

Preconception care

prenatal care

intrapartum care

Janat mahadeen
Mohammad habib
Aya alefeshat
Dana adel
Raneem al-ayaydah
Omar bushnaq
Hajar rashaidah

Dr . Malek



**What is
Preconceptual
Counselling?**

Preconception care

Preconception care involves providing **biomedical**, **behavioral**, and **social** health interventions to women and couples **before conception occurs**.

- Preconception care is particularly beneficial for women who:
 1. Have underlying **medical conditions** such as diabetes, phenylketonuria, or renal disease.
 2. Are exposed to **potential teratogens** such as warfarin or isotretinoin.
 3. **high-risk behaviors** such as smoking or cocaine use.



Goals of Pre-conception care

The Ultimate aim is to improve **Maternal and Child health**, in both the short-term and long-term

- **Identify Potential risks** to the Mother, Fetus and Pregnancy.

Educate the woman about these Risks, Options for intervention and Management and Reproductive alternatives.

initiate interventions to provide optimum Maternal, Fetal and Pregnancy outcomes.

Benefits of Pre-conception Care

Prevents unintended pregnancies.

Reduces maternal and child mortality.

Prevents stillbirths, preterm births, and low birth weight.

Reduces the risk of underweight and stunting.

Prevents vertical transmission and neonatal infections.

Reduces complications during pregnancy and delivery.

Prevents birth defects.

Lowers the risk of certain childhood cancers, type 2 diabetes, and cardiovascular diseases later in life.

Major Components of Preconception Care

1

**Risk
assessment**

2

**Health
promotion**

3

**Medical and
psychosocial
intervention**

4

follow-up

Preconception care involves 12 risk assessments and 6 health promotions. Therefore, addressing all 18 components typically requires multiple visits to a healthcare provider

Risk Assessment

1. Reproductive Life Plan.
2. Past Reproductive History.
3. Previous Medical History and
4. Current Medications.
5. Infections and Immunizations.
6. Genetic Screening and Family History.
7. Nutritional Assessment.
8. Substance Abuse.
9. Toxins and Teratogens.
10. Psychosocial Concerns.
11. Physical Examination.
12. Laboratory Tests

1-Reproductive Life Plan

A good starting point is to ask about every woman's reproductive life plan at every visit. This plan consists of personal goals regarding whether or not to have children, based on individual values.

If the plan includes pregnancy within the next 1 to 2 years, the healthcare provider should schedule a comprehensive assessment and counseling session for both the woman and her partner. If pregnancy is not planned, the provider should continue to offer well woman care, including effective contraception options, and periodically update the reproductive life plan.



2-Past Reproductive History:

- Review previous **adverse pregnancy outcomes**, such as **fetal loss, birth defects, low birth weight**, and **preterm birth**. Assess ongoing biobehavioral risks that could contribute to recurrence in future pregnancies.

3-Past Medical and Surgical History:

Discuss maternal medical issues and their potential impact on the fetus. Evaluate how pregnancy may exacerbate underlying medical conditions.



Ask about past medical history, including conditions like rheumatic heart disease, thromboembolism, or autoimmune diseases that may impact future pregnancies.

- Screen for ongoing chronic conditions such as hypertension (HTN) and diabetes mellitus (DM).
- Note any prior surgeries, blood transfusions, or hospitalizations, especially gynecologic surgeries, including procedures for fibroids or abnormal Pap smears

4-Current Medications:

Evaluate current medication usage.

- Avoid category-X drugs and most category-D drugs unless the potential maternal benefits outweigh fetal risks.



Review the use of over-the-counter medications, herbs, and supplements

Pregnancy Category	Description
A	Appropriate human studies - no risk
B	Insufficient human studies, but animal research suggests safety <u>or</u> : Animal studies show issues but human studies show safety
C	Insufficient human studies, but animal studies show problems <u>or</u> : No animal studies, and insufficient human studies
D	Human studies, with/without animal research show fetal risks, but the drug is important to some women to treat their conditions
X	Fetal risks are evident; there are no situations where the risk/benefit justifies use

5-Infections and Immunizations

Screen for periodontal, urogenital, and sexually transmitted diseases (STDs).

Discuss TORCH infections (i.e., toxoplasmosis, rubella, CMV, syphilis, parvovirus, and herpes).

Recommend immunizations for hepatitis B, rubella, varicella, HPV, and influenza.

6-Genetic Screening and Family History:

Evaluate the risk of chromosomal or genetic disorders based on family history, ethnic background, and age.

Include screening for cystic fibrosis, phenylketonuria, and thrombophilia, and discuss management strategies during pregnancy.

Evaluate family history for congenital anomalies, chromosomal abnormalities (e.g., Down syndrome), mental retardation, developmental delay, inherited diseases such as hemoglobinopathies, cystic fibrosis, and hemophilia, recurrent pregnancy loss, stillbirth, and early infant death in the family. Consider ethnicity and consanguinity.

7-Nutritional Assessment:

Assess anthropometric measures (BMI), biochemical factors (anemia), and dietary risks.

Achieving ideal body weight and adopting a proper diet before pregnancy is advisable.

Weight : women should lose weight if she is an overweight (BMI > 25) to reduce the risk of pregnancy complications . Or gain weight if she is at risk to delivering low birth weight (BMI > 18.5)

Diet: This includes consuming a diverse range of foods rich in fiber, and ensuring adequate intake of calcium, folic acid, and other essential nutrients.

Cont.....

8 - Substance Abuse: Includes smoking, alcohol, and drug use.

9-Toxins and Teratogens:

Review exposure at home and work

Review material safety data sheets.

10-Psychosocial Concerns: Screen for depression, anxiety, intimate partner violence, and major psychosocial stressors.

11-Physical Examination: Focus on periodontal health, heart, lungs, breasts, thyroid, abdomen, and pelvic examinations.

-
- 12-Laboratory Tests:
 - - Perform CBC, urinalysis, blood type, and antibody screen.
 - -Test for rubella, syphilis, hepatitis B, and HIV.
 - -Conduct cervical cytology (Pap smear).
 - -Screen for diabetes in selected populations
 - Consider testing for TSF



Health promotion





1- Family Planning:

Encourage family planning based on a woman's reproductive life plan.

For women not planning pregnancy, promote effective contraceptive use and discuss emergency contraception.



Health

2-Healthy Weight and Nutrition :

Promote healthy pregnancy weight through exercise and nutrition.

Discuss macronutrients and micronutrients, including multivitamins such as folic acid.

3- Health Behaviors:

Encourage health behaviors such as nutrition, exercise, safe sex practices, effective contraception use, and dental hygiene.

Discourage risk behaviors such as smoking, alcohol consumption, and substance abuse.

Cont.....

4 -Stress Resilience :

Address ongoing stressors, improve sleep and relaxation techniques, and address issues like intimate partner violence.

5- Healthy Environment:

Discuss household, neighborhood, and occupational exposures to metals, organic solvents, pesticides, endocrine disruptors, and allergens.

Provide practical tips on reducing exposures during commuting or when picking up dry cleaning.

Intervention

Pre-conception interventions include Health Promotion and Education; Counseling related to Reproductive health risks; Optimizing the control of Medical disorders and Referral for specialized care, when appropriate

The following core interventions can reduce the occurrence of congenital anomalies, congenital disease, impaired or excessive fetal growth and a variety of pregnancy complications (e.g, Preterm birth, Abruptio placenta)

MATERNAL AGE

WEIGHT & BMI

HYPOTHYROIDISM

SMOKING

ALCOHOL

HEPATITIS B

RUBELLA

STD

***ANTI COAGULANT
DRUGS***

***ANTI EPILEPTIC
DRUGS***

***ANTI ANXIETY
DRUGS***

OTHER

1. ADVANCE MATERNAL AGE

RISK FOR OLDER MOTHER

DURING PREGNANCY

- Gestational Diabetes & Hypertension

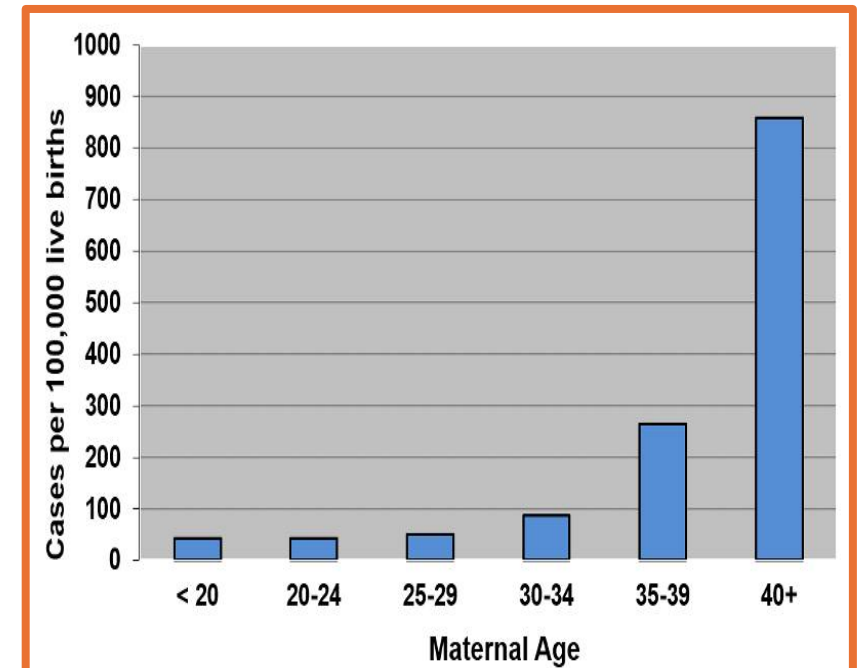
DURING DELIVERY

- Longer labour
- Preterm delivery
- Placental abruption
- Placenta previa
- Higher chance for a Caesarean delivery



RISK FOR BABY

- Miscarriage
- Low birth weight
- Stillbirth
- Genetic abnormalities
- Down's syndrome



2.

Obesity is a preconception risk factor

Maternal obesity (BMI over 30)



Impact on women:

- increased risk of miscarriage
- Gestational diabetes and perinatal complications
- lower breastfeeding rates



Impact on foetus:

- increased risk of stillbirth
- metabolic abnormalities
- developmental abnormalities



Impact on children:

- increased risk of obesity
- diabetes

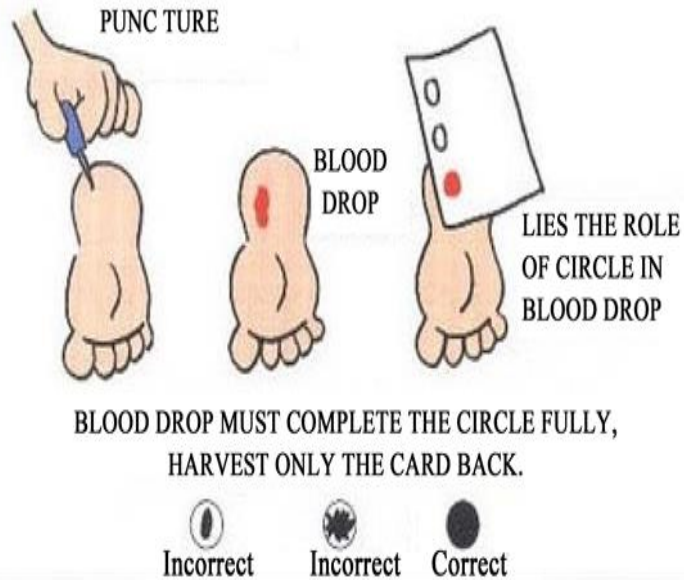
An illustration on the left side of the slide shows a female doctor with long brown hair, wearing a white lab coat and a stethoscope, holding a clipboard. She is gesturing with her right hand towards a pregnant woman. The pregnant woman has her hair in a bun and is wearing a brown top. Between them is a circular diagram of a human thyroid gland. The background features faint, stylized leaf patterns.

3. HYPOTHYROIDISM in pregnancy

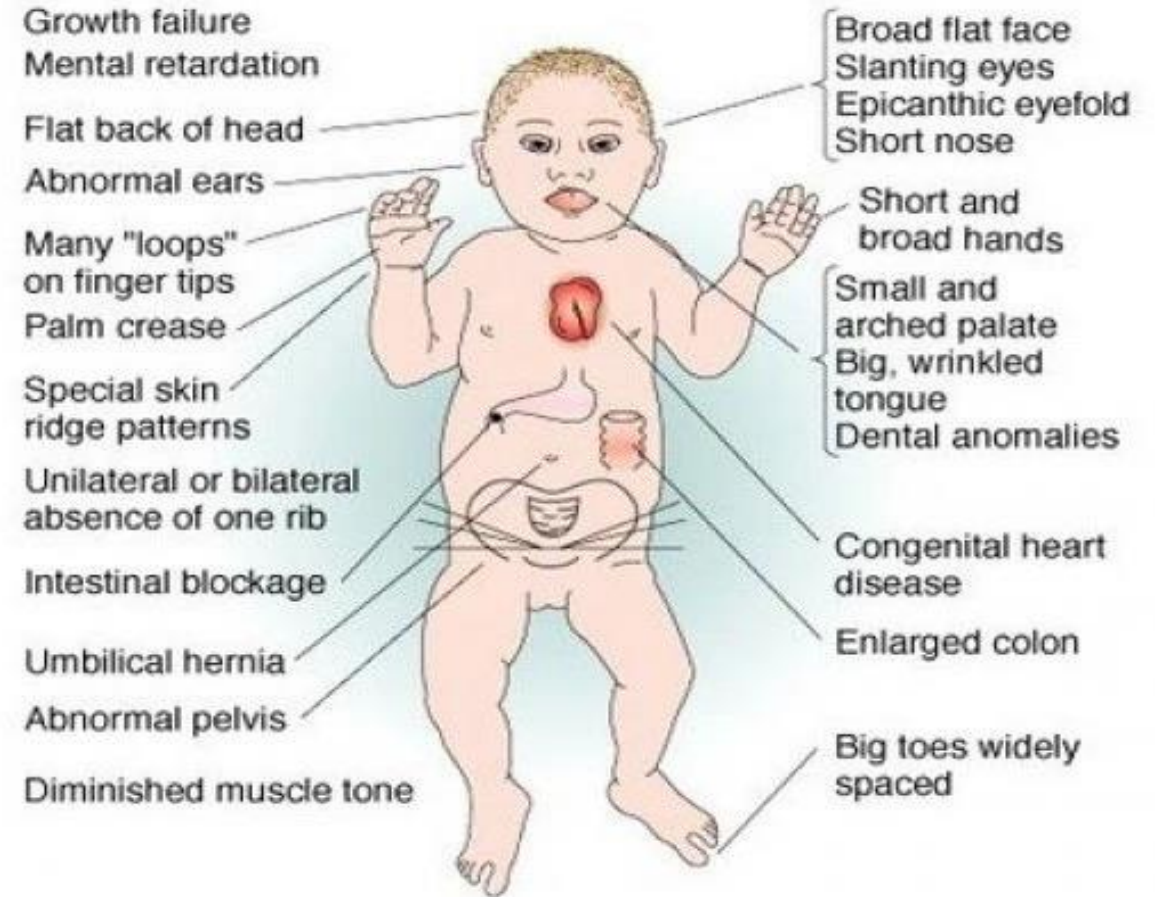
- is a condition marked by an underactive thyroid gland and may be present during pregnancy
- *Increase the risk of Spontaneous Miscarriage, Abruption, Pre-eclampsia, Low-birth-weight or Still-birth and Lower cognitive function in offspring.*
- Demand of Thyroid hormones increase during early pregnancy
- So, mother need to increase here dose of treatment .

NEWBORN SCREENING

RESEARCH OF PHENYLKETONURIA AND CONGENITAL HYPOTHYROIDISM
(Blood collection technique performed after the 2nd day of life)



THE BLOOD DROP ABSORBED BY PAPER WILL BE USED TO MAKE TEST TO VERIFY THYROID FUNCTION OF NEWBORN



Congenital hypothyroidism baby

4. Smoking and Pregnancy

The Effects on Women

- Miscarriage
- Ectopic Pregnancy
- Placental Abruption
- Placenta Previa
- Preterm Labor



The Effects on Newborns

- Respiratory Complications
- Sudden Infant Death Syndrome (SIDS)
- Neurodevelopmental and Neurobehavioral Deficits
- Increased risk of adolescent substance abuse
- Premature birth
- Stillbirth
- Low birth weight

NO time during Pregnancy is safe to drink alcohol

NO AMOUNT OF ALCOHOL IS SAFE

Riske for :

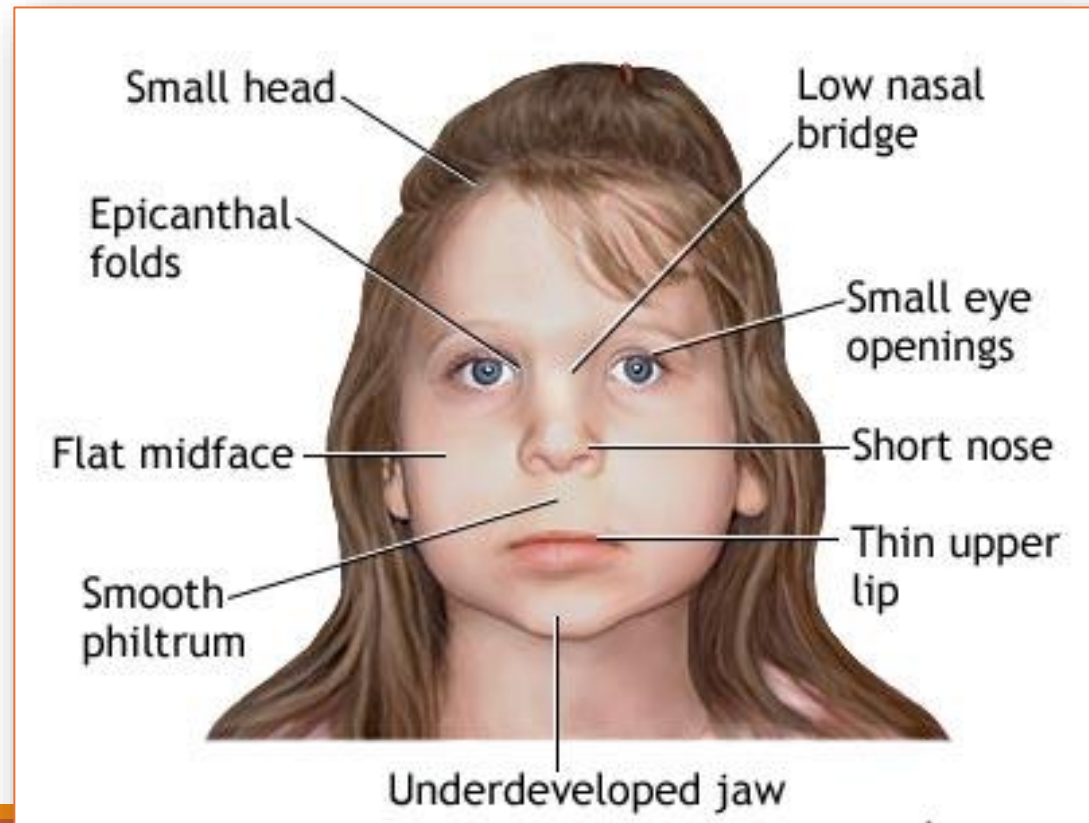
Miscarriage

IUGR

LBW

stillbirth

Fetal alcoholic syndrome



6. Hepatitis B

Preventing hepatitis-B virus (HBV) infection in women of childbearing age, prevents transmission of infection to infants and eliminates risk to the woman of HBV infection and sequelae, including Liver cirrhosis, Hepatic Failure, Liver carcinoma and death.

- All decisions about initiating, continuing or stopping therapy of the HBV during pregnancy must include an analysis of the risks and benefits for mother and fetus. The trimester of the pregnancy and the stage of the mother's liver disease are important factors.
- Current safety data suggest that Lamivudine, Telbivudine or Tenofovir may be used during Pregnancy.

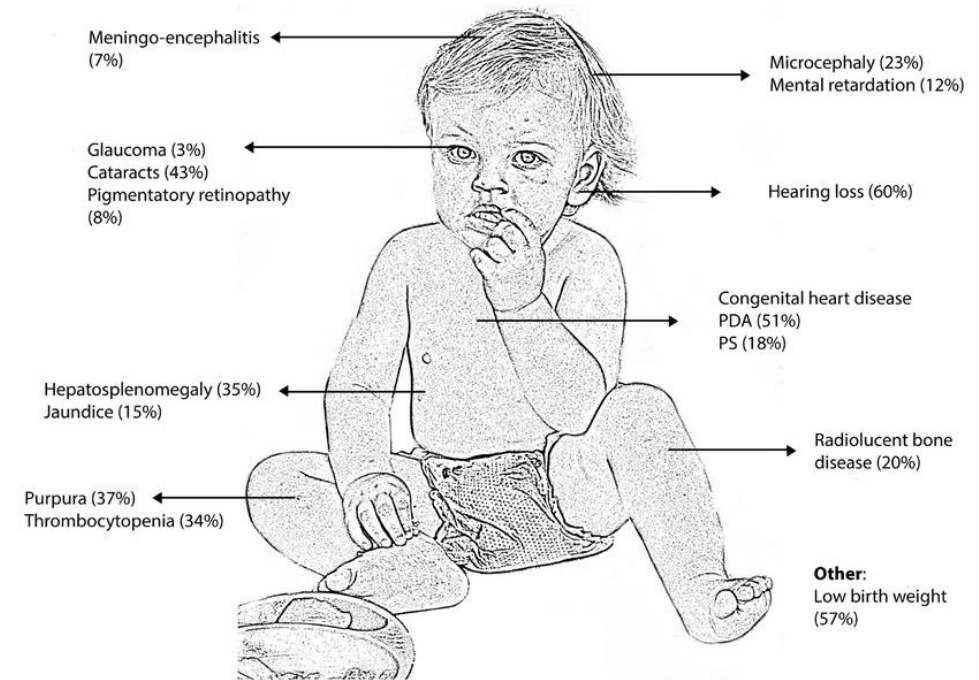
7. Rubella

Vertical transmission of rubella from mother to fetus carries a high risk of causing serious congenital abnormalities.

The theoretical risk of viral reactivation from the vaccine means it should NOT be given during Pregnancy and Pregnancy should be avoided for the 3 months following immunization..

Congenital Rubella Syndrome) when the mother is infected early in Pregnancy, esp. in the first trimester.

- Liver and spleen damage. • Low-birth weight.
- Skin-rash at birth. • Cataracts.
- Heart defects. • Intellectual disabilities. • Deafness...



8. Sexually-transmitted diseases (STDs):

Chlamydia trachomatis and *Neisseria gonorrhoeae* have been strongly associated with Ectopic Pregnancy, Infertility, and Chronic pelvic pain.

- STDs during pregnancy might result in Fetal death or Substantial physical and developmental disabilities, including mental retardation and blindness.
- Early screening and treatment prevents these adverse outcomes.



Fig. 3: 2D ECHO REVEALING THE-DILATED VENTRICLES



Fig: 4 2DECHO REVEALING PDA



Fig. 5: PHOTOGRAPH SHOWING THE DEPRESSED NASAL BRIDGE AND DYSMORPHIC FACIES



Fig. 6: PHOTOGRAPH SHOWING SHORT NECK



Fig. 7: SHOWS STIPPLED VERTEBRAE



Fig: 8 SHOWS STIPPLING IN LONG BONES

9. Oral anticoagulant:

Use of Warfarin during the First trimester is associated with an increased risk of spontaneous abortion, IUGR, CNS defects ,still-birth and a **fetal-warfarin syndrome**

(**nasal hypoplasia , bone stippling , mental retardation , RDS , fetal & maternal hemorrhage**)

To avoid exposure to Warfarin during Early Pregnancy, medications can be changed to a non-teratogenic anti-coagulant before the onset of Pregnancy :

Warfarin easily crosses the placenta, causing bleeding problems in the fetus, and is excreted in breast milk

Heparin has major advantages over warfarin anticoagulants during pregnancy because it does NOT cross the placenta

10. Anti-epileptic drugs:

Women with Epilepsy taking anti-epileptic drugs have a greater (2-3 times) risk than other women of having a baby with a Fetal abnormality.

taking > 1 anti-epileptic drug carries a higher risk than monotherapy esp. if one of the medicines is Valproic acid.

The most common malformations include Cleft lip and palate and Problems with the heart, urinary or genital systems.

Carbamazepine (the safest anti-epileptic agent in pregnancy) or **Lamotrigine** are the anti-convulsant drugs of choice in pregnancy

Antianxiety Agents:

exposure to meprobamate or chlordiazepoxide has been associated with a greater than fourfold increase in severe congenital anomalies.

Fluoxetine is now the drug of choice for anxiety and depression during pregnancy and is considered safe to continue even in women who breastfeed.

Medical condition

Respiratory compromise may mean that pregnancy is contraindicated, severe compromise is present in such patients as evidenced by their background medical condition such as cystic fibrosis or their limited exercise tolerance.

In the presence of Renal compromise, the advice may be that pregnancy is better attempted sooner rather than later, that conception occurs in mild to moderate renal failure rather than severe renal failure with advancing maternal age

ANTENATAL CARE






Definition



professional supervision and evaluation which include examination and advice of a woman during pregnancy to assess maternal & fetal health and intervene when possible to ensure the birth of a healthy baby with minimal risk for the mother.



- The first prenatal visit provides an opportunity to review medical, reproductive, family, genetic, nutritional, and psychosocial histories.

Reproductive histories that include preterm birth, low birth weight, preeclampsia, stillbirth, congenital anomalies, and gestational diabetes are important to record because of the substantial risk of recurrence.

Women with prior cesarean delivery should be asked about the circumstances of the delivery, and a discussion about options for the mode of delivery for the current pregnancy should be initiated.

AFTER history, A complete physical examination should be performed including an assessment of the patient's body mass index (BMI) and blood pressure (BP) .

•Clinicians should be familiar with physical findings associated with normal pregnancy, such as systolic murmurs, exaggerated splitting, and S3 during cardiac auscultation, or spider angiomas, palmar erythema, linea nigra, and striae gravidarum on inspection of skin.



- A pelvic examination should be performed, and the appearance and length of the cervix and the status of the last Papanicolaou (Pap) smear should be documented, or a new Pap smear obtained



Follow up visits

- Recommended follow up visit schedule for health pregnant women is :
 - Every 4 weeks up to 28th weeks .
 - Every 2 weeks from 29th till 36th weeks .
 - Every week from 37th to birth .

**** During each regularly scheduled visit ,the clinician should evaluate :**

- 1- blood pressure .
- 2- weight
- 3- urine protein and glucose
- 4- uterine size
- 5- fetal heart rate

*** after 20 weeks of gestation she should be asked about fetal movement**



Glucose
Screening



Urine Examination
Routine



CBC (Complete
Blood Count)



Electronic Fetal
Heart Monitoring



Non-Stress
Test

LABORATORY TESTS AT THE INITIAL VISIT

- In the initial visit if the women prime gravida the blood group and RH should be tested
At each visit the symphysis-fundal height is plotted .the blood pressure should be measured

1.Blood sample

- * screening for infections disease as (HIV / SYPHILIS)
- * guide immunity against disease as (rubella / varicella)

2.Fasting blood glucose and screening for diabetes

- risk factor :

- Age > 40
- BMI > 25 kg/m²
- HbA_{1c} in prediabetes range
- history of dyslipidemia and hypertension

3.Urine analysis and urine culture

4.Pelvic exam and ultrasound

5.PAP smear

screening for cervical cancer

6.Cervical swab

screening for chlamydia and gonorrhea





NAUSEA



FREQUENT
URINATION



FOOD
AVERSION



CONSTIPATION

**Normal
complaints in
1st trimester of
pregnancy**

In 2nd trimester she will be improved. She will notice fetal movement.



10110000



Shortness
of breath



Sleeping
problems



Urinary
incontinence



Varicose veins



Hemorrhoids

Borcelle

Company Name:
Borcelle

Date of Incorporation:
December 23, 1990

Business:

Technology services:
Internet of Things,
Artificial Intelligence,
& Blockchain.

Share Listing:

The Company's stock
has been listed on the
Stock Exchange since
April 24, 1995.

Authorized Capital:
4 Million Usd, consisting
of 60,000,000,000 shares
with nominal value of 10Usd
per share.

Paid-Up Capital:
3 Million Usd, consisting
of 40,483,553,400 shares
with nominal value of 0.51
Usd per share.

ANTENATAL SCREENING FOR MATERNAL AND FETAL COMPLICATIONS



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Gestational DM

Blood group and
alloantibodies

hemoglobinopathies

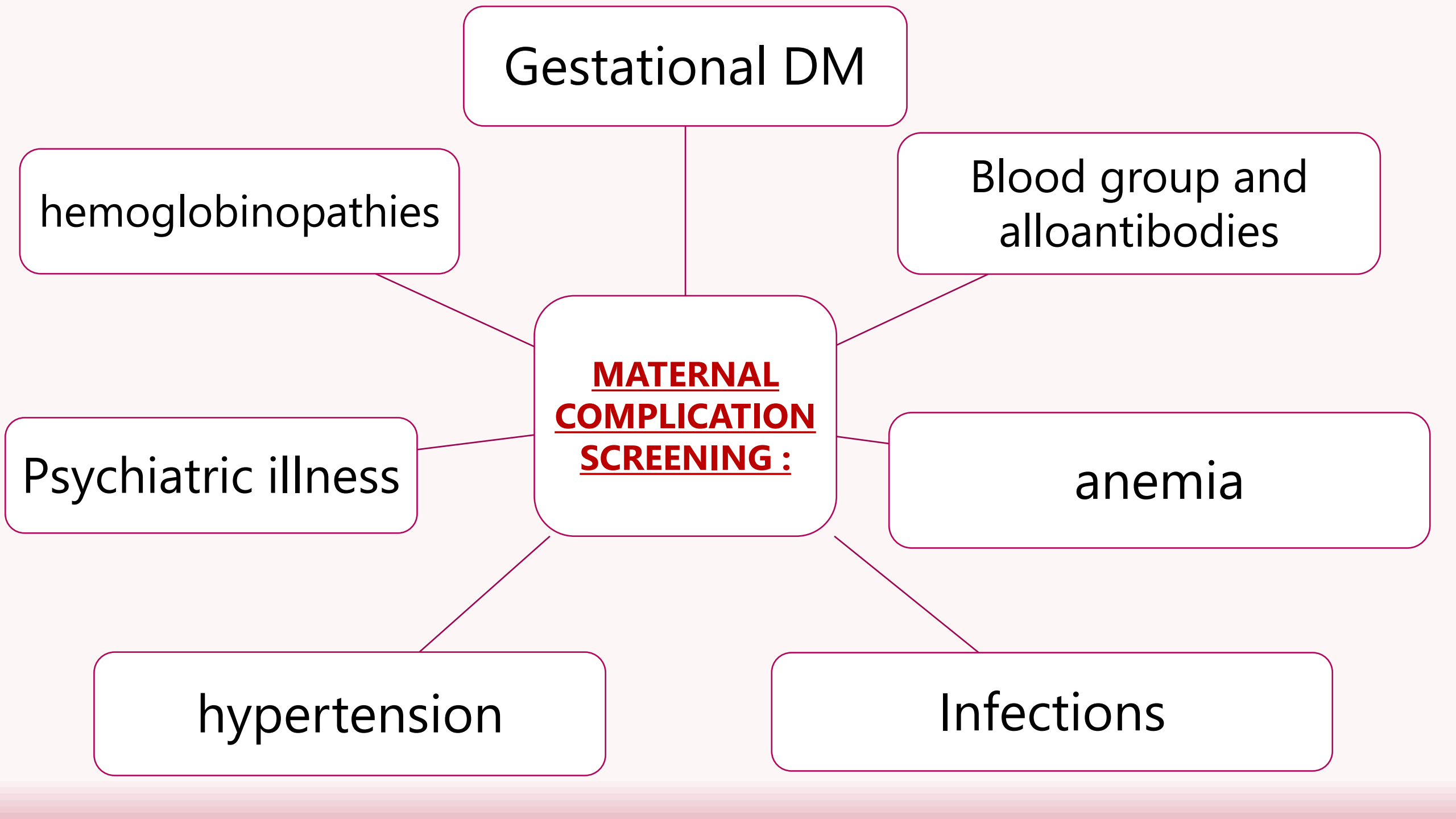
MATERNAL
COMPLICATION
SCREENING :

anemia

Psychiatric illness

Infections

hypertension



1-Blood group and alloantibodies

- Identifying the maternal blood group is essential to prevent hemolytic disease.
- Screening for maternal blood group must be done at the first visit and repeated at the 28th week of gestation.

** mother RH-, father RH+, -ve indirect coombs test ® give mother anti D prophylaxis **at 28 week** and **at delivery** if the baby is RH+ (cord blood sample), **also within 72 hours of any sensitizing event.**

Anti-D should be given whenever it is thought likely that there could have been a leakage of fetal blood suspected to be positive RhD into the mother's circulation. This is known as a sensitizing event.

sensitizing event.

1. Termination of pregnancy.
2. Turning a breech baby (ECV).
3. Birth of the baby
4. Vaginal bleeding.
5. Miscarriage (**usually after 12 weeks**).
6. Amniocentesis or Chorionic Villi sampling
7. Trauma to the stomach - for example:
a car accident or fall.

In pregnancies **less than 12 weeks'** gestation anti-D immunoglobulin prophylaxis is only indicated following ectopic pregnancy, molar pregnancy, therapeutic termination of pregnancy and in cases of uterine bleeding where this is repeated, heavy or associated with abdominal pain.

2- Anemia

- **Iron deficiency anemia** is considered the most common cause of anemia during pregnancy since Iron demand during pregnancy increase due to:

1. Fetal developing requirements
2. Placental formation
3. Increasing in Maternal red cell mass

- **Hb level below 11 gm/dL up to the 12th week of gestation OR less than 10.5 gm/dL at the 28th week** is considered significant anemia and requires further investigations. (routine screening should be performed at the booking visit and at 28 week of gestation)

- **Severely low Hb (8.5-10.5 gm/dL)** is highly associated with preterm and low birth weight.

*Screening methods:

-CBC relieving Hb and Hematocrit levels

-serum ferritin is the best way of assessing maternal iron stores and if found to be low, iron supplementation should be Considered Other causes:

1. Vitamin B12 deficiency
2. Folic acid deficiency
3. Vaginal bleeding
4. Hemolytic anemia (rare)

3- Hemoglobinopathies

- Mainly screening for **both sickle cell disease** and **thalassemia**.
- During pregnancy scd can become more severe, and pain episodes can Occur more often. A pregnant woman with scd is at a higher risk of Preterm labor, having a low birth weight baby or other complications.
- Also pregnant women with beta thalassemia can develop anemia, which Can raise the chances of delivering early. They also may need more Frequent blood transfusions during pregnancy causing iron overload And maternal distress.
- Depending on the prevalence rates of the country; the screening can Be done either as :
 - a frequent laboratory screening
 - Family original questionnaire

In beta thalassemia major women willing to get pregnant:

- Partner:** Screening of the partner for beta thalassemia status, with relevant genetic counseling, blood typing, and spermogram are recommended.
- Fertility assessment:** This should include analysis of gonadal function through a medical history and hormone assays, standard pelvic examination, pelvic ultrasonography and hysterosalpingography;
- **Iron overload:** Given the risk of a significant increase in iron overload during pregnancy, thalassemic women wishing to become pregnant should undergo complete evaluation of organ iron overload, including liver and heart magnetic resonance (MRI) T2. In the case of severe hemosiderosis, pregnancy should be postponed

4-GESTATIONAL DM

**pregnant women
having 1 or more
risk factors for
gestational diabetes
should be offered
a screening test**

Table 2 High-risk factors for gestational diabetes mellitus

-
- Previous history of gestational diabetes mellitus
 - Previously elevated blood glucose level
 - Maternal age ≥ 40 years
 - Family history of diabetes mellitus (first degree relative with diabetes or a sister with gestational diabetes mellitus)
 - Body mass index $> 35 \text{ kg/m}^2$
 - Previous macrosomia (baby with birth weight $> 4,500 \text{ g}$ or $> 90\text{th}$ centile)
 - Polycystic ovary syndrome
 - Medications: corticosteroids, antipsychotics
-

The screening test is called an oral glucose tolerance test (OGTT) and it is done between the 24th and 28th week of pregnancy.

For those having previous gestational diabetes, they will be offered an OGTT earlier in their pregnancy, then another OGTT at 24 to 28 weeks if the first test is normal

5-Hypertensive disorders :

- Chronic Hypertension

- Gestational hypertension

- Pre-eclampsia: pregnant women should be taught to recognize the warning symptoms of preeclampsia (frontal headache, visual changes, hand or facial swelling, epigastric or right upper quadrant pain) in the late second trimester

- Eclampsia :
pre-eclampsia + new onset of seizure or coma

6-Infection

•

Maternal blood is recommended to be screened for certain infections (HIV, syphilis, hepatitis B virus, and hepatitis C virus) for all pregnant women. they may also be repeated **at 32 to 36 weeks** if the woman has specific risk factors for these diseases

- The Centers for Disease Control and Prevention recommend universal screening for maternal colonization of group B streptococcus at **35 to 37 weeks gestation**
- Identification of women who are hepatitis B carriers can lead to a 95% reduction in mother-to-infant transmission following appropriate postnatal administration of vaccine and immunoglobulin to the baby
- Women who are positive HIV can be offered treatment with antiretroviral drugs which when combined with delivery by SC and avoidance of Breastfeeding can reduce maternal transmission ratio from near 25% to 1%

7- PSYCHIATRIC ILLNESS

Women should be asked about **history** of significant mental illness, previous psychiatric treatment or a family history of prenatal mental health illness. If mental illness is suspected, further referral assessment should be made.

Women should be also screened for depression early in pregnancy, during the third trimester and again postpartum.

A simple self- administered 10 question screening tool, the "Edinburgh Postnatal Depression Scale" (EPDS)

The incidence of depression during pregnancy and the postpartum period is as high as 20%. Multiple studies have shown a significant relationship between vitamin D deficiency and depression.

FETAL SCREENING



1) CONFIRMATION OF FETAL VIABILITY

all women should be offered a “ Dating Scan”; which is best to be performed between the 10th and 13th week of gestation; which is an ultrasound test that is used to:

- *check the fetal heartbeat
- *find out if there is more than one fetus
- *measure the fetal crown-rump length to estimate how many weeks' pregnant the mother is Diagnose up to 80% of major fetal abnormalities.
- *it is a part of the combined screening test for Down's syndrome, Edwards' syndrome and Patau's syndrome

2) STRUCTURAL ABNORMALITIES

*Major structural anomalies are present in about 3% of fetus screened at the 20 weeks' gestation.

***Detection rates** are very dependent on the system examined, skill of operator, time allowed for the scan and the quality of the U/S.

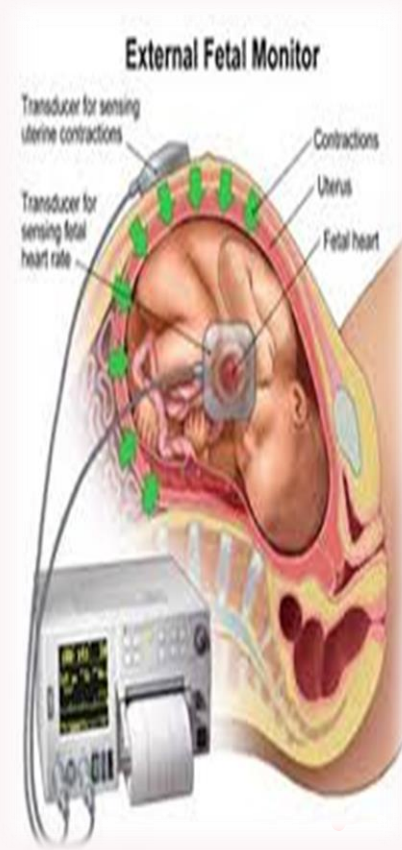
* Local detection rates of various anomalies such spina bifida, heart diseases or facial clefting should be made available.

★ 3) SCREENING FOR FETAL GROWTH RESTRICTION

* Auscultation for the **fetal heart** will confirm that the fetus is alive and can usually be detected between the 8th and 14th week of gestation.

* Measurement of **symphysis-fundal height** in cm starting at the uterine fundus and ending on the fixed point of the symphysis pubis has a sensitivity and specificity of approximately 88%

* women with one or more risk factors should have **serial ultrasound scans** to assess fetal growth, whereas low-risk women should have growth assessment by antenatal symphysis fundal charts.



- **Between 24 and 34 weeks**, women should be taught the **warning symptoms** of preterm labor such as:

1. Uterine contraction(regular or frequent sensation of abdominal tightness)

2. leakage of fluid

3. vaginal bleeding (bloody show)

4. A sensation of low pelvic pressure

5. low back pain

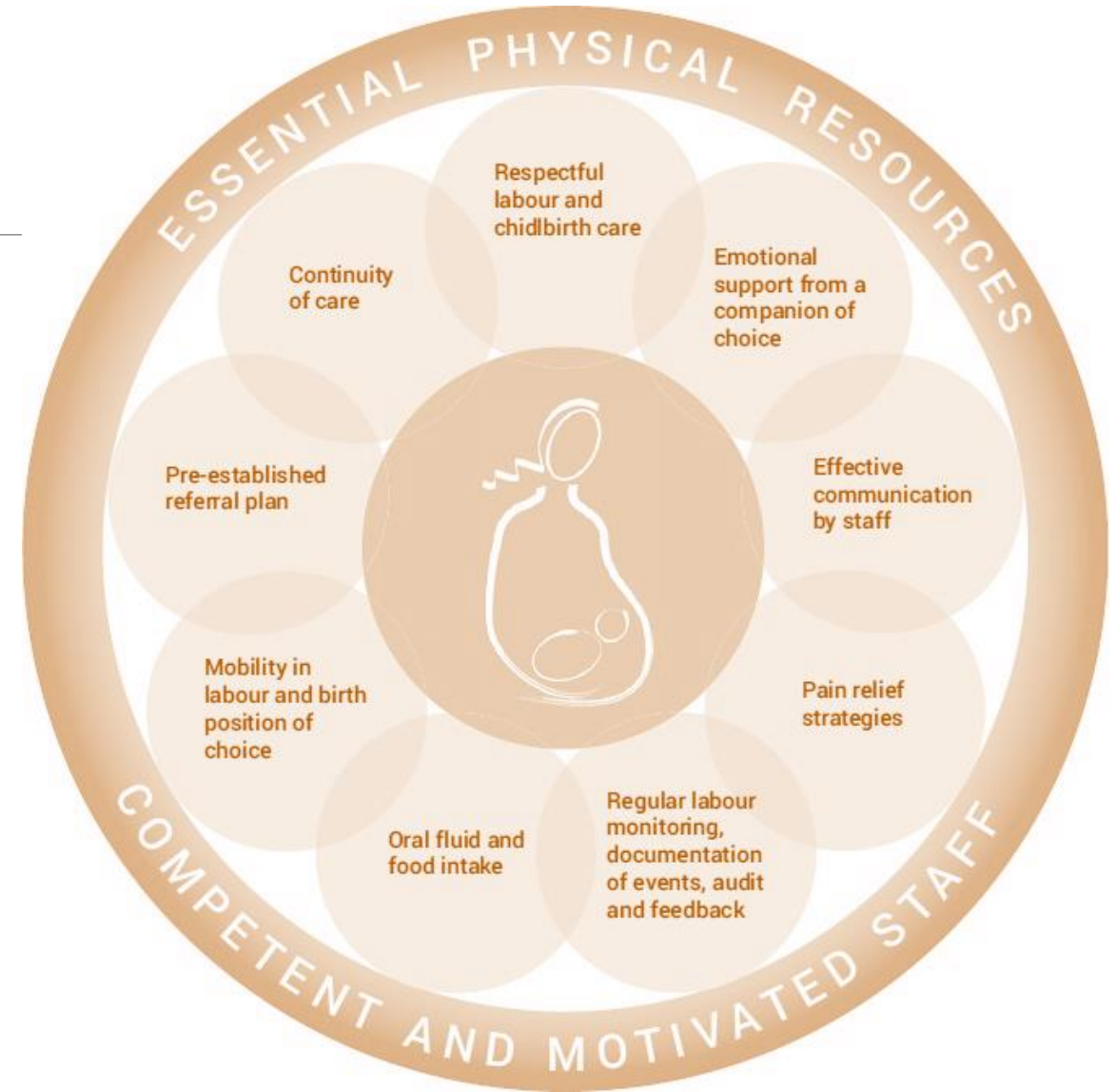
Signs of Preterm Labor



Intrapartum care



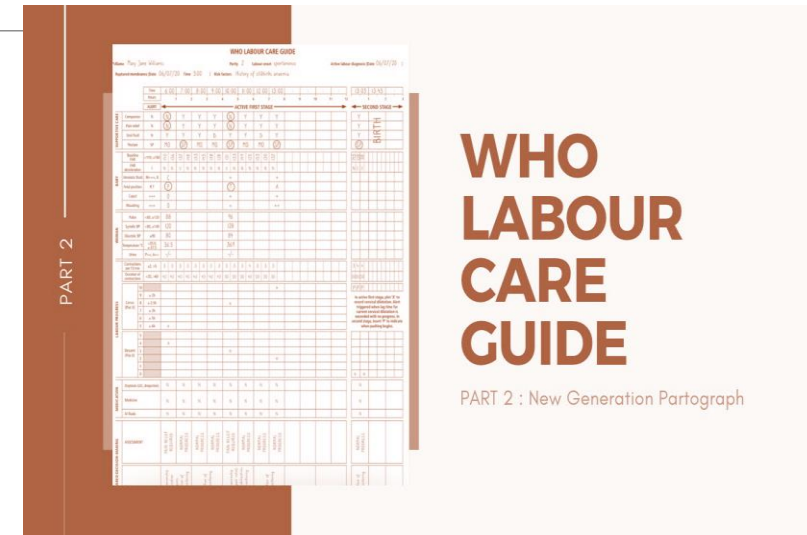
Intrapartum Care involves the care of both the mother and fetus during labour and delivery including the first one hour following birth.



The World Health Organization (WHO) Labour Care Guide (LCG)

The World Health Organization (WHO) Labour Care Guide (LCG) is a paper-based labour monitoring tool designed to facilitate the implementation of WHO's latest guidelines for effective, respectful care during labour and childbirth. Implementing the LCG into routine intrapartum care requires a strategy that improves healthcare provider practices during labour and childbirth. Such a strategy might optimize the use of Caesarean section (CS), along with potential benefits on the use of other obstetric interventions, maternal and perinatal health outcomes, and women's experience of care. However, the effects of a strategy to implement the LCG have not been evaluated in a randomised trial.

This study aims to: (1) develop and optimise a strategy for implementing the LCG (formative phase); and (2) To evaluate the implementation of the LCG strategy compared with usual care (trial phase).



Management of normal labor and delivery

1- Identification of labor :-

1. True labor:

- Contractions occur at regular intervals .
- Intervals gradually shorten .
- Intensity gradually increase .
- Discomfort is in the back and abdomen(more generalized) .
- Cervix dilates .
- Discomfort is not stopped by sedation .
- Water breaks(gush of fluid from the vagina)
- Not relieved rest

2. False labor :

- Contractions occur at irregular intervals .
- Intervals remain long
- Intensity remains unchanged .
- Discomfort is chiefly in the lower abdomen(more localized) .
- No cervical changes .
- Discomfort is usually is relieved by sedation or rest .

2- Admission procedures :

When a woman presents in labour, it is essential to review her obstetrical, medical and surgical history, confirm the gestational age, and determine that she is in active labour.

- Recording the medical and obstetrical history
- General examination of the mother
 - Pallor
 - Non dependant Oedema
 - Abdominal scars
- Heart and lungs examination
- maternal height & weight
- Vital signs(Blood pressure, pulse, respiration, temperature)

3-IV cannulas : For IV fluid and medication .

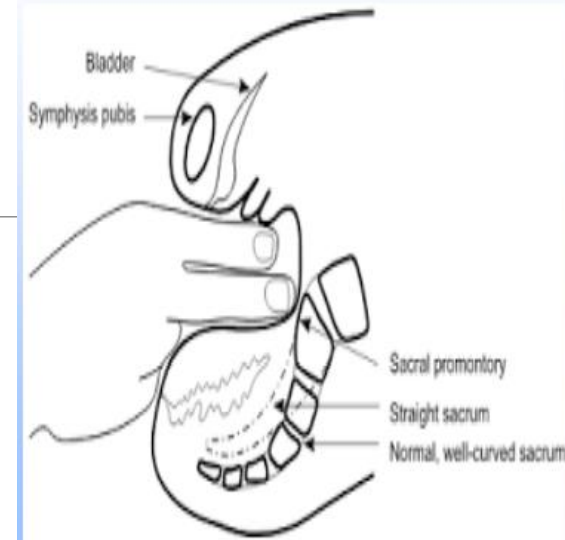
4-Laboratory investigation :(done as patient condition & needed)

BG-RH, CBC, Cross matching , Hepatitis B, Rubella , RBS, FBS , CRP, KFT, LFT, Uric acid , Coagulation profile (PT, PTT inr) , Urine analysis & culture (protein, sugar)

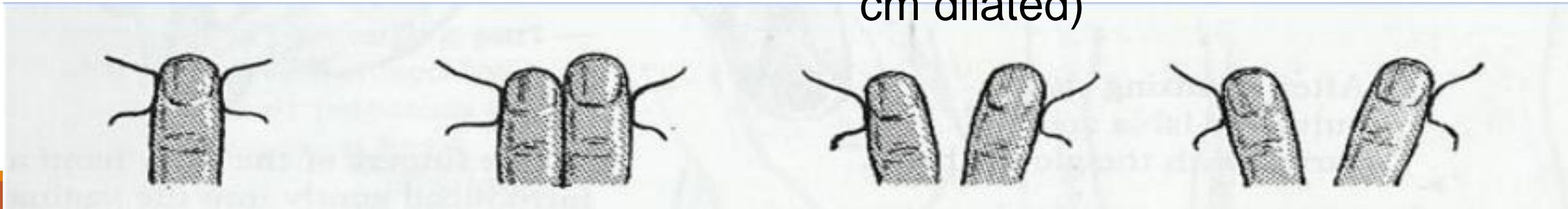
5- Abdominal examination : (Leopold, fetal heart auscultation, uterine contractions) .

6- Vaginal examination:

- Cervical effacement .
- Cervical dilatation .
- Presenting part, attitude, position .
- Position of the cervix Posterior, midway position, anterior .
- Station .
- Detection of ruptured membranes, (Clear or Meconium) & exclude cord prolapse .



Assessment of the cervix dilatation :
(1 finger 1 cm dilated) (2 fingers 2 cm dilated)
(3 fingers 3 cm dilated) (4 fingers 4 cm dilated)



7-Bladder and Bowel care: empty bladder ever 1 - 2 hrs Administer an Enema .

8-Nutrition in early labour :No food after labour is established to prevent regurgitation and aspiration, Place IV to start administration of fluids . (but during labour the best diet is purly fluid diet

9- Positioning of labouring mother: Once everything is well with mom and baby, patient may ambulate or lay in bed as the feel comfortable(supine position should avoided to prevent hypotension but only preffered when there is intrapartum bleeding or perineal lesion)

10- Monitoring, progress of labour (Bishop's score)

Bishop's score : also known as cervix score is a pre-labour scoring system to assist in predicting whether induction of labour will be required .

11-Pain relief : Opioid drugs - morphine given but should avoided close to delivery because may cause temporarily brathing and heart rate problems in neonate , epidural analgesia .

12-movement in labour will accelerate the labour phases slightly reduce the pain

It has also been used to assess the likelihood of spontaneous preterm delivery.

Bishop's Score :- The early pre-labour/early labour changes that occur to the cervix can be quantified by using the Bishop's score which assigns a score of **0 to 3** for each of the following characteristics:-

(dilatation, effacement, consistency, position of cervix and station of the head)

BISHOP SCORE =..... (total)		Date of Bishop Score:/...../.....		
Score	0	1	2	3
Dilation	Closed	1 - 2	3 - 4	5
Length	> 4	3 - 4	1 - 2	0
Consistency	Firm	Medium	Soft	—
Position	Posterior	Midline	Anterior	—
Head: station	-3	-2	-1, 0	+1,+2

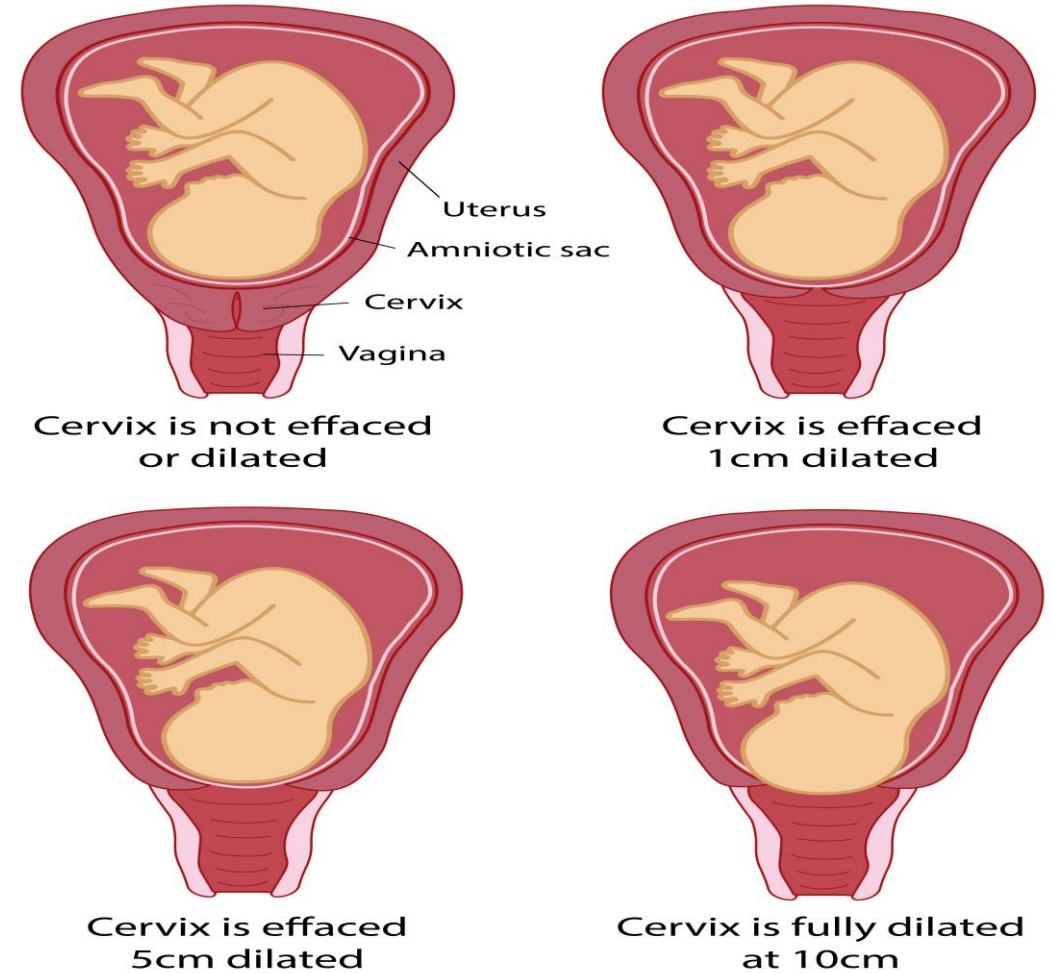
Monitoring of the first stage of labour :

1. Latent phase :-

- Onset – regular contractions .
- Ends – 4cm of dilatation .
- The first – 4 cm of dilatation, it is a slow process . { 8 hrs at nulliparous, 3 hrs at multiparous }
- Prolonged latent phase – >20 hrs in the nulliparous, >14 hrs in the multipara .
- In this phase there is no average rate per hour for cervical dilatation

2. Active phase :-

- Onset – cervical dilatation of 4cm
- Protraction – slow rate of cervical dilatation
- Arrest – complete cessation of dilatation or descent .
- faster dilatation, from 3 cm to fully dilatation



So how monitor the labor in 1st stage?

Cervical changes, descent, and rotation.

- 1) Cervix not dilated = not in labour .
 - 2) Cervix dilated < 4 cm = first stage and latent phase .
 - 3) Cervix dilated 4–9 cm = first stage and active phase . (usually 1 cm/hr) & onset of fetal descent)
 - 4) Cervix fully dilated (10 cm) = second stage . (non-expulsive phase)
 - **No urge to push and fetus continues to descend Cervix fully dilated (10 cm) = second stage . (propulsive phase)**
 - **urge to push(active phase) & fetus reaches pelvic floor**
- Delivery of the baby = Onset of third stage.**

Management of 1st stage of delivery (in the hospital, after admission)

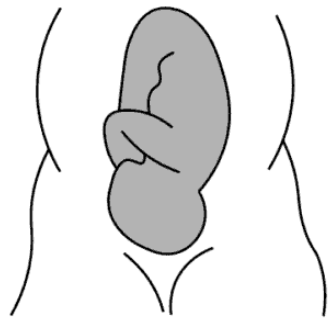
- Monitoring of the fetal well-being (CTG) .
- Uterine contractions (by hand and/or by CTG) : Evaluate the frequency, duration, and intensity and FHR
- Maternal vital signs (BP, P, RR , Tem.) .
- Subsequent vaginal examinations .
- Oral intake: Food should be withhold .
- Intravenous fluids :-not necessary in all cases
- Maternal position during labour: lying, walking, sitting, use of ball.
- Analgesia (opioid and/or epidural) .

Monitoring of Second stage of labour :-

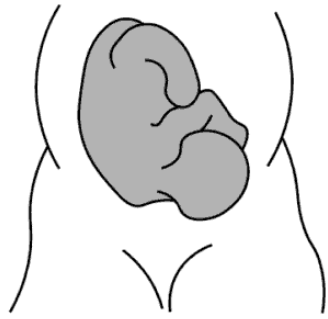
- Begins with the complete dilatation of the cervix .
- Ends with the delivery of the fetus .
- First sign of the second stage is the urge to push .
- **It has TWO phases:**
 - 1-Propulsive phase: From full dilatation until presenting part has descended to the pelvic floor (passive time 1 hr) depend on patient power without pushing.
 - 2- Expulsive phase: with the delivery of the fetus (active pushing time 1hr).
- **Note : Not all women feel the urge to push straight away in the second stage so it's divided into passive and active stages.**
- **Satisfactory progress : steady descent of the fetus through the birth canal & onset of the expulsive phase**

Fetal Lie

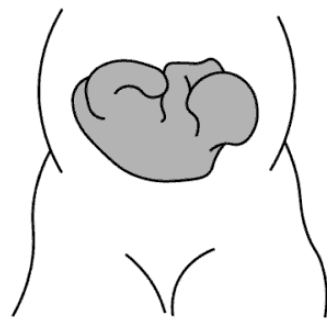
POCUS 101



Longitudinal



Oblique



Transverse

Attitude

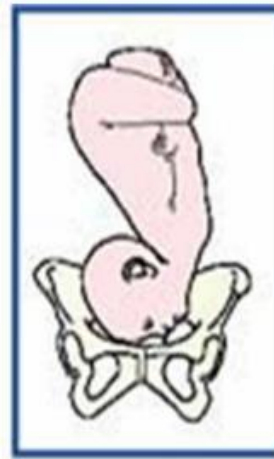
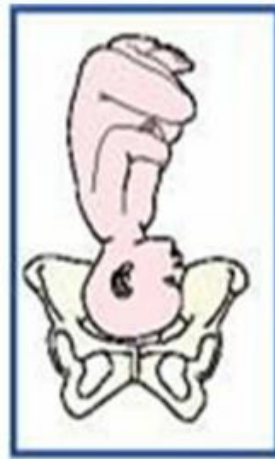
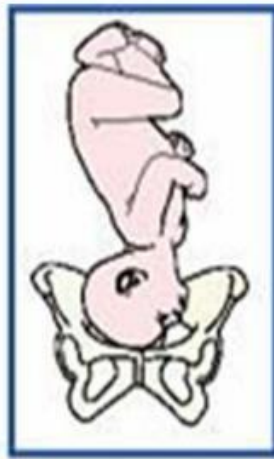
Relation of different parts of the fetus to one another



Flexion attitude



Exceptions

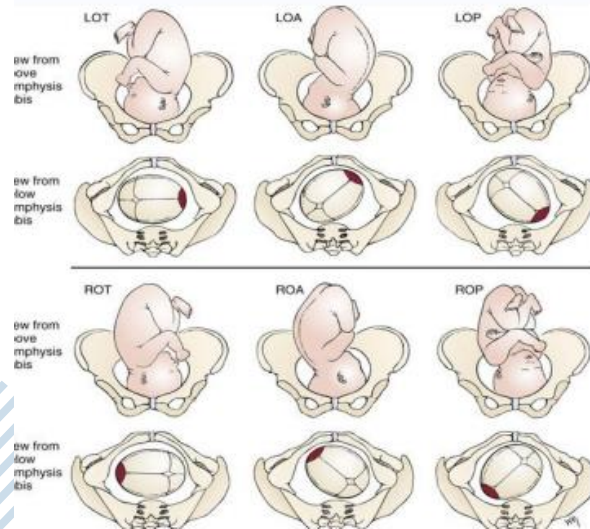


Vertex

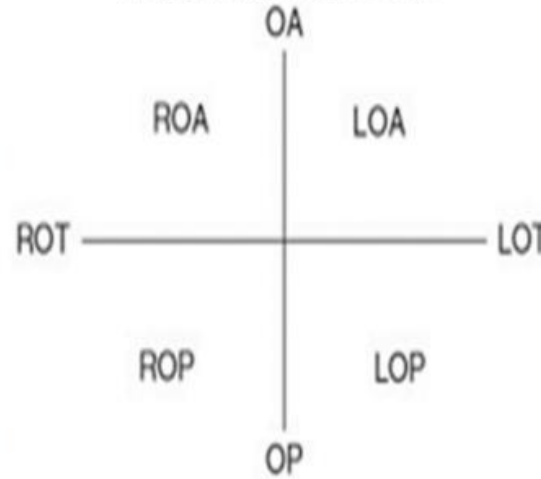
Brow

Sinciput

Mentum



Occiput prest, the presentation, position, & variety may be abbreviated in clockwise fashion as:



Right occiput anterior (ROA)



Right occiput transverse (ROT)



Right occiput posterior (ROP)



Left occiput anterior (LOA)



Left occiput transverse (LOT)



Left occiput posterior (LOP)



Right mentum anterior (RMA)



Right mentum posterior (RMP)



Left mentum anterior (LMA)



Left sacrum anterior (LSA)



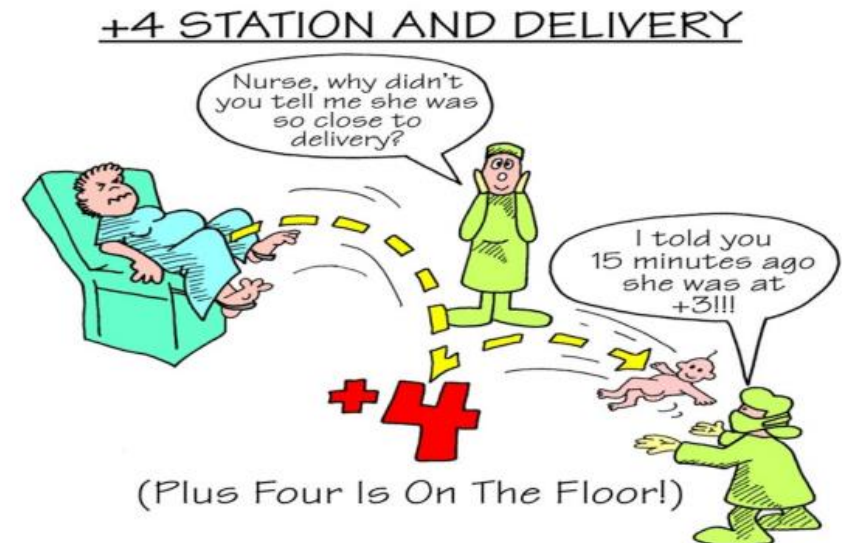
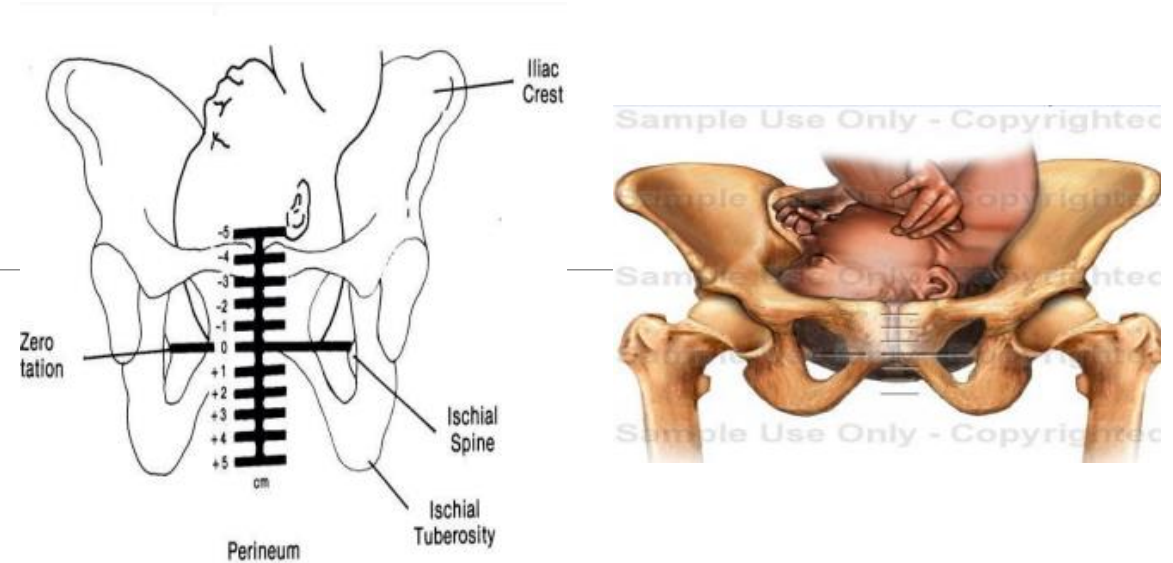
Left sacrum posterior (LSP)

Mechanism of normal labour

- Known as the cardinal movements, Involve changes in the position of the fetus's head during its passage in labour .

1-Descent : This process starts when the baby enters the start of the canal which is oval, its AP diameter is small and the transverse diameter is the largest diameter. So that, the smallest diameter (which is the biparietal diameter) will accommodate the AP diameter of the canal, and the large diameter of the head will accommodate the transverse diameter of the canal. So the head will descent in a “transverse” manner.

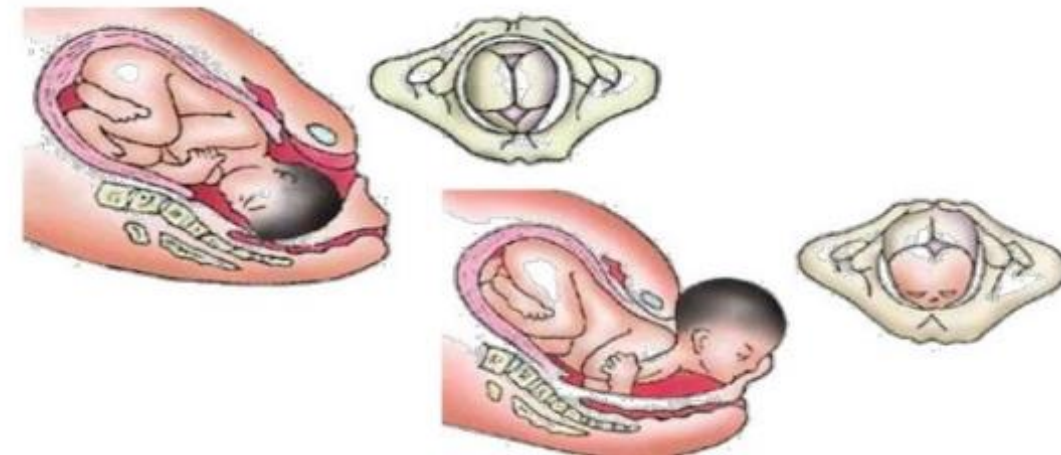
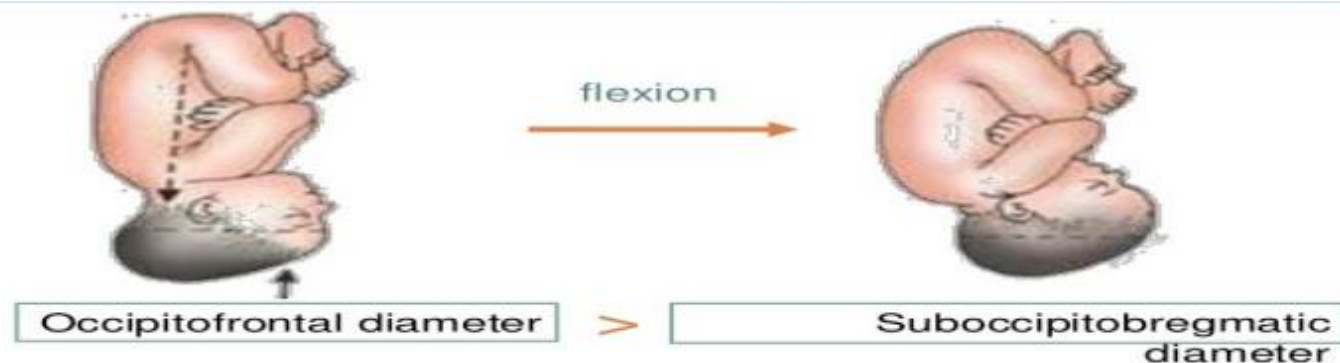
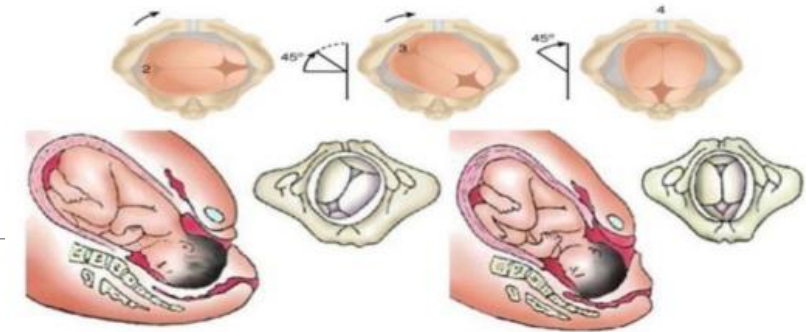
Except in most of the primiparous and few of multiparous women, the MOL (mechanism of labor) starts with descent of the fetal head. Head engagement may occur prior to labor in these women.



2-Flexion and engagement : While descending through the pelvis, the fetal head flexes so that the fetal chin is touching the fetal chest. This functionally creates a smaller structure to pass through the maternal pelvis.

3-Internal rotation : Occurs after the descent between the two ischial spines. The baby's head will now rotate internally to accommodate the new position and the sudden decrease in transverse diameter.

4-Extension: When the head reaches the vulva, the fetal head starts to extend. This will bring the base of the occiput into direct contact with the inferior margin of the symphysis pubis. The fetal face will swipe over the perineum to allow the head to deliver.



5. Restitution and external rotation : External rotation The shoulders rotate into an oblique or frankly anterior-posterior orientation with further descent. This encourages the fetal head to return to its transverse position. This is also known as restitution.



6. Expulsion :- After the external rotation, the anterior shoulder appears under the symphysis pubis, and soon the perineum becomes distended by the posterior shoulder. After delivery of the shoulders, the rest of the body is easily extruded.

This marks the end of the 2nd stage of labor.



Vertex Presentation



-
- What is the presenting part ???
 - Why dose vertex presentation considered normal ??
 - What is the point of fetal head flexion ???
 - Why should ANT rotation of the occiput occur ??
 - Why **Restitution** occurs ??

How monitor the labour in 2nd stage?

- Initial assessment: maternal health-fetal heart – progress of labour.
 - **3 things we need to assess first: the maternal condition, the fetal condition, and the stage of labor.**
-

- Assess the progress of labor by descent of fetal head till the head is showing at the perineum (crowning of the head).
- Management of 2nd stage of delivery:
 - Instruct her to bear down during contractions and relax in between
 - Taking a deep breath as soon as the next uterine contraction begins, and with her breath held, to exert downward pressure exactly as though she was straining at recum.
 - The fetal heart rate is likely to be slow, but should recover to normal range before the next expulsive effort.
 - Aim of the second stage is to allow extension after crowning in to the distended vulva risk of (perineal tear)

Delivery of the head:

- Crowning: encirclement of the largest head diameter by the vulvar ring

Episiotomy

Its vaginal tear : may be natural or iatrogenic → In most situations, if any tearing is going to occur, natural tearing has less risk and often heals better.

Routine episiotomy increases the risk of severe tears, and long term perineal, vaginal, pelvic floor, and anal sphincter damage .

An episiotomy rarely has benefits over a natural tear .

Degrees of episiotomy :

Degree 1: tear in vagina mucosa,

2nd: tear in mucosa and pelvic floor muscle,

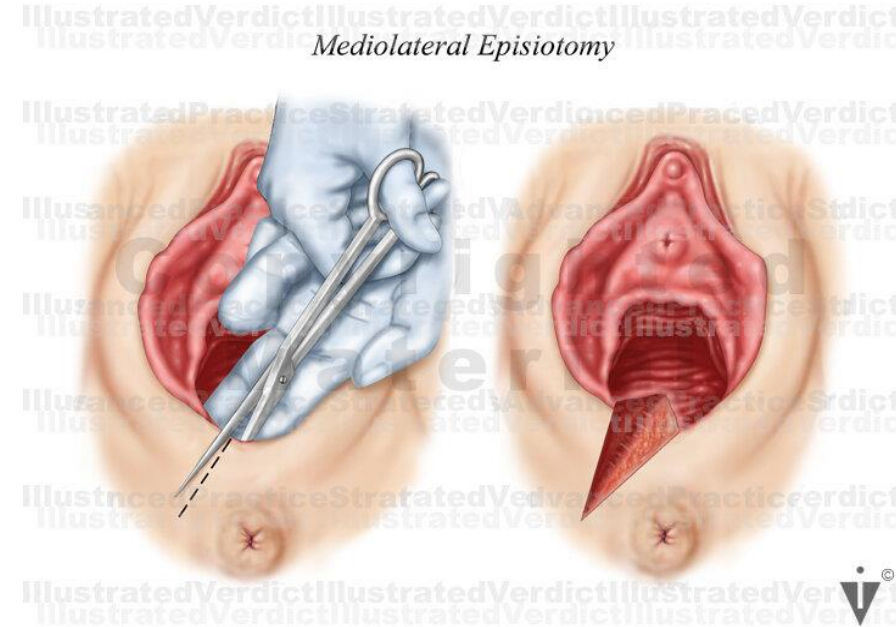
3rd : reach anal sphincter,

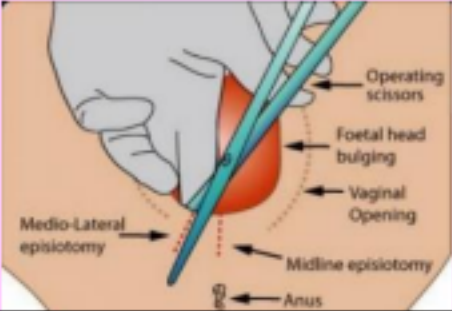
4th: reach rectal mucosa

Indication:

✓ Shoulder dystocia ✓ Breech delivery ✓ Forceps or Vacuum extractor deliveries ✓ Occiput Posterior Positions

Instances in which failure to perform an episiotomy will result in perineal rupture.



Characteristic	Midline	Mediolateral
Surgical repair	Easy	More difficult
Faulty healing	Rare	More common
Postoperative pain	Minimal	Common
Anatomical results	Excellent	Occasionally faulty
Blood loss	Less	More
Dyspareunia	Rare	Occasional
Extensions	Common	Uncommon
Definitions	<p>a cut from the vagina directly towards the anus .</p> 	<ul style="list-style-type: none"> a cut from the vagina at an angle off to one side of the anus. It is more common than the midline . It is second Degree tear :- extends through the vaginal lining as well as the vaginal tissue.
Note: the midline better in all aspects except in extension to anal sphincter and rectal mucosa.		

Ritgen maneuver

- (**Controlled delivery of the head**) by pushing the hand against the perineum to prevent perineal tearing.
- • External rotation – bisacromial diameter has rotated into the anteroposterior diameter of the pelvis
- • Gentle downward traction of the head
- • The rest of the body almost always follows the shoulders

Manual support of perineum:



1. Manual support of perineum with straight fingers, support against the perineum



2. Manual support of perineum with bended fingers, collecting the tissue when support.



3. Manual support of perineum with thumb and index fingers the three other fingers supports the chin (modified Ritgen's manoeuvre)

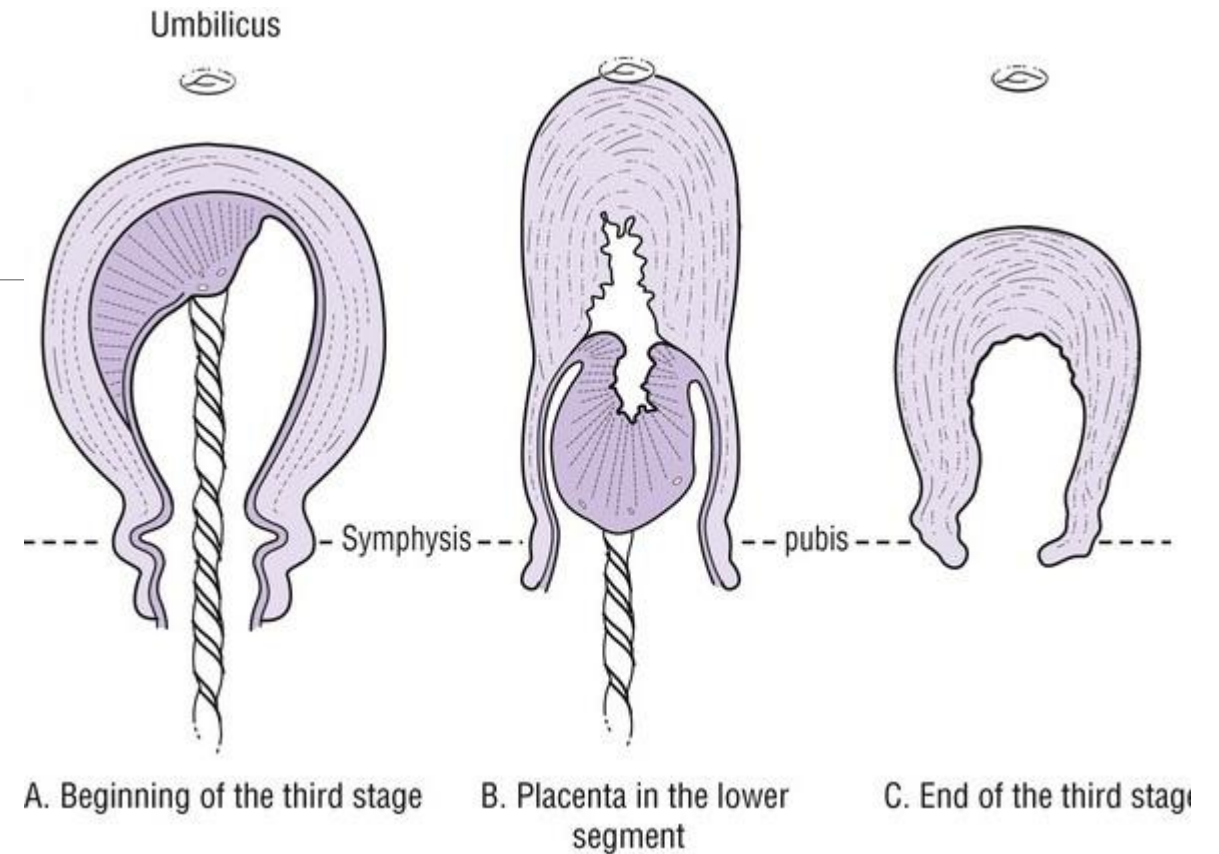


Third stage of labor :-

- Separation and expulsion of placenta and membranes .
- Begins after delivery of the baby .
- Ends with the delivery of the placenta and membranes , Shortest stage of labour .
- Duration:- 5-30 min, if (actively managed) .
- Blood loss:- 150-250 ml (average)
- It contains two phases :-
 - a) Separation .
 - b) Expulsion .

Signs of placental separation :-

- The uterus becomes globular and firmer .
- There is often a sudden gush of blood .
- The placenta passing down into the lower uterine segment, where its bulk pushes the uterus upward .
- The umbilical cord protrudes further out of the vagina



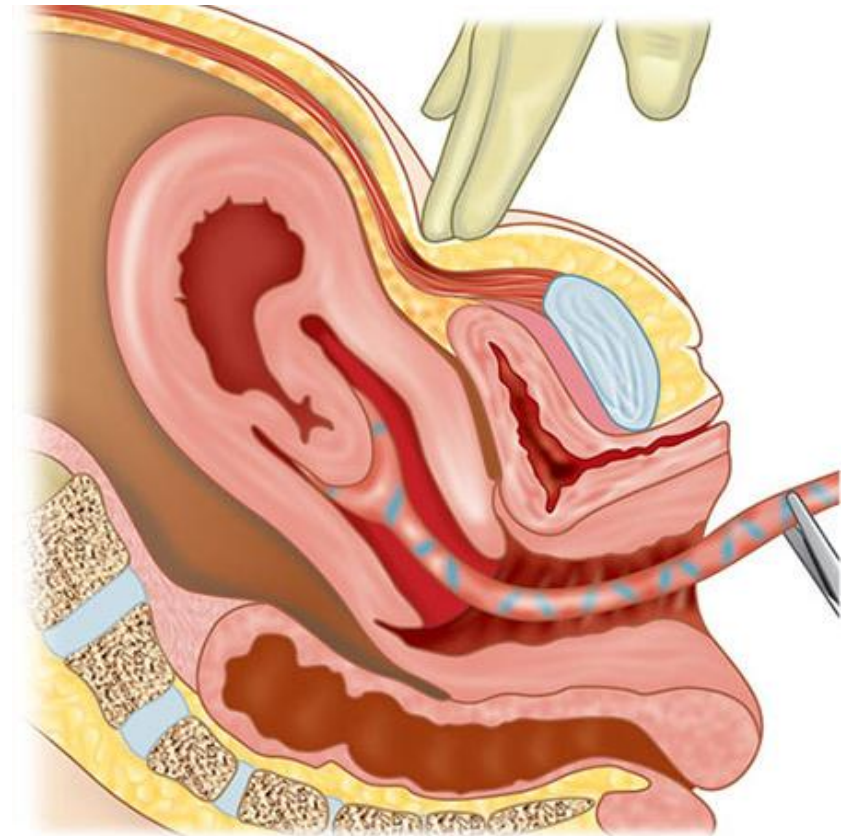
Management of 3rd stage of labor

- Delivery of the placenta :-
 - Massage the uterus .
 - Emptying the bladder .
 - Traction on the umbilical cord must not be used to pull the placenta out of the uterus.
 - Active management of the third stage:
 - Methergen (ergometrin) is avoided in labour > X HTN
 - Oxytocin (syntocinon) > 3-5 mins
 - Syntometrin (mixed type) = 7mins Long acting
 - oxytocin(carbitocin) = 11 hr used in PPH not IOL

Controlled cord traction (CCT) (look to pic)

Brandt Andrews method

If placenta is not delivered by active method. We should manually deliver the placenta under anesthesia.



Immediate postpartum care

- **● After placental delivery:**
 - check uterus well contracted.
 - Examine perineum ,lower vagina and vulva for tears.
 - Estimate the blood loss
 - Clean the perineum.
 - You should to check all the vagina and cervix
- **● Assessment of the bleeding**
- **●Assessment of vital Sign**
- **● Blood group for the MOTHER (RH)(-)**
- **● Cord Sample for Blood group of the FETUS (RH) (-/+)**
- **● PSYCHOLOGICAL STATUS OF THE MOTHER (SOCIAL SUPPORT)**
- **● CHECK FOR URINATE SPONTANEOUSLY (2nd stage)**

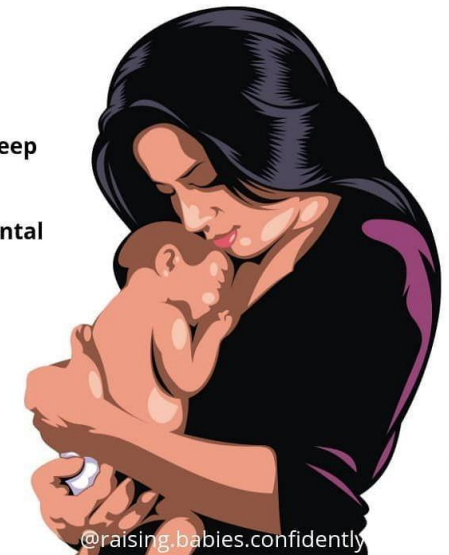
skin-to-skin contact

- **Healthcare Professional Observations:** Nurses and doctors often observe calmer, more stable newborns who have regular skin-to-skin contact, noting improved health outcomes.
- calms and relaxes both mother and baby
- regulates the baby's heart rate and breathing, helping them to better adapt to life outside the womb
- stimulates digestion and an interest in feeding
- regulates temperature
- enables colonisation of the baby's skin with the mother's friendly bacteria, thus providing protection against infection
- stimulates the release of hormones to support breastfeeding and mothering

THE BENEFITS OF SKIN TO SKIN WITH NEWBORNS

Helps mom & dad
bond more quickly

- Helps baby sleep
- Promotes mental development
- Regulates heartbeat & breathing
- Helps weight gain

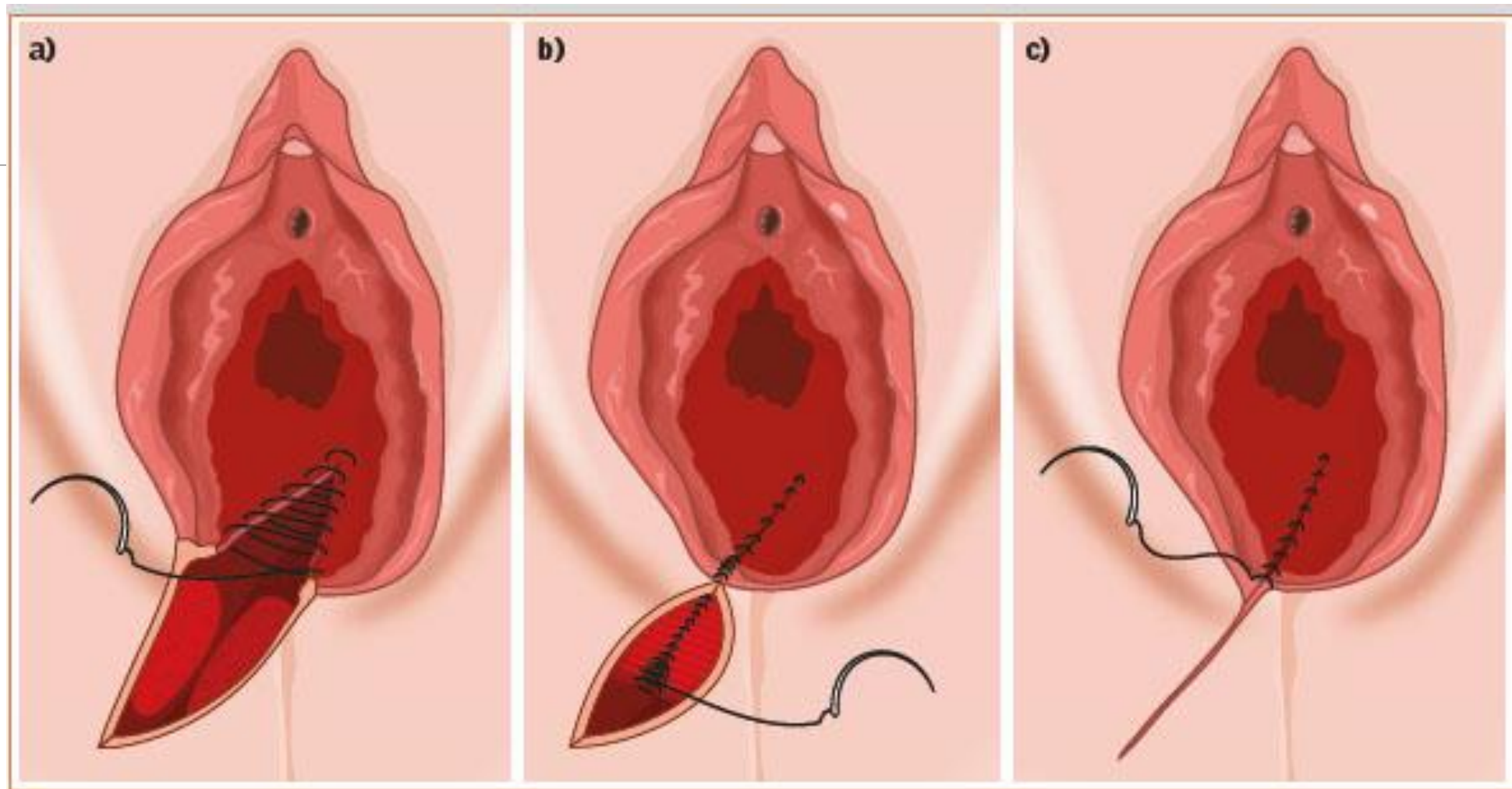


- Reduces PPD
- Boosts baby's immunity
- Helps breastfeeding
- Relieves stress for mom & baby

@raising.babies.confidently

Management of 4th stage of labor

- Keep the women in the labor room for at least one hour under close observation for vital signs, level of consciousness, fits, and any abnormal bleeding before shifting her to the ward
- From the delivery of the placenta to stabilisation of the patient condition .
 - usually up to 6 hrs postpartum .
 - The hour immediately following delivery is critical .
 - Uterine atony is more likely .
 - Checking of the birth-canal all the way .
 - Repair of any perineal laceration, including episiotomy, serves the following 2 important functions : Haemostasia , Tissue re-approximation for lacerated vaginal mucosa
 - Closed observation the following :
 - Vital sign ● Bleeding ● Blood pressure





THANK YOU

Any Question

Do you have any questions or comments for me before we conclude?