Obstetric for 4th stage

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# Identification

- Patient: triple name – age – occupation – residence – blood group
- Husband: triple name – age – occupation – residence – blood group
- Date of marriage
- Relationship status
- Number of children
- Educational background

# Date of admission

# Date of delivery or operation

1. GPA:
   - **G**: gravida → number of all pregnancies (delivered or aborted). If the patient is still pregnant at the time of history taking we can mention the gravida, but if the patient is already delivered at the time of history taking we not mention the gravida.
   - **P**: para or parity → number of deliveries after 24 weeks (live or dead)
   - **A**: abortion → number of expulsions of products of conception before 24 weeks (normal or ectopic حمل خارج الرحم or hydatidiform حمل عنقودي)

2. LMP: last menstrual period
   - it is the **first** day of the last menstrual period
   - the patient certainty of dates (يجب التأكد من صحة التواريخ)
   - ask about the regularity of the cycle
   - ask about the usage of contraception (type-amount-duration)

3. EDD: expected date of delivery
   - Calculated by Naegele's rule → EDD = LMP + 7 days – 3 months (or +9 months) this for regular cycle (28 day – not lactating – no use of contraception)
   - For irregular cycle → the date of first Ultrasound is around 20 weeks so we can calculate the EDD from this information

4. GA: gestational age
   - Number of weeks from the beginning of pregnancy until the end (whether normal delivery or C.S or abortion)
   - Calculated as → EDD - real date of delivery or EDD - date of history taking
   - Pre-term: 36 weeks + 6 days or less
• Term: from 37 weeks to 40 weeks
• Post-date: from 40 weeks to 41 weeks + 6days
• Post-term: 42 weeks and more
• GA is important to know if the baby is premature so we can support the baby after delivery

#Date of examination

#Chief complaint

• Main complaint (usually one) in patient's own words
• Duration of the complaint

#History of present illness

• Everything from the start of chief complaint until the delivery
• Chronological order
• In details

#History of labor

1- During operation
• At home or hospital
• Difficult or easy
• Vaginal delivery, cesarean section, episiotomy, forceps used or not
• Duration of operation
• Type of analgesia
• Catheter
• Blood transfusion
• I.V fluid
• Complications during operation

2- Post-operative
• Time of return of consciousness
• Blood transfusion
• I.V fluid
• Analgesia
• Catheter
• Complications
• Nausea, appetite, vomiting
• Bowel motion, flatus
• PPH → post-partum hemorrhage
• Micturition after delivery
• Walking after delivery
• Breast milk amount
#The outcome of delivery

- Live or dead
- Male or female
- Weight of baby
- Crying after birth
- Infant movement
- Cyanosis – jaundice – anemia – blood exchange
- Fetal distress
- Admission to the neonatal intensive care unit
- Feeding (breast or bottle or mixed)
- Neonatal care
- APGAR score (Appearance – pulse rate – grimace (irritability) – activity – respiratory effort)

#History of presenting pregnancy (1, 2, 3 trimester + Systems)

**First trimester:** ask the patient about:

- General health (tiredness – malaise – other non-specific symptoms)
- Method of confirmation of the pregnancy
- Investigations (Ultrasound – blood test – urine test – others)
- Vaginal bleeding or discharge
- Morning sickness (nausea – vomiting – appetite – constipation)
- Micturition (frequency, dysuria, color of urine ……)
- ANC (ante natal care ) → go to hospital – take folic acid and vitamins
- Drugs (teratogenic drugs - drugs that increased/decreased it's dose in pregnancy)
- Back pain
- Edema
- Abortion
- Current disease
- Hyper emesis gravidum
- Breast tenderness or pain

**Second trimester:** ask the patient about:

- Vaginal bleeding or discharge
- Vaccine (like Tetanus toxoid start at 4 month – other vaccines start at 6 months)
- Quickening → the first feeling of fetal movement by the mother. In parous feel in 16 – 18 weeks. In primi feel in 18 – 20 weeks
- Abortion
- Weight
- Bowel motion
- Current disease
- ANC (ante natal care)
- Drug history
- Morning sickness (nausea – vomiting – appetite – constipation)
- Back pain
- Edema
- Micturition (frequency, polyuria .......)
- Anemia and pre-eclampsia
- Premature contractions

Third trimester: ask the patient about:

- Vaginal bleeding or discharge
- ANC (ante natal care)
- Weight
- Bowel motion
- Edema
- PIH → pregnancy induced hypertension
- Pre-eclampsia and eclampsia (hypertension + proteinuria → albumin in urine)
- Drug history
- Abortion
- Current disease
- headache
- Fit
- palpation and chest pain
- SOB → shortness of breath
- UTI → urinary tract infection
- IUD → intra uterine death

Review of other systems: ask the patient about:

- CVS → (chest pain, dyspnea, palpitations, edema, syncope, claudication)
- Respiratory → (cough, sputum, hemoptysis, chest pain, dyspnea, wheeze, cyanosis, clubbing)
- GIT → (dysphagia, dyspepsia, abdominal pain, bleeding, vomiting, weight loss, diarrhea)
- CNS → (headache, fit, weakness, vision, hearing, tremor, incontinence, paresthesia)
- Renal → (urine color, amount, dysuria, hematuria, nocturia, frequency, urgency, pain)
- Skin and loco-motor → (pigmentations, discoloration, pain, stiffness, function, swelling)
- Genital → (incontinence, impotence, discharge)

#Past obstetric history (history of previous pregnancies in sequence)

- Date of marriage
- Age of patient at marriage
• Age of patient at first pregnancy
• Period of infertility (primary infertility – secondary infertility)
• Interval between current pregnancy and 1st pregnancy
• Past pregnancies in sequence and ask the following questions for each child
  o Time of pregnancy
  o Duration of pregnancy
  o Type of delivery
  o Site of delivery
  o Gender of baby
  o Weight of baby
  o Congenital anomaly
  o NICV admission
  o SOB (shortness of breath) cry immediate
  o Any problem to baby
  o ANC
  o Puerperium (فترة النفاس) → ask about any fever, bleeding, depression, breast feeding, any complication.

#Gynecological history

• Age of menarche → first menstrual cycle in life
• Menstrual cycle → regular – irregular – duration – frequency - amount of blood loss – any clot or pain with the menstruation - dysmenorrhea – intermenstrual bleeding
• Vaginal discharge
• Contraception → pill or IUCD (intra uterine contraceptive device)
• Infertility → failure of gestation and producing offspring after months of marriage without using contraception
• Gynecological operation → Any operation related to gynecological problem - Genital infections - Date of last cervical smear

#Past medical history
Any serious illness or medical disease or chronic disease like:

• D.M and Renal diseases
• Hypertension (pre-eclampsia)
• Epilepsy, syphilis, rubella, arthritis
• Venous thromboembolic disease
• HIV, recurrent infections, rheumatic heart disease
• Myasthenia gravis – myotonic dystrophy - Connective tissue diseases
• In case of +ve finding ask about the time of onset, duration, treatment or not, drugs taken in pregnancy or not.
# Past surgical history
- Previous operation (like Caesarian section, appendectomy, cholecystectomy)
- Post-operative complications
- Anesthesia complications
- Blood transfusion

# Drug history
- Allergy to any drug
- Chronic drug usage like antihypertensive and antiepileptic drugs
- Medications taken during pregnancy (like Anti-HT, Anti-DM) and dose

# Family history
- Any chronic disease (hypertension – D.M – thromboembolic disease)
- Consanguineous marriage
- History of pre-eclampsia
- History of twin pregnancy or congenital anomalies or cerebral palsy
- History of Genetic problems like haemoglobinopathies or fetal inborn error of metabolism
- History of malignancy in family
- History of T.B or allergies or Bleeding disorders or psychiatric disorders

# Social history
- Occupation - crowding - housing conditions - living environment
- Marital status - family problems
- Personal (Smoking - alcohol - drug abuse - sleep - diet - bowel habits)
- Level of education - income
- water supply - animal contact
#General examination

Like that of medicine, important points for obstetric:

- **General:**
  - Age of the patient
  - Posture (lying in bed, or sitting)
  - Alert or not, irritable or sleepy, oriented
  - Any external corrections (cannula, IV fluid, oxygen mask)
  - Ill or well? Comfortable or not?
  - Built (average build, thin, emaciated, obese)

- **Face:**
  - Presence of cyanosis, pale face, pigmentation
  - Chloasma: pigments in the face present during pregnancy

- **Eye:**
  - Sclera (yellow or normal)
  - Conjunctiva (pale or not)

- **Mouth:**
  - Tongue and mucous membrane (anemia, dehydration, jaundice, cyanosis)
  - Tooth loss or abnormalities (reflecting a loss of Calcium)

- **Neck:**
  - L.N enlargement
  - Thyroid gland
  - Arterial and venous pulsation

- **Hand:**
  - Color: normal, pale, yellow, blue
  - Nails: clubbing, swelling

- **Leg:**
  - Exposure to the mid-thigh
  - Hair distribution
  - Color changes, Abnormal pigmentation, Scar
  - Calf muscles tenderness
  - Edema (pitting, non-pitting) → examine for 1 min
  - Varicose veins
  - Arterial pulsation (like medicine)
  - D.V.T → examine the pulse, temperature, diameter

- **Vital signs:**
  - Pulse: radial pulse (for 1 min) → example: 80 bpm, regular, normal volume

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**Differential diagnosis of Swelling of fingers:**

- Hepatic infection
- Pre-eclampsia

**Risks of developing DVT are:**
- cesarean section
- anemia
- pregnancy
- no movement after labor
Blood pressure: patient in setting or lateral position
Respirator rate
Temperature: axillary or oral, fever means infection
- Examination of cardiovascular and respiratory systems
- Ophthalmoscopy → hypertensive/diabetic women

#Abdominal examination

Goals:
- Know the size of the uterus (level of the fundus) and whether corresponding to the gestational age or not
- Know the number of fetuses
- See the lie, attitude, presentation and position
- Assessment of disproportion between size of head and pelvis
- Detect any abnormality (Polyhydramnious, ovarian cyst, fibroids)

Inspection:
- Shape of the abdomen:
  - Distended abdomen: symmetry of the enlarged uterus, general size, shape of the uterus
  - Over distention (girth 100 cm) → indicating twin, polyhydramnious
  - Flattening of lower abdomen → indicating occiput posterior position
- Skin:
  - Scars: caesarean scar (Pfannenestiel scar)
  - Color and pigmentation
  - Stria albicans: of previous pregnancy
  - Stria gravidarum: of current pregnancy
  - Linea nigra: faint brown line running from the umbilicus to the symphysis pubis
- Umbilicus: flat, inverted, everted, round, slit-like
- Dilated veins and hernia
- Fetal movement: can be seen at the moment of examination
- Look for scars (women often forget to mention previous surgical procedures if they were performed long ago). The common areas to find scars are:
  - Suprapubic (Caesarean section, laparotomy for Ectopic pregnancy or ovarian masses).
  - Sub-umbilical (laparoscopy).
  - Right iliac fossa (appendectomy).
  - Right upper quadrant (cholecystectomy).
- Inspection of fetal lie → transverse uterus, longitudinal uterus
Palpation:

- Superficial palpation:
  - Ask about areas of tenderness
  - Gentle palpation is made away from the areas of tenderness
  - Look for any superficial mass, soft abdomen, rigid or contraction

- Palpation of organs (liver, spleen, kidneys, bladder)

- Deep palpation: if indicated by a history of hepatitis or chronic liver diseases

- Fundal height:
  - Fundal height is generally defined as the distance from the pubic bone to the top of the uterus measured in centimeters.
  - After the first 16 weeks of pregnancy, the fundal height measurement often matches the number of weeks of pregnancy. (example: 27 weeks of pregnant = fundal height is about 27 cm)
  - Feel carefully for the top of the fundus (by the ulnar border of the left). This is rarely in the midline. Make a mental note of where it is. Now feel very carefully and gently for the upper border of the symphysis pubis. Place the tape measure on the symphysis pubis and, with the centimeter marks face down, measure to the previously noted top of the fundus. Turn the tape measure over and read the measurement. Plot the measurement on an SFH chart – this will usually be present in the hand-held notes.
  - If plotted on a correctly derived chart, it is apparent that in the late third trimester the fundal height is usually approximately 2 cm less than the number of weeks.
  - After you have measured the SFH, palpate to count the number of fetal poles. A pole is a head or a bottom. If you can feel one or two, it is likely to be a singleton pregnancy. If you can feel three or four, a twin pregnancy is likely. Sometimes large fibroids can mimic a fetal pole; remember this if there is a history of fibroids.
  - Now you can assess the lie. This is only necessary as the likelihood of labor increases, i.e. after 34–36 weeks in an uncomplicated pregnancy.
  - Once you have established that there is a pole over the pelvis, if the gestation is 34 weeks or more, you need to establish what the presentation is. It will be either cephalic (head down) or breech (bottom/feet down). Using a two-handed approach and watching the woman’s face, gently feel for the presenting part.

Fundal height at level of umbilicus symphysis pubis ➔ 12 weeks
Fundal height at level of umbilicus umbilicus ➔ 22 weeks
Fundal height at level of umbilicus xiphosterum ➔ 36 weeks
Leopold’s Maneuver:

- **First maneuver (fundal grip):** Using both hands, feel for the fetal part lying in the fundus.
  - a.) Cephalic: is more firm, hard, round that moves independently of the body
  - b.) Breech: is less well defined, moves only in conjunction with the body

- **Second maneuver (umbilical grip or lateral grip):** Move your hands down the sides of the abdomen and apply gentle pressure.
  - a.) Fetal back: is smooth, hard, and resistant surface
  - b.) Knees and elbows of fetus: feel with a number of angular nodulation

**Causes of smaller fundal height**
- small for date
  - Intra-uterine growth retardation (IUGR)
  - Miscalculation (Wrong LMP)
  - Oligohydramnious
  - Genetics
  - Transverse lie
  - A baby prematurely descending into the pelvis or settling into a breech or other unusual position

**Causes of larger fundal height**
- Large for date
  - Rapid fetal growth
  - Miscalculation (Wrong LMP)
  - Polyhydramnious
  - Multiple pregnancies
  - Macrosomia (diabetic mother)
  - Abruption placenta
  - Multiple uterine fibroids
  - Edema and Full bladder

See this video ➔ http://www.muhadharaty.com/lecture/1686
Third maneuver (Pawlik’s grip): Spread apart the thumb and fingers of the hand. Place them just above the patient’s symphysis pubis.

- If descended (engaged): you’ll feel the head → fixed
- If undescended (not engaged): you’ll feel less distinct mass → mobile

Fourth maneuver (pelvic grip): Facing foot part of the woman, palpate fetal head pressing downward about 2 inches above the inguinal ligament. Use both hands.

- Good attitude: if brow correspond to the side that contained the elbows & knees.
- Poor attitude: if examining fingers will meet an obstruction on the same side as fetal back. If brow is very easily palpated, fetus is at posterior position.

For more information → http://nursingcrib.com/?s=Leopold+Maneuver

Assessing the fetus

- For a pregnancy of >32 weeks gestation you should assess the lie and presentation, and feel the head.

Lie (Longitudinal - Transverse - Oblique): this is the position of the long axis of the fetus in relation to the mother. Palpating the abdomen try to feel the baby’s back and limbs. The back will feel like smooth curve, whilst the limbs will feel irregular and usually indistinct

Presentation (Cephalic - Breech - Shoulder - Face - Brow): this is determined by the fetal lie and the presenting part

Position (occipito-Anterior - occipito transverse - Occipito Posterior - Breech positions - Right sacrum posterior): this describes the position of the fetal head in relation to the pelvis

Engagement: In a normal lie and presentation, this assess how far the head has descended into the pelvis. We describe it by noting how may ‘fifths’ of the head are palpable, example:
- The whole head is palpable – "the head is 5/5th palpable"
- The jaw only is palpable – "1/5th palpable"
- In primigravida: the head normally engages by the 37th week. In subsequent pregnancies, it usually does not engage until labor
- The head is 'engaged' when the widest part has passed through the pelvic brim – thus roughly equal to 2 or 3/5th palpable

Percussion:

- There isn’t really much to do for percussion. Some may recommend percussing to determine a rough idea of the amniotic fluid volume. Examine for the fluid thrill
- The normal amniotic fluid volume is 500ml – 1L
• Oligohydramnios: low volume of amniotic fluid. A normal fetus will drink amniotic fluid, and urinate back into the fluid, keeping the volume stable. Reduced volume could be the result of a fetal kidney problem
• Polyhydramnious: high volume of amniotic fluid. Associated with maternal diabetes

Auscultation:
• If the fetus has been active during your examination and the mother reports that the baby is active, it is not necessary to auscultate the fetal heart.
• If you are using a Pinard stethoscope, position it over the fetal, hearing the heart sounds with a Pinard takes a lot of practice. If you cannot hear the fetal heart, never say that you cannot detect a heartbeat; always explain that a different method is needed and move on to use a hand-held Doppler device.
• If you have begun the process of listening to the fetal heart, you must proceed until you are confident that you have heard the heart. With twins, you must be confident that both have been heard.
• The fetal heart sounds are listened at a point midway between the anterior superior iliac spine & the umbilicus on the back of the baby (usually in the right if the presentation is cephalic)
• In breech presentations: the heart sounds will often be heard above the umbilicus
• In Head (vertex) presentations: the heart sounds will often be heard below umbilicus
• Auscultation is either by fetoscope or bell of a stethoscope or best by sonic aid (heard in case of audible fetal heart sounds) (normal range: 115-150 bpm)

Finishing off:
You could:
• Take the BP: checking for pre-eclampsia
• Urine dipstick: checking for
  o Protein → pre-eclampsia
  o Leukocytes → infection
  o Glucose (even ketones) → diabetes
• Record mother's weight: normal pregnancy has weight gain of about 24lbs

#Vaginal examination

• Indications:
  o Post-date pregnancy
  o Decreased fetal movements (normally 10 movements/12 hours)
  o Excessive or offensive discharge
  o Vaginal bleeding (in the known absence of a Placenta praevia)
  o To perform a cervical smear
  o To confirm potential rupture of membranes
• **Contraindications:**
  - Known placenta praevia or vaginal bleeding when the placental site is unknown and the presenting part unengaged
  - Pre-labor rupture of the membranes (increased risk of ascending infection)

• **Setting:**
  - Before commencing the examination, assemble everything you will need (swabs etc.)
  - Ensure the light source works
  - Position the patient semirecumbent with knees drawn up and ankles together
  - Ensure that the patient is adequately covered

• **The examination include:**
  - Inspection of the vulva
  - Examination of the vagina
  - Palpation of the cervix (cervical dilatation and effacement)
  - Feeling the presenting part (late in pregnancy)
  - See the station → ischial spin = zero, above it +, below it -
  - Palpation of the rectovaginal pouch: when deep engagement occur and can detect abnormality like ovarian cyst

**#Assessment of liquor amount**

• After the pelvic grip, we try to assess the amount of liquor by palpating the abdomen
• In polyhydramnious → when the fetus pushed by the hands of the examiner, it is felt that the fetus is pushed to the back and then return to the left hand of the examiner
• In oligohydroamnious → the baby is stuck to the wall of the abdomen

**#Estimation of the fetal weight**

• Done after assessing the amount of liquor
• Fetal weight is estimated by surrounding the fetus between the examiner hands and predicting the weight of the fetus.

**#Assessment of fetal liability**

• Assessment of fetal movement (kick count) at least 10 movements in 12 hours or 3-4 movements in 1 hour
• Doppler U.S
• Biophysical profile:
  - Fetal tone
  - Fetal breathing
  - Fetal movements
  - Amniotic fluid pocket: normally 4-5 liters (below 5 liters oligo)
  - Non-stress test:
- Feeling the fetal movements with auscultation of fetal heart (back of baby) at the same time
- Normally there is acceleration of heart rate with fetal movement (increase 15 bpm for 15 sec above the baseline and should be at least 2 accelerations)
- The mother lie at left side then put one hand on the abdomen to feel the baby movements (wait for 20 min) if not feel (put hand for another 20 min) if not feel it is called equivocal (use Doppler U.S)

- Do stress test: by giving oxytocin then use CTG → if there is severe deceleration of fetal heart rate this mean fetal distress.
- Do intervertebral test

#Breast examination

- Systemic way (setting, inspection, palpation, examine L.N)
- changes in pregnancy (enlargement, secondary areola)
- Nipple (retraction, cracking, discharge)
- Breast lump examination

#Assessment of patient before surgery

- Take detailed history
- Do general examination
- Do abdominal examination (fundal height)
- Do pelvic examination
- Check the fetal well being
- If all normal: the patient give trail for vaginal delivery
- Induction of oxytocin (start 2 or 5 units)
- Do Portogram
- Artificial rapture of the membrane (ARM)
- Fetal blood sampling (acidosis means fetal distress)

#Examination of post.op patient

- It could be caesarean section, episiotomy, or other operations
- **General examination**: vital signs, anemia (anesthesia), cyanosis (intubation), active internal bleeding can be referred to by a rapid pulse
- **Leg examination**: signs of DVT, unilateral leg edema, dilated veins, shining skin, tenderness in the calf
- **Breast examination**: inspection, palpation, L.N examination
• **Inspection**: observe the dressing (if clean → leave it, if not clean → open it) – the indications of removal the dressing are intolerable severe pain and a dressing soaked with blood

• **Fundal height examination**: (normally below the umbilicus) (finding contracted pelvis)

• **Deep palpation**: can be done before 23 weeks

• **Grips**: are done from 32 weeks and above

• **Auscultation**: for bowel sound, best heard at McBuny's point, heard every 20-30 seconds → if negative: give fluid and engorge patient to move

• **Vaginal examination**: bleeding, trauma, episiotomy

• **Investigations of post.op patient**: non-stress test, stress test, CTG, U.S, biophysical profile, Doppler

• **Management of post.op patient**:
  - First day: Vital signs, Sedative, I.V fluid and nothing by mouth (until flatus start) , Encourage taking deep breath and cough to get rid of pulmonary edema and to increase –ve pressure to increase venous return to prevent DVT , Examine for edema , Examine fore bowel edema, Encourage breast feeding (to prevent PPH)
  - Second day: Vital signs, Bowel sound if stop I.V fluid gradually, Laxative if there is no bowel sound, Check for edema
  - Third day: Vital signs, Puerperal pyrexia (chest, UTI, DVT, wound infection, breast infection, GI infection
  - Post.op drugs: prostaglandin, oxytocin, analgesics (opioid, voltarne), Anti-D, flagel, ceftriaxone

**#Presenting**

• Description of the abdomen after inspection → The abdomen is distended, moves with respiration, showing (no) dilated veins, (inverted, flat or everted) umbilicus, linea nigra, striae, fetal movement, scars

• Description of the uterus after palpation → A 36 cm uterus, (longitudinal) lie, with (the breech) occupying the fundus, and (the head) is the presenting part, (the engagement), the back is to the (left) and the limbs are to the (right). The amount of liquor is (good) and the estimated weight is about (3 kg).

• Fetal heart rate → e.g. was heard - roughly xxx bpm – regular

See this video ➔ http://www.muhadharaty.com/lecture/1687
#Abortion:

- **Definition:** expulsion of conception products before 24 weeks of gestation
- **Occur in First or second trimester**
- **Spontaneous or induced**
- **Causes:**
  - Fetal diseases: malformation of zygote, defective development of the fertilized ovum, fatal genetic problem of the fetus
  - General diseases of the mother: rubella, syphilis, toxoplasma, malaria, D.M, hypertension, renal disease, acute emotional disturbance
  - Uterine abnormalities: double septate uterus, sub-mucous fibroma, uterine retroversion and incarceration, incompetent internal os of the cervix
  - Hormonal imbalance: progesterone deficiency, thyroid deficiency, hyperthyroidism
  - Irritation of the uterus early in pregnancy
  - Drugs: cytotoxic, lead poisoning, oxytocin, ergot, prostaglandins, quinine
  - Trauma: insertion of instrument or foreign body through the cervix, surgical operation (myomectomy), severe trauma to the uterus
  - Other causes: immune responses, physical problems in the mother, maternal age, smoking, drug use, malnutrition, excessive caffeine, exposure to radiation or toxic materials.
- **Use of curettage or not ((curettage done in missed or incomplete abortion))**
- **Types**
  - **Complete** →
    1. Less bleeding
    2. No pain
    3. Closed cervical OS
    4. The uterus is normal
    5. All contents of the uterus (pregnancy tissue) are expelled
    6. No treatment need
  - **Incomplete** →
    1. Some of the pregnancy tissue has been expelled while other tissue remains in the uterus
    2. Vaginal bleeding, pain,
    3. External cervical os open
    4. Products of conception located in cervical os
5. Management: blood transfusion, I.M ergometrin, speculum and ring forceps, evacuation of the uterus under general anesthesia, prophylactic antibiotic postoperatively
   o Missed →
     1. It is abortion occurs before the 28th week of gestation, after that it is called intrauterine death or stillbirth
     2. Pregnancy test is positive
     3. The fetus has not developed or has died
     4. Pregnancy tissue has not been expelled from the uterus, with or without pain, bleeding
     5. Uterine size remains stationary or smaller than before
     6. Fresh bleeding may become dark or sometimes without bleeding
     7. Management: evacuation of the uterus by combination of intra-vaginal prostaglandins and I.V oxytocin infusion, In early cases do surgery by ring forceps & dilatation and curettage (DNC)
   o Threatened →
     1. Pregnancy test and fetal heart and quickening are positive
     2. Slight or moderate bleeding without clot
     3. Little or no pain
     4. No dilatation of the cervix (external cervical os close)
     5. Uterine size coordinates with the date of gestation
     6. Management: bed rest, Ultrasound examination, follow up
   o Inevitable →
     1. Irreversible
     2. More bleeding with clot
     3. Opening cervical OS
     4. Painful and rhythmic uterine contractions
     5. Membrane may bulge through the internal OS
     6. Management: analgesics (pethidine), evacuation of the uterus under G.A with suction curettage,
     7. Differential diagnosis: ectopic pregnancy or follicular mole
   o Septic (infected) →
     1. Infection during pregnancy (fever, weakness, increased pulse rate, broad like rigidity)
     2. Management: broad spectrum antibiotics, blood culture, vaginal swap, evacuation of the uterus by suction curettage under G.A and antibiotics cover, oxytocin, vaginal prostaglandins
   o Habitual →
     1. Three consecutive spontaneous abortions
     2. Predisposing etiologies: cervical incompetence, progesterone insufficiency, toxoplasmosis or syphilis
3. Dilatation of cervix, bulging membranes
4. Management: cervical circulage (Shirodkhar's operation): insertion of pursest ring suture of non-absorbable material before 14 week, and remove it at 37 completed weeks or before labor pain.

#Cesarean section:

- Definition: it is the operation by which the fetus is delivered by an incision through abdominal wall and uterus after the 32\textsuperscript{nd} week of pregnancy. Before 32\textsuperscript{nd} weeks it is called Hysterotomy
- Emergency CS: in which the pregnant woman comes for a reason other than CS, for example: eclamptic fits at cold weather $\rightarrow$ she needs CS
- Elective CS: the pregnant woman comes to the hospital knowing that she will deliver her baby by CS. The chief complaint for such case is: the patient is admitted for elective CS (without duration). The history of present pregnancy is: a known case of previous CS
- Indications:
  - Faults in the birth canal (passages): cephalopelvic disproportion, pelvic tumor, cervical or vaginal stenosis or adhesions, double uterus obstruction
  - Fetal mal-presentation (passenger)
  - Uterine action (power)
  - Fulminating pre-eclampsia, hypertension, D.M
  - Repeated caesarian section
  - Fetal indication: placental insufficiency, cord prolapse, fetal distress (pass of meconium $\rightarrow$ green color discharge)
  - Bad obstetrical history: severe stillbirth or neonatal death
- Risks of CS:
  - Breathing problems
  - Surgical injury (injury to the bladder and uterus)
  - Inflammation and infection of the membrane lining the uterus
  - Increased bleeding
  - Reactions to anesthesia
  - Hemorrhage and Blood clots
  - Wound infection
  - Sepsis, DVT, pulmonary embolism, pain, Adhesions to the intestine
  - Increased risks during future pregnancies
# Sign & symptoms of pregnancy:

1- Positive signs

- Demonstration of the fetal heart beats: by pinard stethoscope or by sonic aid
- Quickening: first feeling of fetal movement
- Visualization of the fetus and measurements of its diameters: by bi-partial diameter, femoral length, CRL crown-rump length. >12 weeks of gestation

2- Probable signs

- Uterine enlargement: may be due to H.mole or fibroid
- Uterine changes in size, shape and consistency:
  - Piskacek's sign: when implantation occurs near one of the cornua of the uterus there will be palpable asymmetrical well defined prominent and soft cornua at the site of implantation
  - Hegar's sign: palpable softening of the lower uterus starts to appear at 6 weeks and most evident at 10-12 weeks of gestation
  - Palmer's sign: 4-8 weeks regular contractions, occur by manual palpation.
  - McDonald's sign: positive when the uterine body and cervix can easily be flexed against each other.
- Cervical changes → Goodell's sign: softening of the cervix can be detected by the second month of pregnancy. In non-pregnant women the cervix is hard like the tip of the nose. While in pregnancy the cervix will be soft like the lip.
- Palpation of the fetus parts: ballottement of the fetus or fetal part and mapping of the fetal outline by palpation
- Braxton hick contractions
- Endocrine test (pregnancy test): with a possibility of false positive results

3- Presumptive signs

- Breast changes: swelling and tenderness
- Changes in the skin and mucous membrane:
  - Chadwick's sign (violet bluish discoloration of the vulva, vagina, cervix) at 6-8 weeks of gestation
  - Increased skin pigmentation (linea nigra, striae gravidarum, chloasma)
  - Development of abdominal striae

4- Symptoms

- Cessation of menses: 8% of pregnancies have some source of bleeding
- Nausea with or without vomiting: that occur in half of pregnancies and subsides within 14 weeks of gestation
- Bladder irritability, frequency
- Easley fatigability
#Polyhydramnious

- **Definition:** this is the excess of amniotic fluid more than 2000 ml
- **Types:**
  - Chronic (gradual accumulation noticed after 30th week of gestation)
  - Acute (earlier and quicker noticed, for example in the uniovular twins)
- **Causes:**
  - **Fetal:** Multiple pregnancies and Fetal abnormalities: anencephaly, esophageal and duodenal atresia, spina bifida, skeletal or cardiac or intrauterine infection (rubella – toxoplasma), fetal tumors
  - **Maternal:** D.M and Rh isoimmunization
  - **Placental:** chorioangioma and circumvallate placenta syndrome
  - **Idiopathic**
- **Clinical features:** unduly enlarged abdomen, usually mobile fetus, chest discomfort, dyspnea, acute type associated with abdominal pain and vomiting
- **On examination:**
  - large for date uterus
  - stretched abdominal muscles
  - Highly ballotable fetus
  - Fluid thrill and malpresentation
  - Edema of the abdominal wall and of the vulva
  - Very tense uterus especially in the acute phase
- **Diagnostic tools**
  - Ultrasound: the deepest pool of the AF that is free of cord and limbs, if it is more than 8 cm in vertical length is indicative for polyhydramnious
  - AFI (amniotic fluid index) if > 23 cm
- **Differential diagnosis:**
  - Wrong dating
  - Coexisting ovarian cyst
  - Multiple pregnancies
  - Abruptio placenta
- **Effects on pregnancy and labor:**
  - Preterm labor
  - Risk of placenta abruption and cord prolapse
  - Fetal mal-presentation
  - PPH
  - perinatal mortality
- **Treatment:** termination of pregnancy if there is any gross fetal abnormalities
#Involution of the uterus

- It takes 6 weeks for the uterus to return to its normal status after the delivery
- Postoperatively in a patient with a cesarean section, the fundal height is felt at about 2 cm below the umbilicus
- Delayed involution (the fundal height is more than expected) caused by:
  - Full bladder
  - Infection (endometritis or pancreatitis)
  - Fibroids
  - Broad ligament hematoma
  - Retained pieces of the placenta (the most common cause of sub involution uterus in a normal vaginal delivery (NVD))
  - Loaded bowel (Loaded rectum)
- Clinical features:
  - Pallor (anemia)
  - Fever
  - Tachycardia
  - Tender abdomen
  - Vaginal bleeding with offensive discharge
- Investigations:
  - Blood culture
  - Genera urine examination
  - High vaginal swap
- Treatment required evacuation, including:
  - Dilatation
  - Pitocin + ergot: to stimulate uterine contractions and decrease bleeding
  - Antibiotics
  - Anti-D: in an Rh -ve mother

#Cephalopelvic disproportion (CPD)

- Occurs when a baby’s head or body is too large to fit through the mother’s pelvis. It is believed that true CPD is rare, but many cases of “failure to progress” during labor are given a diagnosis of CPD. When an accurate diagnosis of CPD has been made, the safest type of delivery for mother and baby is a cesarean.
- Possible causes of cephalopelvic disproportion (CPD) include:
  - Large baby due to:
    - Hereditary factors
    - Diabetes
    - Post-maturity
    - Multiparity
  - Abnormal fetal positions
- Small Pelvis
- Abnormally shaped pelvis

**Diagnosis:**
- The diagnosis of cephalopelvic disproportion is often used when labor progress is not sufficient and medical therapy such as use of oxytocin is not successful or not attempted. CPD can rarely be diagnosed before labor begins even if the baby is thought to be large or the mother’s pelvis is known to be small. During labor, the baby’s head molds and the pelvis joints spread, creating more room for the baby to pass through the pelvis.
- Ultrasound is used in estimating fetal size but not totally reliable for determining fetal weight.
- A physical examination that measures pelvic size can often be the most accurate method for diagnosing CPD.
- If a true diagnosis of CPD cannot be made, oxytocin is often administered to help labor progression or the fetal position is changed.

**Criteria for CPD in nulliparous women ➔ Caesarean section for little or no progress over 2-4 hours with adequate uterine contractions and the cervix at least 3 cm dilated.**

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**#Fetal Growth Restriction (FGR)**

- **DEFINITION:** Fetus whose growth velocity slows down or stops completely because of inadequate oxygenation or nutrition supply or utilization

- **AETIOLOGY:**
  - MATERNAL FACTORS: Nutrition: BMI<19 starvation, Smoking: 460 gm lighter than fetus with nonsmoker woman, Alcohol and drug abuse, Maternal therapeutic drugs e.g. B blockers & Anticonvulsant, Maternal diseases (Cardiorespiratory compromise Sickle cell dis, Collagen vascular disease, Maternal DM, Maternal chronic hypertension, Abnormalities in the uterus)
  - FETAL FACTORS: Fetal abnormalities (Chromosomal, Structural, Cardiac disease, Gastroschisis) Infection (Varicella, CMV, Rubella, Syphilis, Toxoplasma, Malaria)
  - PLACENTAL FACTORS: Placental mosaicism –16,22 chromosome, PE --> ↓ blood supply to placental bed

- **PREDICTION:** BMI<19, Smoking, Past history of FGR, Congenital uterine abnormalities, Big fibroid, Old mother>40 nulliparous, PE, Retro placental hemorrhage in 2nd & 3rd Trim, Maternal serum screening: 2nd Tim (Alfa Feto Protein (AFP), E3, Human Placental Lactogen, hCG), ULTRASOUND MARKERS

- **CLINICAL ASSESSMENT:** Weight gain in pregnancy, Fundal height, Clinical weight estimation of the fetus – liquor amount estimation, U/S assessment, Biometrical measurement of the fetus, Umbilical artery Doppler velocity study
• **PROPHYLAXIS**: Small dose aspirin, Protein energy, Stop smoking, Anti malaria, Stop medications

• **LABOR**: <37wk → C/S because at high risk of hypoxia & academia, If >37wk → induction – continuous CTG, fetal scalp monitoring

• Not all FGR are SGA or all SGA are FGR:
  o SGA can be categorized according to the etiology into:
    - Normal SGA: No structural anomalies, normal liquor, normal Doppler study of umbilical artery & normal growth velocity.
    - Abnormal SGA: those with structural or genetic abnormalities
    - FGR: those with impaired placental function identified by abnormal UADW & reduced growth velocity.
  o SGA is divided into symmetrical or unsymmetrical according to Biometrical measurement

### Intrauterine death (still birth)

- **DEFINITION**: Baby delivery at 24wk complete with no sign of life
- **AETIOLOGY**:
  o MATERNAL FACTORS: Obstetric. Cholestasis, Metabolic disturbances (DM Ketoacidosis), Reduced oxygen saturation (Cystic fibrosis, Sleep apnea), Uterine abnormalities, Ascherman syndrome, Antibodies production (Rh, Platelet) Alloimmunization, Congenital heart block
  o FETAL FACTORS: Cord accident, Fetofetal transfusion, Feto maternal hemorrhage, Chromosomal and genetic diseases, Structural abnormalities, Infection, Anemia of fetal origin
- **DIAGNOSIS**: ↓ FM, Routine U/S, Abruptio or ruptured membrane, Color Flow Mapping is definitive
- **INVESTIGATION**: Kleihauer test, Full blood count with platelet, Blood gr, Antibody screen, Urea & Creatinine, LFT, Uric acid, Bile acid, Syphilis & Parvovirus & CMV & Toxoplasma serology
- **HOW TO DELIVER**?
  o Over 90% of women will deliver spontaneously within 3 weeks, conservative management is an option that can be offered
  o Vaginal delivery is the best option unless there is obstetric indications
  o Induction of labor : A standard protocol for mifepristol induction, Prevention of Rh iso immunization, Contraception, Psychological support, Follow up
# Partograph (partogram)

- **DEFINITION:** Is a graph used in labor to monitor the parameters of progress of labor, maternal and fetal wellbeing, and treatment administration

- **PRACTICAL VALUE OF USING THE PARTOGRAM:**
  - Offers an objective basis for overtime monitoring the progress of labor, maternal and fetal wellbeing.
  - Enables early detection of abnormalities of labor
  - Prevention of obstructed labor and ruptured uterus.
  - Useful in reduction of both maternal and perinatal mortalities and morbidities

- **COMPONENTS (Parts):**
  - **Patient identification**
  - **Time:** It is recorded at an interval of one hour. Zero time for spontaneous labor is time of admission in the labor ward and for induced labor is time of induction.
  - **Fetal heart rate:** It is recorded at an interval of thirty minutes.
  - **State of membranes and color of liquor:** "I" designates intact membranes, "C" designates clear and "M" designates meconium stained liquor.
  - **Cervical dilatation and descent of head**
  - **Uterine contractions:** Squares in vertical columns are shaded according to duration and intensity.
  - **Drugs and Fluids**
  - **Blood pressure:** It is recorded in vertical lines at an interval of 2 hours.
  - **Pulse rate:** It is also recorded in vertical lines at an interval of 30 minutes.
  - **Oxytocin:** Concentration is noted down in upper box; while dose is noted in lower box.
  - **Urine analysis**
  - **Temperature record**

- **ADVANTAGES:**
  - Provides information on single sheet of paper at a glance
  - No need to record labor events repeatedly
  - Prediction of deviation from normal progress of labor
  - Improvement in maternal morbidity, perinatal morbidity and mortality

- **Lines:**
  - Alert line: means we should do other assessments
  - Active line: means we should do some actions like dilation of cervix or rapture of membranes or cesarean section or another things
# Ectopic pregnancy

- **DEFINITION:** It is one in which a fertilized ovum implant & being to develop before it reaches its natural site in the uterus. An extra uterine gestation can develop in the ovary or in the peritoneal cavity, but 97% of ectopic pregnancy occur in the fallopian tubes, most commonly in the ampullary portion.
- **CAUSES:** A tubal pregnancy — the most common type of ectopic pregnancy — happens when a fertilized egg gets stuck on its way to the uterus, often because the fallopian tube is damaged by inflammation or is misshapen. Hormonal imbalances or abnormal development of the fertilized egg also might play a role.
- **SYMPTOMS:** Severe abdominal or pelvic pain accompanied by vaginal bleeding, Extreme lightheadedness or fainting, Shoulder pain.
- **TREATMENT:** A fertilized egg can't develop normally outside the uterus. To prevent life-threatening complications, the ectopic tissue needs to be removed. If the ectopic pregnancy is detected early, an injection of the drug methotrexate is sometimes used to stop cell growth and dissolve existing cells.

# Hydatidiform Mole

- **DEFINITION:** This is an abnormal conceptus in which an embryo is absent & the placental villi are so distended by fluid that they resemble a bunch of grapes. No trace of an embryo, amniotic sac or umbilical cord is apparent.
- **CAUSES:** A molar pregnancy is caused by an abnormally fertilized egg. Human cells normally contain 23 pairs of chromosomes. In a complete molar pregnancy, all of the fertilized egg's chromosomes come from the father. In a partial or incomplete molar pregnancy, the mother's chromosomes remain but the father provides two sets of chromosomes. As a result, the embryo has 69 chromosomes instead of 46.
- **SYMPTOMS:** Dark brown to bright red vaginal bleeding during the first trimester, severe nausea and vomiting, sometimes vaginal passage of grape-like cysts, rarely pelvic pressure or pain.
- **TREATMENT:** Dilation and curettage (D&C), Hysterectomy, HCG monitoring.

# Fetal distress

- **DEFINITION:** Compromise of a fetus during the antepartum period (before labor) or intrapartum period (during the birth process). The term fetal distress is commonly used to describe fetal hypoxia (low oxygen levels in the fetus), which can result in fetal damage or death if it is not reversed or if the fetus is not promptly delivered.
- **CAUSES:** Breathing problems, Abnormal position and presentation of the fetus, Multiple births, Shoulder dystocia, Umbilical cord prolapse, Nuchal cord, Placental
abruption, Premature closure of the fetal ductus arteriosus, Uterine rupture, Intrahepatic cholestasis of pregnancy, a liver disorder during pregnancy.

- **SYMPTOMS:** Decreased movement felt by the mother, Meconium in the amniotic fluid, Non-reassuring patterns seen on cardiotocography (increased or decreased fetal heart rate, decreased variability, late decelerations), Biochemical signs (fetal metabolic acidosis, elevated fetal blood lactate levels).

- **TREATMENT:** rapid delivery by instrumental delivery or by caesarean section if vaginal delivery is not advised.

#Changes in pregnancy

- **Changes in circulatory system:**
  - ↑ Heart rate (10–20 per cent).
  - ↑ Stroke volume (10 per cent).
  - ↑ Cardiac output (30–50 per cent).
  - ↓ Mean arterial pressure (10 per cent).
  - ↓ Pulse pressure.
  - Maternal haemoglobin levels are decreased because of the discrepancy between the 1000 to 1500 mL increases in plasma volume and the increase in erythrocyte mass, which is around 280 mL. Transfer of iron stores to the fetus contributes further to this physiological anemia.
  - Palpitations are common and usually represent sinus tachycardia, which is normal in pregnancy.
  - Edema in the extremities is a common finding, and results from an increase in total body sodium and water, as well as venous compression by the gravid uterus.

- **Renal changes:**
  - ↑ Kidney size (1 cm).
  - Dilatation of renal pelvis and ureters.
  - ↑ Blood flow (60–75 per cent).
  - ↑ Glomerular filtration (50 per cent).
  - ↑ Renal plasma flow (50–80 per cent).
  - ↑ Clearance of most substances.
  - ↓ Plasma creatinine, urea and urate.
  - Glycosuria is normal.
  - Urine output → increase in first trimester, slightly decreased in the second trimester and increase again in the third trimester

- **Hormonal changes:** increase of estrogen, progesterone, secretion of hCG and Human chronic lactogen, increase production of corticotrophin, thyrotropin and prolactin, while FSH and LH decrease, Increase secretion of glucocorticoids and aldosterone, and increase secretion of thyroxin, Parathyroid increase, Increase secretion of vasopressin.
#Clinical presentation (sign & symptoms) of gestational diabetes:

- Usually there are no symptoms, or the symptoms are mild and not life threatening to the pregnant woman. The blood sugar (glucose) level usually returns to normal after delivery.
- Effects on fetus: abortion, metabolic upset, increase the incidence of congenital abnormalities, larger baby
- Effects on mother: complications of D.M like UTI, candidiasis of vulva and vagina, hydramnios, retinopathy, nephropathy
- Effects on baby: larger size and organs and skeleton (no edema), immaturity (neurological and metabolic), respiratory distress syndrome
- Complications:
  - Macrosomic baby (big baby for his gestational age) → macrosomia > 4.5 kg at birth
  - Hypoglycemic baby in the future, so we should give him IV glucose via the umbilical vein
- Symptoms may include:
  - Blurred vision
  - Fatigue
  - Frequent infections, including those of the bladder, vagina, and skin
  - Increased thirst
  - Increased urination
  - Nausea and vomiting
  - Weight loss despite increased appetite
#The effect of mother age on the pregnancy:

Risk of teenager mother:

1. Increase the incidence of preterm labor
2. Increase the incidence of abortion
3. Increase the incidence of pre-eclampsia
4. Increase the incidence of contracted pelvis
5. Risk of caesarian section

Risk of mother above 35 years:

1. Hypertension
2. Down's syndrome
3. D.M
4. Increase risk of caesarian section
5. Congenital anomalies
6. Contracted pelvis (( increase weight of baby (200gm every pregnancy) and increase the spondylolisthesis shortenings of pelvic inlet ))

Vaginal bleeding in 20 years old patient may be due to menstruation or may occur in pregnancy, but in a 60 years old patient it is an abnormal condition

#The effect of occupation on the pregnancy:

- Exposure to toxic substances at occupation
- Irradiation
- Heavy work by the mother may lead to abortion or preterm labor

#Ultrasound during pregnancy

- Early ultrasound (in the first trimester):
  - Know Site of pregnancy (normal – ectopic)
  - Know number of fetuses
  - Fetal Viability
  - Gestational age (G.A)
  - To detect any anomaly
  - Polyhydramnious (access of amniotic fluid)
- Anomaly ultrasound (18-20 weeks)
  - Detection of congenital anomalies
- Gestational age
- Twins
- Late ultrasound (in the third trimester)
  - oligo or poly hydroaminous
  - position of the placenta
  - fetal well being

#Infertility:
- Primary infertility refers to mother who has not become pregnant after at least 1 year
- Secondary infertility refers to mother who has been able to get pregnant at least once, but now are unable.

#Effects of smoking on pregnancy:
- Increase incidence of abortion
- Intrauterine death
- Early post-delivery death
- Abnormality in the G.A

#Conditions that may repeated in next pregnancies:
- Pre-term
- Placenta previa
- Placenta abrabela
- Pre-eclampsia
- D.M
- P.P.H
- Ectopic pregnancy

#Efficient uterine contractions:
- Number of contractions (normally less than 5)
- Duration of contraction (normally 45-60 seconds)

#Management of placenta praevia:
- ABC
- Catheter
- I.V cannula
- Resuscitation
- Augmentation of the labor
#Placenta praevia VS Placenta abruption

<table>
<thead>
<tr>
<th></th>
<th>Placenta praevia</th>
<th>Placenta abruption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain</td>
<td>Painless</td>
<td>Constant pain</td>
</tr>
<tr>
<td>Blood</td>
<td>Bright red blood, slight bleeding at beginning, no hypertension</td>
<td>Dark blood, usually profuse bleeding, there is hypertension</td>
</tr>
<tr>
<td>Obstetric shock</td>
<td>Obstetric shock in proportion to amount of vaginal loss</td>
<td>The actual amount of bleeding may be far in excess of vaginal loss</td>
</tr>
<tr>
<td>Uterus</td>
<td>Uterus is non-tender and soft</td>
<td>Uterus is tender and tense and tetanically contract</td>
</tr>
<tr>
<td>Fetus</td>
<td>May have abnormal presentation and/ or lie Fetal movement is +ve</td>
<td>Normal presentation and lie The fetal movement is lost</td>
</tr>
<tr>
<td>Fetal heart</td>
<td>In general, fetal heart normal</td>
<td>Fetal heart distressed/absent</td>
</tr>
<tr>
<td>Protein in urine</td>
<td>Not present</td>
<td>Usually found</td>
</tr>
<tr>
<td>Clotting</td>
<td>Normal clotting mechanism</td>
<td>Abnormal and defective</td>
</tr>
<tr>
<td>Associated problems</td>
<td>Small antepartum hemorrhage may occur before larger bleed</td>
<td>May be a complication of pre-eclampsia, may cause disseminated intravascular coagulation</td>
</tr>
</tbody>
</table>

#Oxytocic agents:
- Oxytocin: could be given in early stages of labor *(contraindicated in Hypertension and heart disease)*
- Methergin: contraindicated in early stages of labor

#Causes of vaginal bleeding for 2 days:
- Abortion
- Ectopic pregnancy
- H.mole
- Blood diseases
- Incidental (related to cervix and vagina

#Cases that could be encountered in the first trimester:
- Repeated vomiting *(morning sickness or hyperemesis gravidarum)*
- Bleeding *(Threatened abortion: the fetus is a life and the color is bright red or Missed abortion: the fetus is dead and the color is dark red)*
- Pain + bleeding → ectopic pregnancy

#Causes that could be encountered in the second trimester:
- Threatened abortion *(until 24 weeks)*
- Bleeding *(from 24-40 weeks called antepartum hemorrhage)*
#Causes that could be encountered in the third trimester:

- Pain: could be due to uterine contraction or medical condition like UTI
- Essential hypertension
- The pain could be due to premature labor (24-37 weeks)

#The symptoms of pregnancy with live fetus:

- Breast tenderness
- Morning sickness
- Abdominal pain: mild, lower abdominal, radiate to the back and loins, aggravate by working, relieved by rest

#Causes of abdominal pain:

- In the first trimester: threatened abortion, *ectopic pregnancy*, UTI
- In the second trimester: uterine contraction, threatened abortion, UTI
- In the third trimester: uterine contraction, premature labor pain

#Notes on the menstruation:

- Duration of the cycle: normally 21-35 days
- Poly-menorrhea → the cycle is less than 21 day
- Oligo-menorrhea → the cycle is more than 35 day
- Amenorrhea: is the absence of a menstrual period in a woman of reproductive age
- Duration of the menstrual phase: 2-8 days average 5 days
- Amount of blood lost: normal range 30-80 ml
- Inter-menstrual bleeding: this may occur normally at the time of ovulation, where spotting may occur. Pain at the lower abdomen may accompany this bleeding.

#lochia:

- The lochial discharge comes from the placental site
- For the first 3 or 4 days the lochia is red in color (lochia rubra)
- The become pink then white (lochia alba) at day 12-14 of delivery

#Stages of labor:

- First stage (from start of labor until full cervical dilatation 10 cm)
- Second stage (from full cervical dilatation until the fetus is born)
- Third stage (stage of delivery of the placenta)
- Forth stage (from delivery of the placenta to 1 hour)

#Pre-eclampsia and Eclampsia:

- Pre-eclampsia (after 20 weeks) → hypertension (frontal headache) + proteinuria (albumin in the urine) + edema (in the hand and face)
- Eclampsia (after 20 weeks) → same as pre-eclampsia + fit
- Other signs and symptoms of preeclampsia may include:
  - Excess protein in your urine (proteinuria) or additional signs of kidney problems
  - Severe headaches
  - Changes in vision, including temporary loss of vision, blurred vision or light sensitivity
  - Upper abdominal pain, usually under your ribs on the right side
  - Nausea or vomiting
  - Decreased urine output
  - Decreased levels of platelets in your blood (thrombocytopenia)
  - Impaired liver function
  - Shortness of breath, caused by fluid in your lungs

# Signs of placental separation:
- Lengthening of umbilical cord
- Gush of blood
- Fundus becomes globular and more anteverted against abdominal hand

# Controlled cord traction:
- The placenta is delivered using one hand on umbilical cord with gentle downward traction. The other hand should be on the abdomen to support the uterine fundus, this is the active management of the third stage of labor
- Risk factors for aggressive traction is uterine inversion
- Normal duration between 0-30 min for both PrimiG and MultiG

# Benefits of catheter during labor:
- Drainage of urine
- Monitoring the urine output
- Monitoring the renal function

# Edema:
- Leg edema is normally (physiologically) presented in pregnancy
- Face or hand or sacrum edema is pathologic is pregnancy

# Fit in pregnancy:
- The frequency of fits will increase
- Some drugs of fits will affect the fetus so should be stopped or changed to other types or change the dose
#Fetal presentation and lie:
- Presentation: the lower part of the fetus occupying the lower part of the canal in many presentations like: vertex, breech, shoulder, compound and funic
- Fetal lie: relation of the longitudinal axis of the fetus to the longitudinal axis of the mother, it could be longitudinal, transverse or oblique
- Note: management of breech presentation is by external cephalic version or cesarean section

#Blood test is earlier diagnose the pregnancy than urine test

#ANC (Ante Natal Care):
- Pregnant mother should go to the hospital one time every month in the first 6 months
- And go one time every two weeks in the 7 and 8 month
- And go one time every week in the last (9) month

#Curettage:
- Is a procedure to remove tissue from inside your uterus. Doctors perform curettage to diagnose and treat certain uterine conditions — such as heavy bleeding — or to clear the uterine lining after a miscarriage or abortion.
- Risks: Perforation of the uterus, Damage to the cervix, Scar tissue on the uterine wall, Infection

#Post-operative paralytic ileus:
- Due to hypokalemia & manipulation
- Postoperative ileus is thought to result from inflammation, deranged neural input, or medications taken in conjunction with surgery. Large-volume intraoperative fluid resuscitation and prolonged procedure time associated with extensive dissection may contribute to the development of these events.

#Clinical presentation (sign & symptoms) of anemia during pregnancy:
- Pale skin, lips, and nails
- Feeling tired or weak
- Dizziness
- Shortness of breath
- Rapid heartbeat
- Trouble concentrating

#Conditions of Normal vaginal delivery:
1-normal pregnancy without usage of drugs that induced pregnancy
2-not use oxytocin for induction of the labor
3-not use vacuum or forceps in labor
4- No vaginal tear
5- No cervical tear
6- No artificial rupture membrane
7- No bleeding after delivery
8- No any compliant to mother
9- No any compliant to baby

#Usually labor pain described as following:

- Lower abdominal pain
- Radiate to back and upper thigh
- Gradual, progressive and intermittent
- Increase in frequency and duration
- Colicky and so severe
- Interrupt other personal activities
- Associated with nausea, vomiting and blurred vision

#Types of contraception:

- Mechanical: intra-uterine contraceptive device IUCD (عولم)
- Oral contraceptive pills: combined contraceptive pills (estrogen+progesterone) or progesterone only pills
- Injectable drug: hydroxyprogesteron acetate injection
- Barrier: vaginal cap or condom

#Maternal bleeding VS fetal bleeding:

- Fetal bleeding usually little in volume but can quickly compromises the fetus life, while maternal bleeding usually more sever.
- By adding strong alkaline (APT Test) to the blood, maternal blood will be lysed and appear as ghost cells, while fetal blood will stay longer (fetal Hb is HbF)

#Differential diagnosis of pain at term:

- Labor pain
- Accidental hemorrhage
- Uterine contraction
- Polyhydramnious
- Ovarian cyst
- Fibroid
- UTI
- Gastroenteritis
#Differential diagnosis of bleeding in early pregnancy:
- Miscarriage
- Ectopic pregnancy
- Molar pregnancy
- Cervical lesions (erosion, adenomatous polyp, carcinoma of the cervix)

#Differential diagnosis of vaginal bleeding in late pregnancy:
- Placenta Previa
- Placental abruption
- Cervical lesions (erosions, polyps, cancer)
- Trauma
- Filamentous insertion of the umbilical cord

#Causes of bleeding and vomiting in early pregnancy:
- Hyper-emesis gravidarum
- UTI
- Appendicitis could cause the vomiting
- GIT infection
- Rare (bowel obstruction, hepatic disorder, cerebral tumor)

#The risk of ante-Partum hemorrhage:
- Lead to shock (hypovolemic shock)
- Renal failure
- DIC
- Fetal hypoxia
- Intra-uterine fetal death

#Differential diagnosis for no feeling of fetal movement for one day:
- Prolonged fetal sleep
- Fetal compromise
- Fetal death

#Differential diagnosis of pregnancy
- Cessation of menses → psychological disorders, endocrine disorders (thyrotoxicosis) metabolic disorders, chronic illnesses
- Nausea and vomiting → GIT disturbances, other surgical and medical causes
- Polyuria and Frequency → UTI, other urinary disorders like tumors and stones
- Enlarged uterus → abdominal and pelvic tumors like ovarian tumor and fibroid
## Contracted pelvis

- In android pelvis
- Not delivered vaginally, but always by caesarian section
- Clinical hints that indicate contracted pelvis:
  - Failure of engagement (especially in primi)
  - Early rapture of membrane

## Cusses of post-operative sepsis (fever)

- Breast engorgement
- UTI
- GTI
- Wound infection
- RTI (chest)
- DVT

## Wrong dating (LMP) occur in

- OCP oral contraceptive pills
- Lactational amenorrhea
- Hormonal replacement therapy
- Irregular cycle

## Causes of puerperal pyrexia

- Birth canal infection (puerperal sepsis)
- UTI
- Breast infection
- Thrombophlebitis
- Other causes of pyrexia (DVT)

## Booking visit

- **DEFINITION**: is the first official check-up in pregnancy.

- **INVESTIGATION**:
  - Blood test: blood group, check for infections (HIV, Rubella, Measles, HBV)
  - Urine test: check pre-eclampsia and gestational diabetes
  - Blood pressure test: Raised blood pressure, especially later on in the pregnancy, can be an early warning sign of pre-eclampsia.
  - Ultrasound: measures baby size to confirm the gestational age and to calculate the delivery date
Mixed notes:

- Episiotomy → used in fetal distress
- Instrument → used when the head of fetus is delivered but the shoulder impact
- Why CS patient should walk as soon as possible after surgery? To prevent DVT
- Why we put Foley's catheter before CS? To evacuate the bladder to prevent its injury
- Continuous not treated pain lead to rapture uterus that lead to fetal distress and death, so doctor should do repair with tubal ligation or partial caesarian hysterectomy (surgical removal of the uterus)
- Bleeding during first month could be threatened abortion
- Auscultation of the fetal heart by: Pinard (24-26 weeks) or Sonic aid (12-14 weeks)
- If the patient has previous one CS we should give her chance to have vaginal delivery, but if the patient has 2 previous CS the third pregnancy mostly be CS
- In pregnancy joint pain is normal due to relaxin hormone release

Table 1.1 Bishop score

<table>
<thead>
<tr>
<th></th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Dilation of cervix (cm)</td>
<td>0</td>
</tr>
<tr>
<td>Consistency of cervix</td>
<td>Firm</td>
</tr>
<tr>
<td>Length of cervical canal</td>
<td>&gt;2</td>
</tr>
<tr>
<td>Position</td>
<td>Posterior</td>
</tr>
<tr>
<td>Station of presenting part (cm above ischial spine)</td>
<td>3</td>
</tr>
</tbody>
</table>