

# OBSTETRICS AND GYNECOLOGY

## ( 3 ) Management of labour and Fetal Assessment

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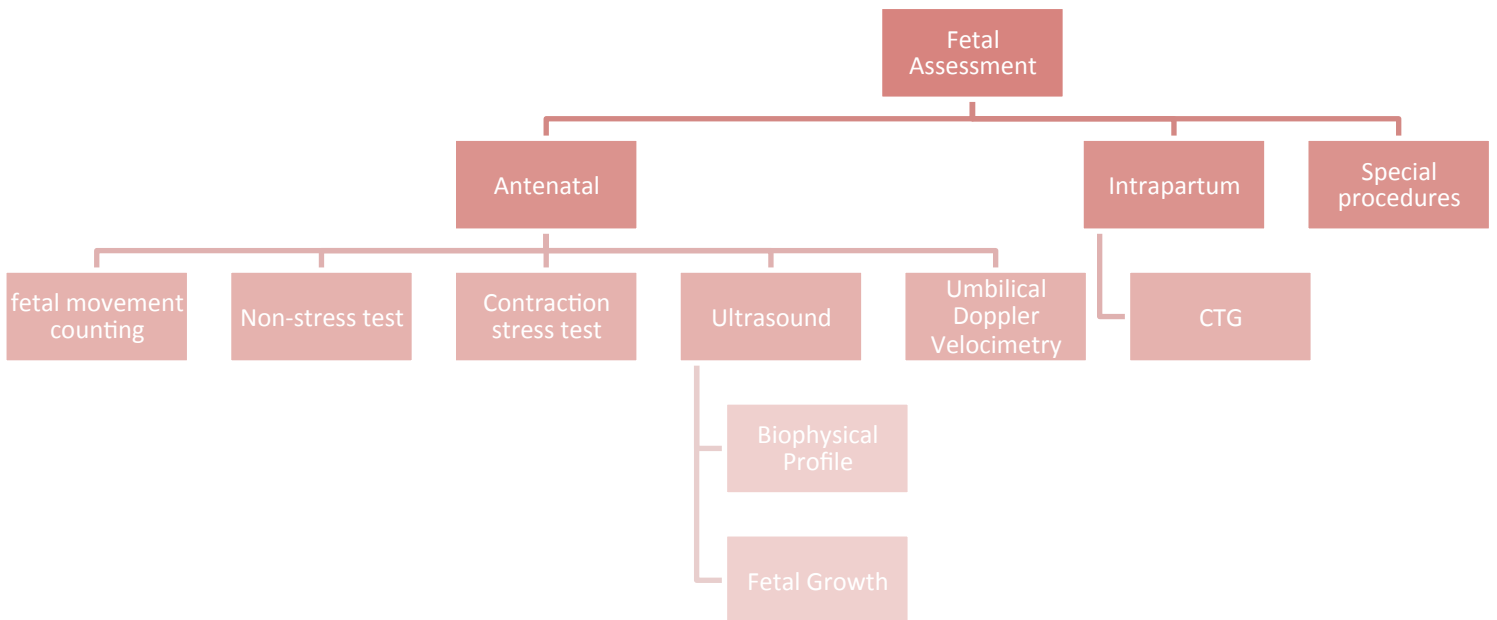
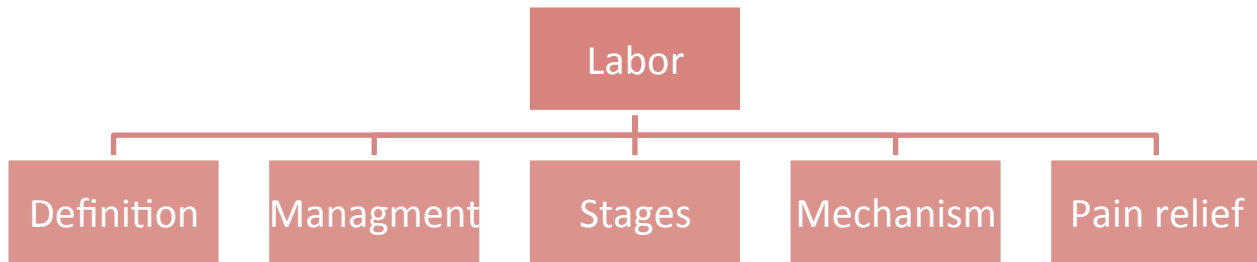
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## Objectives:

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



# I: LABOR

## 1) Definition of labor:

Progressive cervical **effacement** and **dilatation** resulting from regular uterine contractions that **occur at least every 5 minutes and last 30-60 seconds**. **If the sentence is incomplete the definition is false.**

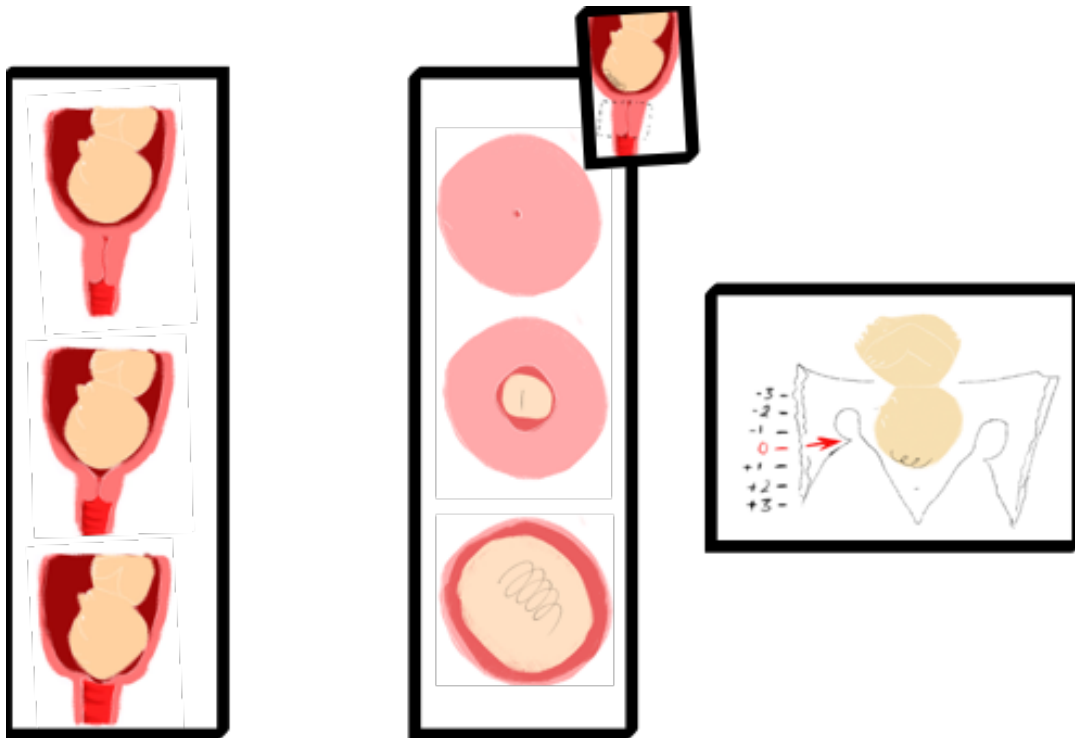
**Braxton Hicks:** contractions **not** associated with cervical changes. **False labor.** Irregular, painless. During the last 4-8 wks. Every 20 mins. Prepare uterus and cervix.

**Lightening:** Descent of the head into the pelvis. **At least 2 weeks before labor** in most primigravid women. Noted as a flattening of the upper abdomen and prominence of lower abdomen.

**Intra-partum:** the period from the onset of labor to the end of the third stage of labor.

	Primigravida	Multigravida
Duration of 1st stage	(12) 6-18 hrs	(6) 2-10hrs
latent phase	8 hrs	4 hrs
Rate of dilatation in active phase	1 cm/hr	1.2 cm/hr
Duration of 2nd stage	30 mins - 3 hrs	5 - 30 mins
Duration of 3rd stage	0 - 30 mins	

## Characteristics of normal labor



**Effacement**

**Dilation**

**Station**

(Taking up of the cervix): Becomes thin during first stage	Usually measured by fingers	Fetal head in relation to ischial spine
Muscle fibers are pulled upward and merge with fibers of the lower uterine segment	Relates with dilation of internal os	0 means head is engaged
Determined by length of cervical canal in the vagina		
<b>Expressed in terms of percentage</b>	<b>Recorded in CM</b>	Number between -5 and +5 - (in cm above ischial spine) 0 (at ischial spine) + (past ischial spine)

### Monitoring progress of labor

- ✓ In primi, **effacement precedes dilation**. In multi, both occur *simultaneously*.
- ✓ Example: patient is 5cm dilated, 50% effaced, station 0.

## 2) Management of labor:

### Initial assessment:

#### History:

- Onset, strength, frequency of contractions.
- Leakage of fluid. Red/green is alarming.
- Vaginal bleed.
- Fetal movement. Myth: baby doesn't move during labour.
- Medications.
- Last oral intake. Patient is NPO just in case she goes for a c-section.
- Review of past obstetric history, prenatal lab tests, gestational age, parity, size of previous infants, any antenatal complications.

## 3) Stages of labor:

### 1) First stage of labor:

**Starts:** from onset of labor pain until full dilatation of the cervix.

**Maternal system:** HR ↑10-15bpm and systolic ↑10mmhg during contractions.

**Fetal system:** as long as membrane is intact, no adverse effects but FHR slows by 10-20 bpm with contractions.

### 2 phases:

- **Latent phase:** Up to 3cm dilation of cervix. Duration influenced by parity, stress, sedation,..etc.
- **Active phase:** More rapid dilation.

### Management:

- I. **Informed consent on management** of L&D. Illegal to ask for consent with patient in distress.
- II. Maternal position: lateral recumbent. Avoid supine hypotension.
- III. Partogram (monitors progress of labor).
- IV. IV fluids and avoid oral intake.
- V. Maternal vital signs every 1-2 hrs.
- VI. Analgesia.
- VII. CTG.
- VIII. Vaginal examination for cervical dilation and position in active phase every 2 hours.

## IX. Amniotic membrane status and amniotic fluid colour.

- ✓ Vaginal exam should be done sparingly in latent phase to avoid intrauterine infections. In active phase every 2 hours to assess progress.
- ✓ Amniotomy: artificial rupture of membranes. Risk of chorioamnionitis, cord compression or prolapse.

### 2) Second stage of labor:

**Starts:** from full dilatation of cervix until delivery of neonate.

Mother has a desire to bear down with each contraction. This abdominal pressure + contractions expel the fetus.

### Management:

I. Vaginal examination every 30 mins. Particular attention to:

- Descent and flexion of presenting part.
- Extent of internal rotation.
- Development of molding or caput.

II. Maternal position: any comfortable position for bearing down.

III. Bearing down -Holds her breath and bears down with expulsive force. - with each contraction -To avoid tiring the mother. Especially important with patients on regional anesthesia where reflex sensations are impaired. -

IV. Delivery of the fetal head -manual perineal support.

V. Fetal airway clearance.

VI. Umbilical cord clamping.

VII. Place infant under warmer.

- ✓ **Molding:** alteration of the relationship of the fetal cranial bones to each other as a result of the compressive forces exerted 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.
- ✓ **Crowning:** When the largest diameter of the fetal head is encircled by the vulvar ring.
- ✓ **Episiotomy:** Incision the perineum after crowning (because if you do it before and then decided to go for a c-section you've made an unnecessary intervention + easier with perineum stretched by the head of the fetus) to aid delivery and avoid laceration of the perineum. A clean cut is easier to treat than a laceration. Right/left mediolateral and central.

✓ **Perineal laceration:**

- I. First degree: involving the vaginal epithelium/ perineal skin.
- II. Second degree: sub-epithelial tissues of the vagina or perineum ± perineal body.
- III. Third degree: anal sphincter.
- IV. Fourth degree: involving rectal mucosa.

3) Third stage of labor:

Interval between delivery of the infant and delivery of placenta.

**Signs of placental separation:**

- I. Fresh blood from vagina.
- II. Umbilical cord lengthens outside the vagina.
- III. Fundus of the uterus rises up.
- IV. Uterus becomes firm and globular.

✓ **Placenta should be examined to ensure that it is complete.**

✓ **Blood loss should be estimated.**

**Management:**

- I. Cervix and vagina should be thoroughly inspected for lacerations and surgical repair performed if necessary.
- II. Uterine massage/oxytocin to hasten contractions, which reduces bleeding.
- III. Best time to repair a laceration is at the time of the injury.

4) Fourth stage of labor:

✓ Hour immediately following delivery.

✓ Needs close observation of:

- Blood pressure
- Pulse rate
- Uterine blood loss

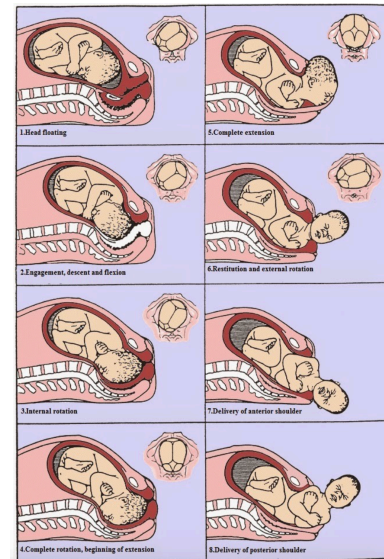
✓ **Watch for postpartum hemorrhage.**

✓ Increase in pulse rate, if out of proportion with any decrease in BP may indicate hypovolemia.

✓ PPH commonly occurs at this time usually because of relaxation of the uterus, retained placental fragments or unrepaired lacerations.

## 4) Mechanism of labor:

Six movements of the baby enable it to adapt to the maternal pelvis: **descent, flexion, internal rotation, extension, external rotation, and expulsion.** The fetus itself does not “squirm” into these movements, remember; a demised fetus will go through the cardinal movements of labor the same way a live fetus would.



## 5) Pain relief in labor:

### I. Nonpharmacologic methods:

- Back massage
- Acupuncture (decreases pain in most studies)
- Hypnosis
- Breathing exercises
- Education and psychoprophylaxis (Lamaze method)

### II. Pharmacologic methods:

#### Narcotic analgesics:

- Cross placenta - cause fetal (respiratory depression). Gives a flat trace.
- Nitrous oxide, Pethidine.

#### Epidural analgesia:

- Most common form of neuraxial analgesia (60%)
  - The most effective
  - Contraindicated if coagulopathy, infection at needle site, severe hypovolemia.
  - ADRs: hypotension, headache, impaired ability to (push = prolonged 2nd stage)
  - Pudendal block: for S2-S4 for 2nd stage of labor/instrumental delivery.
- ✓ Parenteral narcotics have very limited efficacy for relief of labor pain. They work best in the early stage when the pain is primarily visceral and less intense.



## II: Fetal Assessment

### Aims:

#### 1. Ensure fetal wellbeing (Identify patients at risk of fetal asphyxia)

##### Screening for high risk pregnancy: History

- |                |  |
|----------------|--|
| * Age          | *Past medical conditions e.g<br>D.M, HTN |
| *Social burden |  |
| *Smoking       | *Past Obstetric history                  |

##### What are the complications associated with antepartum asphyxia?

- |                               |                            |
|-------------------------------|----------------------------|
| ▪ Stillbirth (Mortality)      | ▪ Intracranial haemorrhage |
| ▪ Metabolic acidosis at birth | ▪ Seizures                 |
| ▪ Hypoxic renal damage        | ▪ Cerebral palsy           |
| ▪ Necrotizing enterocolitis   |                            |

#### 2. To prevent prenatal mortality & morbidity

##### Conditions associated with increased perinatal morbidity/mortality:

- |   |   |
|---|---|
| ▪ Small for gestational age fetus       | ▪ Pre-pregnancy diabetes                    |
| ▪ Decreased fetal movement              | ▪ Insulin requiring gestational<br>diabetes |
| ▪ Postdates pregnancy (>294<br>days)    | ▪ Preterm premature rupture<br>of membranes |
| ▪ Pre-eclampsia/chronic<br>hypertension | ▪ Chronic (stable) abruptio                 |

### When to start fetal Assessment antenatally?

#### Risk assessed individually:

1. **For D.M. fetal assessment:** should start from 32 weeks onward if uncomplicated. If it's complicated D.M. start at 24 weeks onward.
2. **For Post-date pregnancy:** start at 40 weeks.
3. **For any patient with decrease fetal movement:** start immediately. Then once or twice weekly.

# Antenatal Fetal Assessment

## 1) Fetal movement counting

### I. Cardiff technique:

This is done in the morning. Patient should calculate how long it takes to have 10 fetal movements. **10 movements should be appreciated in 12 hours.**

### II. Sadovsky technique:

For one hour after meal the woman should lie down and concentrate on fetal movement. **4 movements should be felt in one hour.**

- ✓ If not, she should count for another hour. If after 2 hours four movements are not felt, she should have fetal monitoring.

## 2) Non-Stress Test (NST)

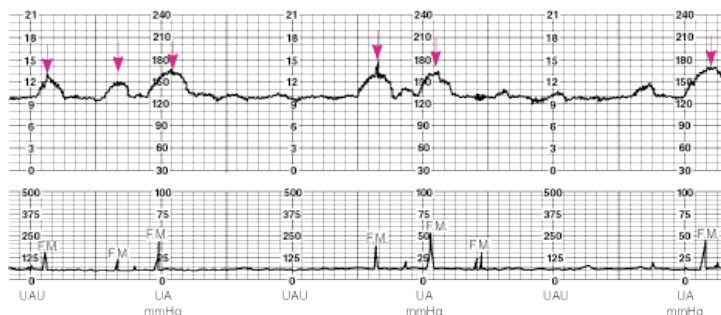
See CTG on page 14

Done using the Cardiotocometry (CTG) with the patient in left lateral position, and it is recorded for 20 minutes. **The mother reports each fetal movement, and the effect of its movement on its heart rate is recorded.**

- ✓ The positive predictive value of NST to predict **fetal acidosis at birth is 44%.**

**Interpretation:** The base line -for fetal heart rate- is **120-160 beats/minute.**

1. **Reactive:** **At least two accelerations from base line of 15 bpm, for at least 15 sec, within 20 minutes. This is the normal.**
2. **Non-reactive:** No acceleration after 20 minutes → proceed for another 20 minutes. → If non-reactive in 40 minutes, proceed for **contraction stress test** or **biophysical profile.**



Reactive NST:

Arrow heads: accelerations.



Fetal movements.



### 3) Contraction stress test

Fetal response to **induced stress** of uterine contraction and relative placental insufficiency. **Contraction is initiated by nipple stimulation or by oxytocin I.V.**

- ✓ Should not be used in patients at risk of preterm labor or placenta previa.
- ✓ Should be preceded by NST.
- ✓ Rarely done nowadays.

See CTG on page 14

#### Interpretation:

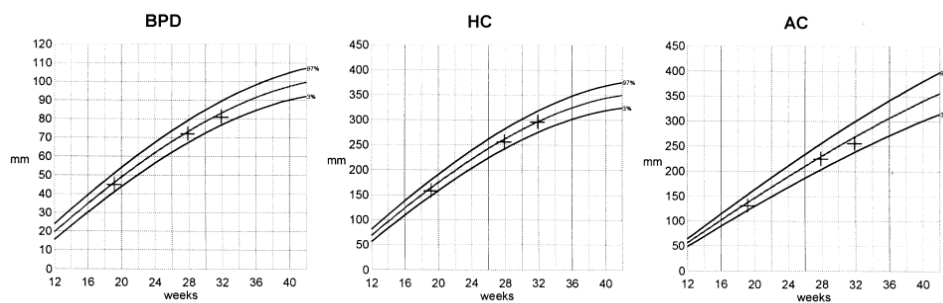
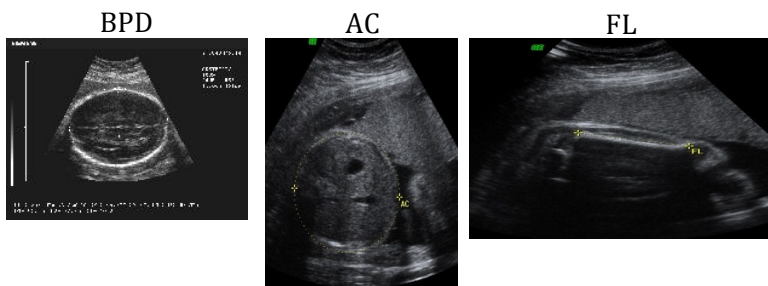
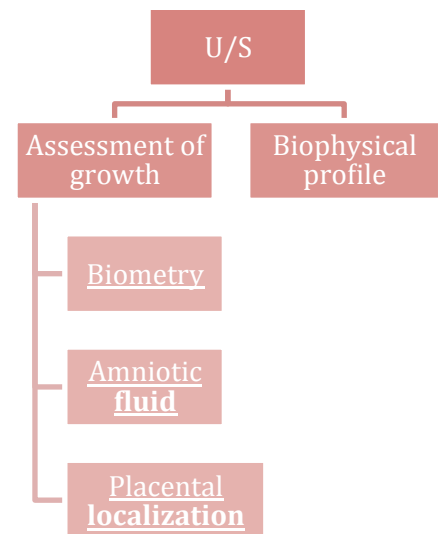
The objective is to **induce** 3 contractions in 10 minutes. If **late deceleration** occurs → positive CST (**abnormal, the baby should be delivered immediately**).

### 4) Ultrasound

#### ○ Assessment of growth:

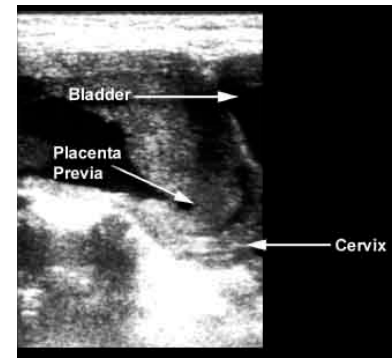
##### I. Biometry:

- Biparietal diameter (BPD).
- Abdominal Circumference (AC).
- Femur Length (FL).
- Head Circumference (HC).



Growth Chart

- II. Amniotic fluid
- III. Placental localization



- Biophysical Profile:  
No zero score. Starts from 1-10.

**Biophysical Variable    Normal (score=2)                      Abnormal (score= 0)**

<b>Fetal breathing movements</b>	1 episode FBM of at least 30 s duration in 30 min	Absent FBM or no episode >30 s in 30 min
<b>Fetal movements</b>	3 discrete body/limb movements in 30 min	2 or fewer body/limb movements in 30 min
<b>Fetal tone</b>	1 episode of active extension with return to flexion of fetal limb(s) or trunk. Opening and closing of the hand considered normal tone	Either slow extension with return to partial flexion or movement of limb in full extension Absent fetal movement
<b>Amniotic fluid volume</b>	1 pocket of AF that measures at least 2 cm in 2 perpendicular planes	Either no AF pockets or a pocket <2 cm in 2 perpendicular planes
<b>Non stress test</b>	<b>reactive</b>	<b>nonreactive</b>

Test Score Result	Interpretation	Management
10 of 10 8 of 10 (normal fluid) 8 of 8 (NST not done)	Risk of fetal asphyxia extremely rare	Intervention for obstetric and maternal factors
8 of 10 (abnormal fluid)	Probable chronic fetal compromise	Determine that there is functioning renal tissue and intact membranes. If so, delivery of the term fetus is indicated. In the preterm fetus less than 34 weeks, intensive surveillance may be preferred to maximize fetal maturity.
6 of 10 (normal fluid)	Equivocal test, possible fetal asphyxia	Repeat test within 24 hr
6 of 10 (abnormal fluid)	Probable fetal asphyxia	Delivery of the term fetus. In the preterm fetus less than 34 weeks, intensive surveillance may be preferred to maximize fetal maturity
4 of 10	High probability of fetal asphyxia	Deliver for fetal indications
2 of 10	Fetal asphyxia almost certain	Deliver for fetal indications
0 of 10	Fetal asphyxia certain	Deliver for fetal indications

## 5) Umbilical Doppler Velocimetry

Use a free loop of umbilical cord to measure blood flow in it.

### Indication:

- ✓ IUGR
- ✓ PET
- ✓ D.M.
- ✓ Any high risk pregnancy

### Management of umbilical artery Doppler results:

Depends on:

- ✓ Fetal maturity
- ✓ Gestational age
- ✓ Obstetric history

**Normal flow:** repeat in 2 weeks if indicated.



Normal pregnancy

**High-resistance index:** repeat in few days or deliver.

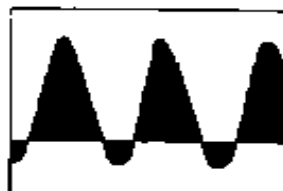


Reduced end diastolic velocity

**Reverse flow or absent end diastolic flow:** Immediate delivery



Absent end diastolic velocity



Reversed end diastolic velocity

# Intrapartum Assessment

## Methods of monitoring fetal heart

1. Auscultation of fetal heart
2. Continuous Electronic Fetal Monitoring

Note: in the original lecture, CTG was only listed under NST and not as an intrapartum assessment method. This section was added to meet the objectives of the lecture. Grey-colored text was taken from Hecker and Moore's and therefore, is not important.

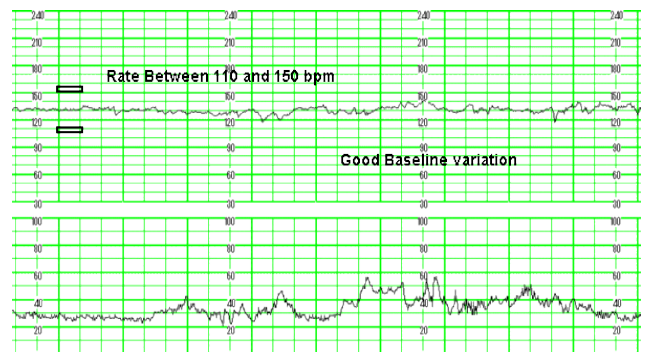
Done by cardiotocometry (CTG). There are two ways to monitor fetal heart rate and uterine contractions (FHR-UC), (1) external transducer and (2) internal electrode placed on the fetal scalp. It is important to monitor fetal heart rate because, normally, with each contraction, the blood flow to the fetus decreases. Most fetuses can tolerate that decrease, but those who have marginal oxygen supply will develop hypoxia.

### Interpretation:

- Normal Baseline FHR 110–160 bpm
- Moderate bradycardia 100–109 bpm  
Abnormal bradycardia < 100 bpm
- Moderate tachycardia 161–180 bpm  
Abnormal tachycardia > 180 bpm  
Tachycardia can lead to hypoxia.

#### Common causes:

- Chorioamnionitis
- Maternal fever
- B-Mimetic drugs
- Fetal anaemia
- Sepsis
- Heart failure
- Arrhythmias



### Periodic Fetal Heart Rate Changes:

Changes of fetal heart rate related to maternal contractions.

1. No change.
2. **Acceleration:** increases with uterine contractions. → Normal response
3. **Deceleration:** decreases with uterine contractions. **There are 4 patterns:**
  - I. **Early** → fetal head compression. (Not thought to be associated with fetal distress) it is considered ok.
  - II. **Late** → Uteroplacental insufficiency. Alarming!
  - III. **Variable** → Cord compression or primary CNS dysfunction. Very alarming!
  - IV. Mixed.

## 1) Assessment for Chromosomal Abnormality

### General Facts:

- ✓ The general incidence of Down is 1:1000. **The risk by maternal age:**
  - At the age of 35 → 1:365
  - At the age of 40 → 1:109
  - At the age of 45 → 1:32
- ✓ Risk of recurrence is 1% (0.75% higher than maternal age related risk).
- ✓ In case of parental aneuploidy → 30% risk of Trisomy in offspring.

### Methods available for screening for chromosomal abnormality:

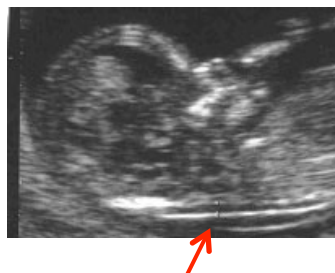
- I. Maternal age.
- II. Biochemical:
  - a. 1<sup>st</sup> trimester → PAPPA and β HCG.
  - b. 2<sup>nd</sup> trimester → Triple and quadruple Test.
- III. Fetal DNA.
- IV. **Ultrasound:**

**Triple test:** is a second trimester screening test used to identify those who should be offered a diagnostic test to identify fetal aneuploidy. It measures: (1) αFP, (2) βHCG. And (3) Estriol.

**Quadruple test:** when dimeric inhibin A (DIA) is added.

### Nuchal translucency (N.T):

- ✓ **Skin fold thickness** behind the fetal cervical spine.
- ✓ **Timing: (11-13 +6 days) weeks of pregnancy.**
- ✓ Will be positive in 75-80% of trisomy 21.
- ✓ Can be positive in 5-10% of normal karyotype (but could be associated with cardiac defects, diaphragmatic hernia, Exomphalos).



## 2) Amniocentesis

Obtaining a sample of amniotic fluid surrounding the fetus during pregnancy.

- ✓ Diagnostic (at 11- 20 weeks)
- ✓ Therapeutic (at any time)

### Indications:

#### I. Genetic amniocentesis:

- Chromosomal analysis (Down syndrome)
- Spina bifida (Alpha fetoprotein)
- Inherited diseases (muscular dystrophy)
- Bilirubin level in isoimmunization
- Fetal lung maturation (L/S ratio) → greater than 2 = minimal distress.

#### II. Therapeutic amniocentesis:

- Reduce maternal stress in **polyhydramnios**.
- Mainly in **twin-twin transfusion** or if abnormality associated.

## 3) Chorionic villus sampling

Sampling is done to **the cyto-trophoblasts** between **10-14** weeks of pregnancy. (Earlier diagnosis compared to amniocentesis).

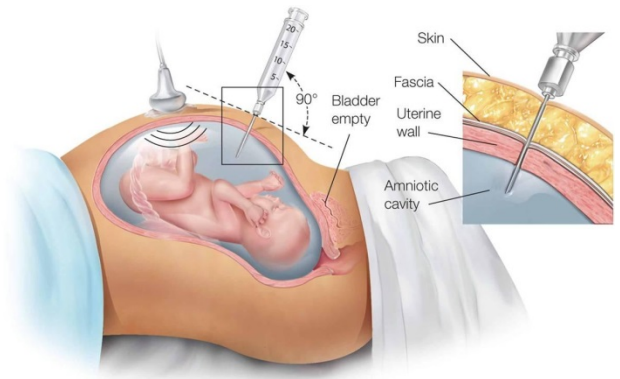
### INDICATIONS FOR CVS

#### FETAL KARYOTYPING

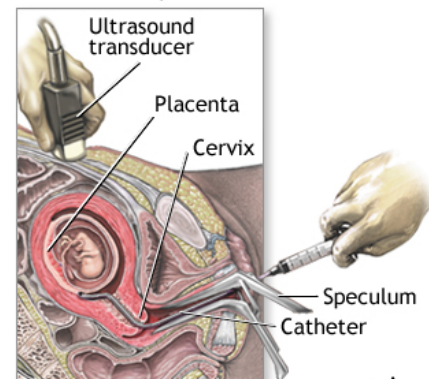
- Advanced maternal age
- Abnormal first trimester biochemical screen
- Ultrasound findings (first trimester)
- Family or personal history of Trisomy
- Abnormal parental karyotype

#### GENETIC TESTING EXAMPLES

- Family history of single gene disorder
- Cystic fibrosis
- Duchenne muscular dystrophy
- Osteogenesis imperfecta



### Transcervical procedure



ADAM



## Summary

- ✓ Progressive cervical effacement and dilatation resulting from regular uterine contractions that occur at least every 5 minutes and last 30-60 seconds.
- ✓ Duration of labor is longer in primi para.
- ✓ Dilation is recorded in centimeters; effacement in percentages.
- ✓ Management of labor includes proper history taking and physical examination.
- ✓ The so-called “cardinal” movements of labor are created by vector forces on the fetus from the uterine contractions, pelvic floor, and bony pelvic structures.
- ✓ Lumbar epidural is the most common form of neuraxial analgesia used for labor pain.
- ✓ Postpartum hemorrhage most commonly occurs the hour immediately following delivery. This requires close observation of the patient.
- ✓ Early fetal assessment reduces morbidity and mortality.
- ✓ Fetal assessment:
  1. Kick count:
    - Cardiff technique: 10 movements in 12 hours.
    - Sadovsky technique: 4 movements in one hour.
  2. NST:
    - Reactive: 2 acceleration of 15 bpm for 15 sec within 20 min.
    - Non-reactive: no acceleration within 40 min.
  3. Contraction stress test:
    - Early deceleration. → OK.
    - Late deceleration. → Not OK.
    - Variable deceleration. → Very not OK.
  4. Ultrasound:
    - Biometry: BPD, HC, AC, and FL.
    - Amniotic fluid.
    - Placental localization.
    - Biophysical profile: breathing, movement, tone, AFI, and NST.
- 5. Doppler: umbilical artery flow assessment (normal, high-resistance, absent, and reversed flow).
- 6. CTG: normal FHR= 120-160 bpm.
- 7. Nuchal translucency is skin fold thickness behind the fetal cervical spine. Done around 11-13 weeks to diagnose trisomy 21 and other abnormalities.
- 8. Amniocentesis can be diagnostic for genetic abnormalities and therapeutic for polyhydramnios or TTNS.

## MCQ's:

**Question 1:** A primigravid patient comes to the hospital with spontaneous rupture of membranes at term and is found to be 6 cm dilated and is contracting every 5 minutes. Her group B streptococcus (GBS) culture is negative. She is admitted with a plan for expectant management of labor. Three hours later, her exam is unchanged. At this point, what is the next best step in management?

- A. Place an intrauterine pressure catheter and begin oxytocin augmentation (IUPC)
- B. Begin oxytocin without IUPC
- C. Continue expectant management
- D. Cesarean delivery for arrest of dilation

**Correct answer (A):**

This patient may not have contractions adequate enough to continue progress in labor, or the fetus may be too large for her pelvis. The only way to distinguish the cause of her dystocia is to accurately measure the strength of her contractions with an IUPC. One can safely titrate oxytocin to achieve adequate contractions with the use of an IUPC.

The possibility of inadequate contraction strength despite oxytocin augmentation cannot be raised if the strength of the contraction is unknown. Expectant management would be inappropriate in this patient, who should be dilating a minimum of 1 cm/hour (in keeping with the normal labor curve).

**Question 2:** A patient with a history of juvenile rheumatoid arthritis has had the disease well controlled with prednisone 20 mg PO daily throughout her pregnancy. She presents at term in labor and delivers precipitously with normal blood loss. The patient was given 10 mg of IM oxytocin to maintain uterine tone and was transferred to the postpartum unit. The next day, the patient complains of headache, nausea, intense abdominal cramps, and extreme fatigue. The nurse is concerned because the patient seems to be confused and her blood pressures (BPs) are low (systolic pressures in the 70s and diastolic pressures in the 40s). What is her most likely diagnosis?

- A. Conn Syndrome
- B. Adrenal Crisis
- C. Sheehan Syndrome
- D. Water intoxication

## E. Normal postpartum course

### **Correct answer (B):**

Acute adrenocortical insufficiency can result after the sudden withdrawal of steroids in a patient who had previously been on an oral moderate- to high-dose steroid treatment in pregnancy for more than 2 weeks. The patient may present with headache, abdominal pain, diarrhea, fatigue, altered mental status, and hypotension. Prevention involves the use of “stress-dose” steroids intrapartum and post partum.

Although in the postpartum period patients may experience fatigue, pelvic cramps (especially with breast feeding), and low BPs, confusion is not normal. The constellation of the above symptoms in a patient who has been on long-term steroids warrants investigation. This patient should be evaluated and treated immediately and her symptoms should not be regarded as part of a normal postpartum course.

### **Question 3: Which of the following choices lists the six movements of the mechanism of labor in the correct order?**

- A. Descent, extension, internal rotation, flexion, external rotation, expulsion
- B. Descent, internal rotation, flexion, extension, external rotation, expulsion
- C. Descent, flexion, internal rotation, extension, external rotation, expulsion
- D. Descent, internal rotation, flexion, external rotation, extension, expulsion

### **Correct answer (C):**

Acute adrenocortical

### **Question 4: A 32-year-old poorly controlled diabetic G2P1 is undergoing amniocentesis at 38 weeks for fetal lung maturity prior to having a repeat cesarean section. Which of the following laboratory tests results on the amniotic fluid would best indicate that the fetal lungs are mature?**

- a. Phosphatidylglycerol is absent
- b. Lecithin/sphingomyelin ratio of 1:1
- c. Lecithin/sphingomyelin ratio of 1.5:1
- d. Lecithin/sphingomyelin ratio of 2.0:1
- e. Phosphatidylglycerol is present

**Correct answer (E):**

**Question 5:** A 26-year-old G1P0 patient at 34 weeks gestation is being evaluated with Doppler ultra sound studies of the fetal umbilical arteries. The patient is a healthy smoker. Her fetus has shown evidence of intra uteri ne growth restriction (IUGR) on previous ultra sound. The Doppler currently show that the systolic to diastolic ratio (S/D) in the umbilical arteries is much higher than it was on her last ultra sound 3 weeks ago and there is now reverse diastolic flow. Which of the following i s correct information to share with the patient?

- a. The Doppler studies indicate that the fetus is doing well.
- b. With advancing gestational age the S/D ratio is supposed to rise.
- c. These Doppler findings are normal in someone who smokes.
- d. Reverse diastolic flow is normal as a patient approaches full term.
- e. The Doppler studies are worrisome and indicate that the fetal status is deteriorating.

**Correct answer (E):**

**Question 6:**

23. A 27-year-old G3P2002, who is 34 weeks gestational age, calls the on-call obstetrician on a Saturday night at 10:00 PM complaining of decreased fetal movement. She says that yesterday her baby moved only once per hour. For the past 6 hours she has felt no movement. She is healthy, has had regular prenatal care, and denies any complications so far during the pregnancy. Which of the following is the best advice for the on-call physician to give the patient?

- a. Instruct the patient to go to labor and delivery for a contraction stress test.
- b. Reassure the patient that one fetal movement per hour is within normal limits and she does not need to worry.
- c. Recommend the patient be admitted to the hospital for delivery.
- d. Counsel the patient that the baby is probably sleeping and that she should continue to monitor fetal kicks. If she continues to experience less than five kicks per hour by morning, she should call you back for further instructions.
- e. Instruct the patient to go to labor and delivery for a nonstress test.

**Correct answer (E):**

*That' s all folks*



For mistakes or feedback

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