by doctor ◆ team notes ◆ not important

From Kaplan

Objectives:

Managements of the stages of labour
Pain relief in labour
Fetal assessment (antenatal & intra-partum)

- **Management of labour**

Definition of labour:

It is MCQ's question so pay attention to it especially the criteria:

- 1- Dilatation and effacement.
- 2- Regular contraction
- 3- Lasting for 30-60 seconds so if last 10 second this is not labour.

Progressive cervical effacement and dilatation resulting from regular uterine contractions that occur at least every 5 minutes and last 30-60 seconds

Q- what is irregular contraction?

If the patient has the contraction firstly every half hour and then every 10 minutes so she is not really in labour yet

Braxton Hicks: contractions Not associated with cervical changes Most of patient around 9 month of pregnancy = starting from 36 weeks of gestation experience Braxton Hicks because uterus getting prepared to go in labour however it is not a labour.

Lightening: Descent of the fetal head into the pelvis at the beginning of 9 month the lightening take place especially in primigravida because abdominal muscle is strong not relaxed so pushing the baby however in multigravida descent doesn't happen until they go into active phase of labour

There are 4 stages of labour.

- **First stage of labour**

Start from onset of true labour pain----full dilatation of cervix equal to 10 cm any thing less than 10 cm is not consider to be full dilatation

In primigravida----- 12 hour duration (it is very IMP to know duration if there is any change in the duration)

In multigravida-----6 hours duration in any stage you have to take an action)

Chiefly concerned with preparation of the birth canal as to facilitate expulsion of the fetus in the second stage

It has 2 phases

A **latent phase** up to 3 cm dilatation of cervix

- ✓ is variable: up to 8 hours in primi
- ✓ 4 hours in multi

An **active phase** from 3 cm to full dilatation of cervix

Rate of dilatation

- ✓ 1 cm/hour in primigravida
- ✓ 1.5 cm/ hour in multigravida

(with epidural anesthesia things may take longer)

Dilatation of the cervix

Dilatation usually measured by fingers but recorded in cm

Dilatation relates with dilatation of internal os

- If internal os is opened you should feel the head of the baby
- If the membrane is rupture you could feel the skull of the baby
- Our recording if the cervix is dilated depend on the internal os if it is opened or not so we can tell the cervix is dilated or not.



Physiology of labour: increasing frequency of contraction is associated with the formation of gap-junctions between uterine myometrial cells.
Uterine changes: the contractile upper uterine segment contain mostly smooth muscles fibers, becomes thicker as labour progress, exerting forces that expel the fetus down.

Purpose of latent phase is to prepare the cervix for rapid dilatation through effacement

Purpose of active phase is rapid cervical dilatation

Dilatations occur as the passive lower uterine segment is thinned and pulled up by the contractile upper segment.

Effacement or taking up of cervix

(It is very IMP to know the difference between effacement and dilatation)

Muscle fibers of cervix are pulled upward and merges with the fibers of the lower uterine segment

Cervix becomes thin during first stage

In primi----- effacement precedes dilatation of the cervix

In multi-----both occur simultaneously

Effacement is determined by the length of the cervical canal in the vagina

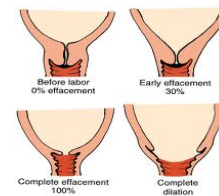
There is no canal anymore when you put your finger, as it is around a ring not a slender

Effacement is expressed in terms of percentage

- Effacement or taking up of cervix

First stage of labour

Effacement Cervical softening and thinning occur as increasingly levels of oxytocin and prostaglandin lead to breakage of disulfide linkages of collagen fibers resulting in increasing water content



Maternal system

-General condition remains unaffected
-Pulse rate increases by 10-15 bpm during contraction with the settle down to its previous rate in between contractions
-Systolic BP increase by 10 mm Hg during contraction
- Temperature remains unaffected
We have something called Patrogram documenting every thing in labour if any thing is not normal the nurse should inform the physician

Fetal system

-As so long as the membranes are intact, usually there is no adverse effect on the fetus BUT However, during contraction there may be slowing of FHR by 10-20 bpm which soon returns to its normal as the intensity of contraction diminishes
CTG is like an ECG for the fetus
Qs why there is decrease in FHR during contraction? Because during contraction there is a reduction in placental blood flow which lead to drop in FHR and after contraction it goes to normal

Management of labour

Initial assessment:

History: Onset, strength, frequency of contractions

Leakage of fluid it is very IMP to ask when fluid start leaking? Because any body who has been leaking fluid for a long time (24-48hours) should induce or start labour especially for term pregnancy as well as cover them with antibiotics

Vaginal bleeding patient should not bleed in labour but it is ok to have blood stain mucous however frank bleeding is not ok

Fetal movement

Medications Heparin had to be stopped in labour

Last oral intake patient must fast even vaginal delivery because we don't know what's gonna happen we may need cesarean section

Review of past obstetric history, prenatal lab tests, gestational age, parity, size of previous infants, any antenatal complications

Management of the first stage of labour

- Informed consent on management of labour & delivery
- Maternal position---lateral recumbent position
- Avoid supine hypotension don't make patient laying back because it may compress on pelvic vessels and cause hypotension
- **Partogram:**

-Iv fluids & avoid oral intake

-Maternal vital signs every 1-2 hours

-Input-output monitoring

-Analgesia

-Fetal heart rate monitoring (CTG) we have two ways monitoring FHR:

1- External we put it on the belly and see recording

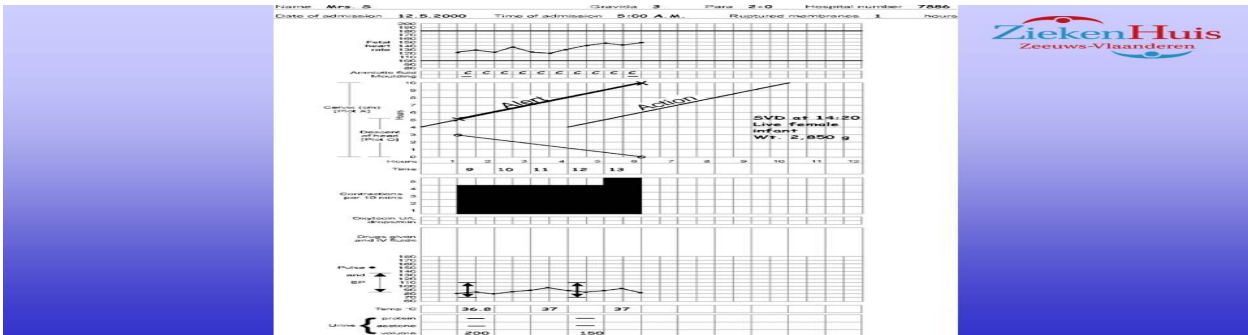
2- Internally put the electrodes on the scalp of the baby the membrane must be ruptured

-Uterine contractions monitoring

-Vaginal examination for cervical dilatation & position in active phase every 2 hours

- Amniotic membranes status & amniotic fluid colour (color – amount – smell – quality of fluid)

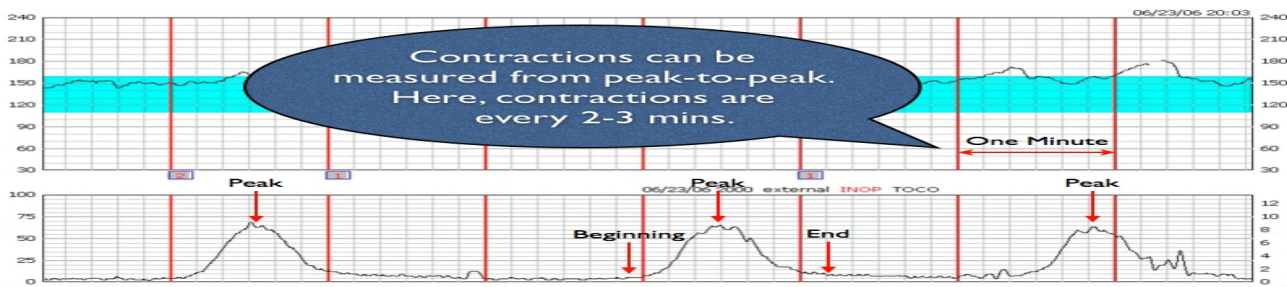
- Monitoring progress of labour (Partogram)



- Mechanics of labour

The Power: force generated by uterine contraction

Contractions: External Toco

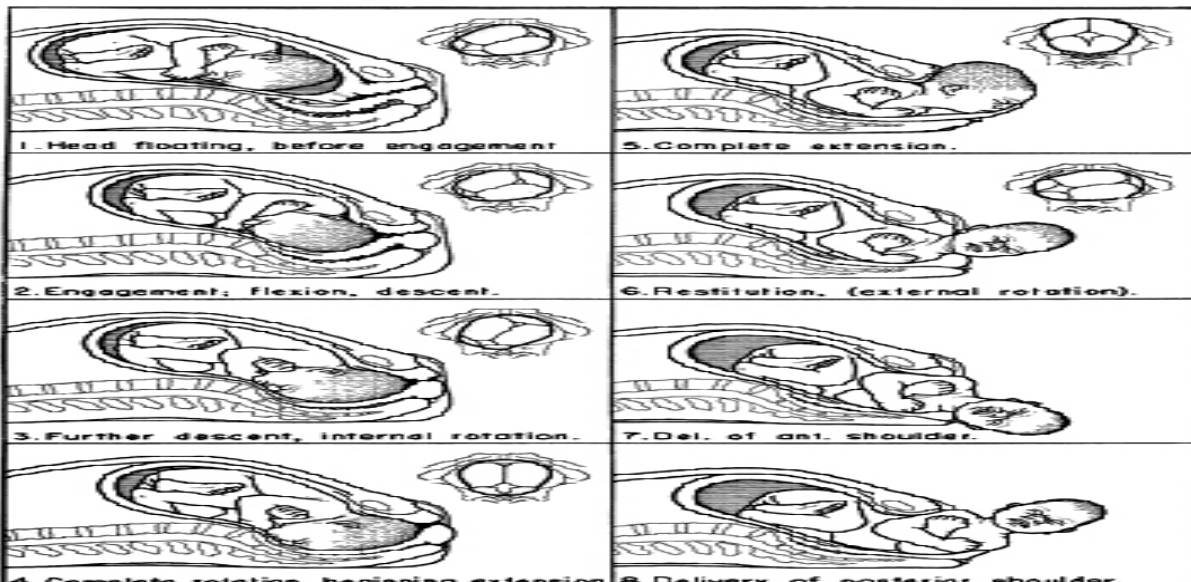


- Second Stage of labour**

From full dilatation of cervix till delivery of the neonate
 The mother has a desire to bear down with each contraction
 Last from 30 minutes to 3 hours in primigravida
 5-30 minutes in multigravida

Purpose of second stage is descent of the fetus through the birth canal as maternal pushing efforts augment the uterine contractions

- Mechanism of labour



Management of the second stage of labour

Molding (alteration of the relationship of the fetal cranial bones to each other as a result of compression forces by the bony pelvis)

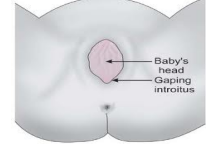
Caput (localized edematous swelling of the scalp caused by pressure of the cervix on the presenting portion of the fetal head)--- gives false impression of fetal descent



Management of the second stage of labour

Crowning (when the largest diameter of the fetal head is encircled by the vulvar ring) **it is IMP because this is the time to do an Episiotomy**

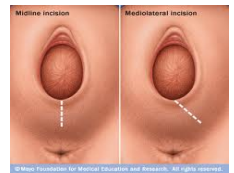
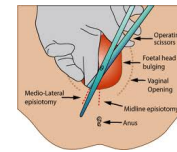
- Vaginal examination every 30 minutes
- Maternal position– any comfortable position for bearing down
- Bearing down---with each contraction
- Delivery of the fetal head---manual perineal support
- Fetal airway clearance
- Umbilical cord clamping
- Place the infant under warmer



Episiotomy

Incision in the perineum after crowning to aid delivery and avoid laceration of perineum

- Types: Right mediolateral
Left mediolateral
Central



PERINEAL LACERATION

4 TYPES:

First degree: laceration involving the vaginal epithelium or perineal skin

Second degree: laceration extending into the sub-epithelial tissues of the vagina or perineum with or without involving the perineal body

Third degree: laceration involving anal sphincter

Fourth degree: laceration involving rectal mucosa

Third stage of labour

The interval between the delivery of the infant and complete delivery of the placenta & membranes

Duration is 5-30 minutes if it is more than 30 minutes you are dealing with a condition called retained placenta

Signs of placental separation: If you pulled the placenta that is not separated it will lead to uterine inversion the uterus become like sock so please don't do that

- 1- Fresh blood show from vagina
- 2- The umbilical cord lengthens outside the vagina
- 3- The fundus of the uterus rises up
- 4- The uterus becomes firm & globular

Make sure that you removed all the placenta if there is a remnant of the placenta this is not good it will lead to infection and it is a life threatening condition

The placenta should be examined to ensure that it is complete

The blood loss should be estimated

Forth stage of labour

The hour immediately after the delivery

- Needs close observation of: blood pressure, pulse rate, uterine blood loss

Watch for post partum hemorrhage

Purpose is delivery of the placenta

Pain relief in labour

Goal: effective pain relief to the mother that is safe for her & the fetus with minimal side effects on the progress & outcome of labour

Non pharmacological method:

Back massage

Acupuncture

Hypnosis

Breathing exercises

- Pain relief in labour

Pharmacological methods:

Narcotic analgesics– cross the placenta – cause fetal respiratory depression (Nitrous oxide, pethidine)

Epidural analgesia: The most effective

Contra indicated if-coagulo-pathy, infection at needle site, severe hypo-volemia

Side effects: Hypotension, headache, impaired ability to push, prolonged second stage (15 Minutes)

Pudendal block: for S2-S4

for the second stage of labour
for instrumental delivery

SUMMARY

Definition of labour:

Progressive cervical effacement and dilatation resulting from regular uterine contractions that occur at least every 5 minutes and last 30-60 seconds

Braxton Hicks: contractions Not associated with cervical changes

Lightening: Descent of the fetal head into the pelvis

Dilatation of the cervix

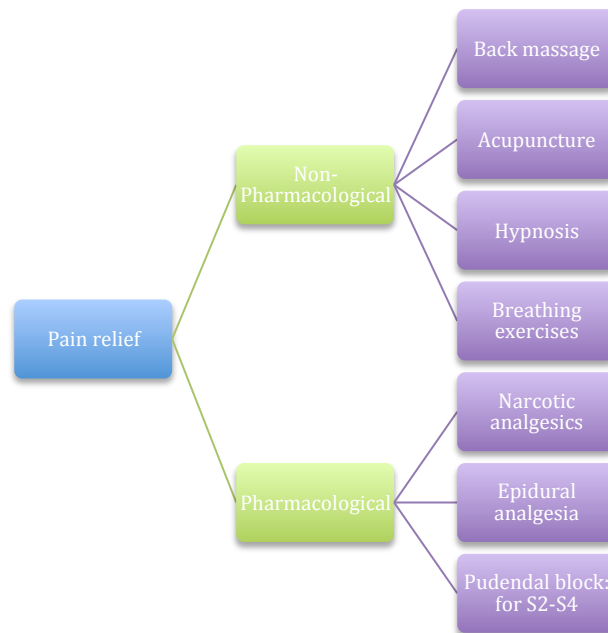
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Effacement or taking up of cervix

Muscle fibers of cervix are pulled upward and merges with the fibers of the lower uterine segment

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Stages		Definition	Duration	Management
First	Latent phase	up to 3 cm dilatation of cervix	8 hours in primi 4 hours in multi	Informed consent on management of labour & delivery Maternal position--- lateral recumbent position Avoid supine hypotension Partogram: -Iv fluids & avoid oral intake -Maternal vital signs every 1-2 hours -Input-output monitoring -Analgesia -Fetal heart rate monitoring (CTG) -Uterine contractions monitoring -Vaginal examination for
	Active phase	from 3 cm to full dilatation of cervix	1 cm/hour in primigravida 1.5 cm/ hour in multigravida	

				cervical dilatation & position in active phase every 2 hours -Amniotic membranes status & amniotic fluid colour
Second	From full dilatation of cervix till delivery of the neonate	30 minutes to 3 hours in primigravida 5-30 minutes in multigravida	Molding Caput Crowning (when the largest diameter of the fetal head is encircled by the vulvar ring) it is IMP because this is the time to do an Episiotomy	
Third	The interval between the delivery of the infant and complete delivery of the placenta & membranes	Duration is 5-30 minutes if it is more than 30 minutes you are dealing with a condition called retained placenta	(This is often augmented with IV oxytocin infusions) -The placenta should be examined to ensure that it is complete -The blood loss should be estimated	
Fourth	The hour immediately after the delivery		Needs close observation of: blood pressure, pulse rate, uterine blood loss Watch for post partum hemorrhage	

Good luck

