Anatomy and Physiology of the Female Reproductive System

BY **Lecturer: Zahra Mousa Hamza**

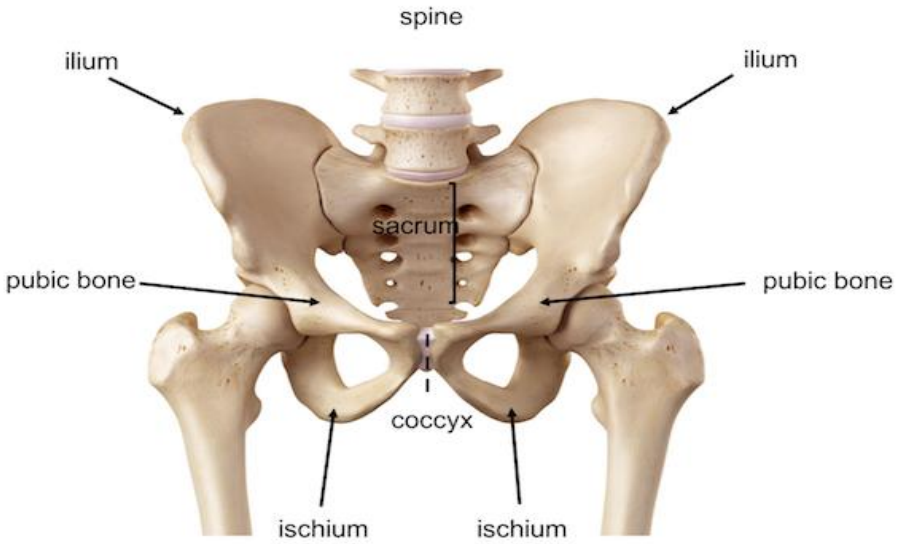
Gynecology definition: The study of reproductive diseases of women.

Obstetric definition: The study of reproductive action during pregnancy and labor.

Definition of Female Pelvis : The lower part of the abdomen located between the hip bones in the female.

The pelvis is composed of many parts:

1.Sacrum 2.Illium bone 3.Ischium 4.Pubic bone 5.Pubic symphysis 6.Acetabulum 7.Obturator Foramen 8.Coccyx



Its primary function are:

1* to bear the weight of the upper body when sitting and standing

2* transfer the weight from the axial skeleton to the lower appendicular skeleton when standing and walking

3. provide attachments for and withstand the forces of the powerful muscles of locomotion and posture.

Its secondary functions are:

1.to contain and protect the pelvic and abdomino pelvicviscera(inferior parts of the urinary tracts ,internal reproductive organs).

2.provide attachment for external reproductive organs and associated membranes.

Types of female pelvis Actually, the majority of pelvis are of mixed types

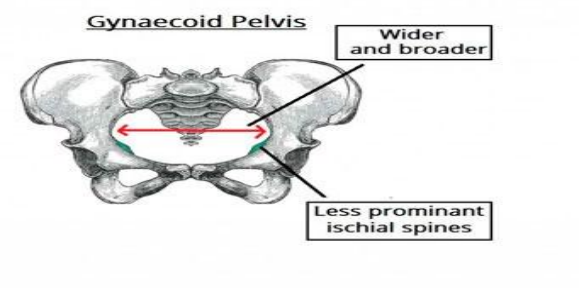
1.Gynaecoid pelvis(50%):

*It is the normal female type *Inlet slightly transverse oval.

*Sacrum is wide average concavity and inclination.

*Side walls are straight with blunt ischial spines.

*Sacro-sciatic noth is wide. *Subpubic angle is 90-100.



2.Anthropoid pelvis (25%):

*it is ape-like type.

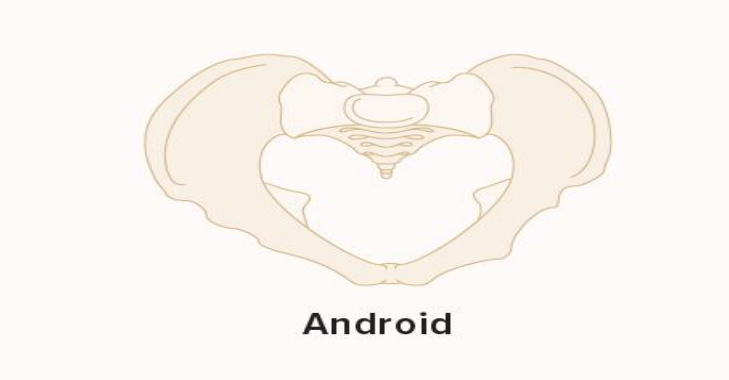
*all antero posterior diameters are long .

*all transverse diameters are short.

*sacrum is long and narrow.

*sacro-sciatic notch is wide.

*Subpubic angle is narrow



3.Android pelvis(20%):

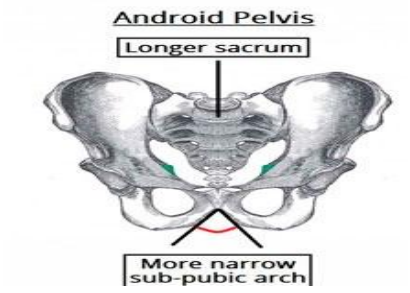
*it is a male type.

*inlet is triangular or heart-shaped with anterior narrow apex.

*side walls are converging (funnel pelvis) with projecting ischial spines.

*sacro-sciatic notch is narrow.

*subpubic angle is narrow less 90.



4.Platypelloid pelvis (5%):

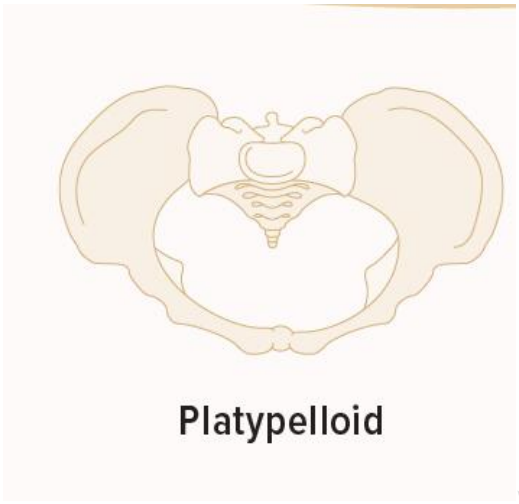
* all anteroposterior diameter are short.

*it is a flat female type.

* all transverse diameters are long.

*sacro-sciatic notch is narrow.

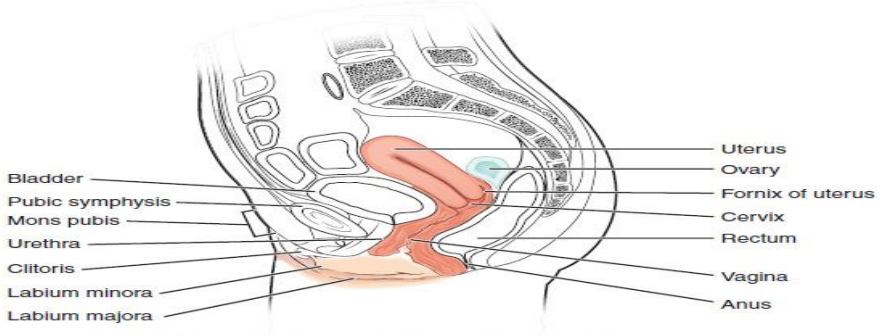
*subpubic angle is wide.



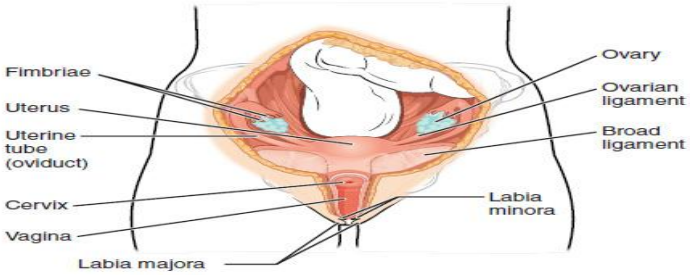
Main differences between male female pelvis:

Differences	Male	Female
bone thickness	Thick ,heavy ,rough	Thin ,light & smooth
symphysis pubis	Longer	Short
Sacrum	Long &narrow	Short & broad
Coccyx	Long & deep	Small & shallow
pelvic arch angel	Acute<90	About 90 or more
pelvic outlet	Narrow	Wide
pelvic inlet	Heart shaped	Wider oval in shape
Cavity	Broad oval shallow	Narrow ,deep, funnel-shaped
ischial spine	Nearer apart	Farther apart

Parts of Female Genitals



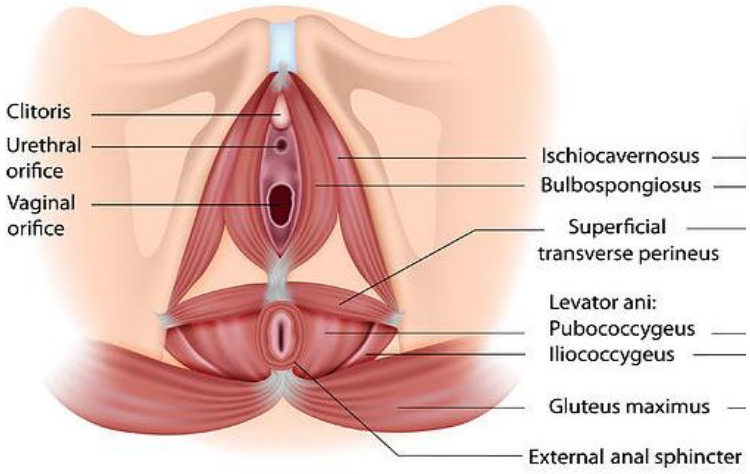
(a) Human female reproductive system: lateral view



(b) Human female reproductive system: anterior view

1.the perineum: The anatomical or true perineum is the diamond- shaped outlet of the

pelvis and the soft tissues which cover it.



Female

2.the vagina: a canal of plain muscles extending from the vestibule to the uterus.

3.the uterus: is a hallow viscous composed of plain muscles whose sole function is gestation. It lies between the rectum and the bladder and is continuous with vagina.

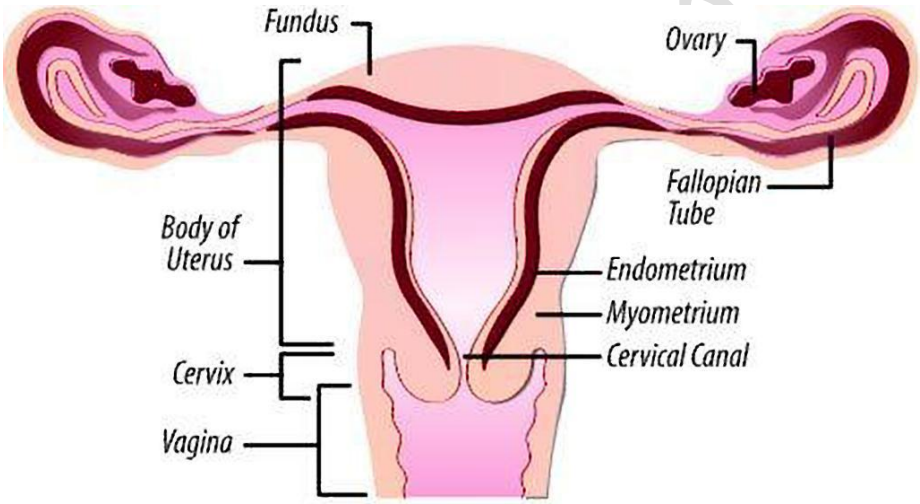
Length 7.5 cm ; thickness 2.5 cm; length of cavity 6 cm ; thickness of muscle wall is about 1.2 cm .

It consist of three parts:

a. corpus.

b. cervix .

c. fundus.



Normal Uterus

4.fallppian tubes: 10-14 cm in length ,< cm in diameter.

Parts:

a. interstitical portion : cornea of uterus.

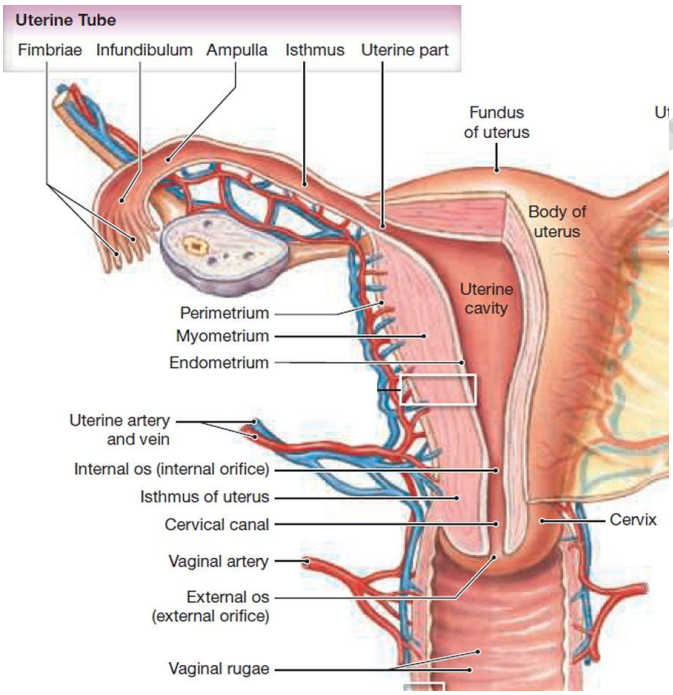
b. isthmic portion :narrow.

c. ampulla :wide and tortus.

d. fimbiria: funnel –shaped mouth.

Isthmus – 1mm in diameter – perfect spot for tubal ligation.

Ampulla – 6mm in diameter –fertilization occurs here.



5.ovaries:

*the female gonads or sex glands.

*they develop and expel an ovum each month.

*A woman is born with approximately 4000,000 immature eggs called follicles.

*during a lifetime a women release about 400 to 500 fully matured eggs for fertilization.

*the follicles in the ovaries produce the female sex hormones, progesterone and estrogen

*these hormones prepare the uterus for implantation of the fertilized egg.

Ovulation:

*ovum usually passes into adjoining fallopian tube and is swept down to the uterus by the cilia lining the tube.

* takes 3-4 days for ovum to travel down tube to the uterus.

*LH spike stimulates ovulation, the release of the ovum from the follicle.

*fertilization must occurs within 24 hrs of ovulation or ovum degenerates.

*life begines from fertilization of ovum by sperm.

Luteal phase:

*after ovulation , granulosea and theca interna cells lining the wall of the folilicle form the corpus luteum synthesizes estrogen and large amounts of progesterone.

Progesterone stimulates the endometriam to become more glandular/ secretary in preparation for implementation of fertilized ovum.

Luteal phase

***if fertilization occurs:**

1.developing trophoblast synthesizes human chorionic gondotropine (HCG).

2.HCG maintains the corpus luteum so it may continue producing estrogen and progesterone to support endomertium.

3.by ~ 8-10 weeks gestation ,the placenta is developed , and takes over production of estrogen and progesterone

***if fertilization does not occur:**

1.corpus luteum is not maintained by HCG.

2.crpus luteum is degenerates after ~ 14 days.

3.estrogen and progesterone levels fall.

4.withdrawal of progesterone causes secretary endometriam to slough.

5.FSH levels slowly rise again in absence of negative feedback menstruation.

Menstruation:

*menarche the onset of menstruation signals the bodily changes that transform a female body

*average age is 8-12 yr.

*amount of bleeding varies from woman to others.

*expulsion of blood clots.

*blood color can vary from bright red to dark maroon .

*usually occurs every 25-32 days.

*women can experience fluid.

*retention ,cramping mood swings, weight gain, breast tenderness, diarrhea and constipation.

PREGNANCY /

Pregnancy: The state of carrying a developing embryo or fetus within the female body.

Signs /symptoms of pregnancy:

1. Amenorrhea:

*Pregnancy is the commonest cause of amenorrhea but other causes such as disturbance in the hypothalamic-pituitary- ovarian axis or recent use of contraceptive pill may responsible

* It means cessation of menstrual cycle.

2.nausea or sickness:

* many women suffer some gastric upset in the early months of pregnancy, nausea
and vomiting.
* anorexia to repeated vomiting , especially in the morning.

The cause is :
a. unknown
b. raised levels of both estrogen and human chronic gonadotrophine (HCG) in the circulation have been blamed.
c. gastric motility is reduced ,and in early pregnancy ,the lower esophageal sphincter is relaxed.

3.Bladder symptoms:

* increased frequency of micturation in the second and third months .

- near term , frequency may again appear due to pressure of fetal head on bladder.

4.breast changes:

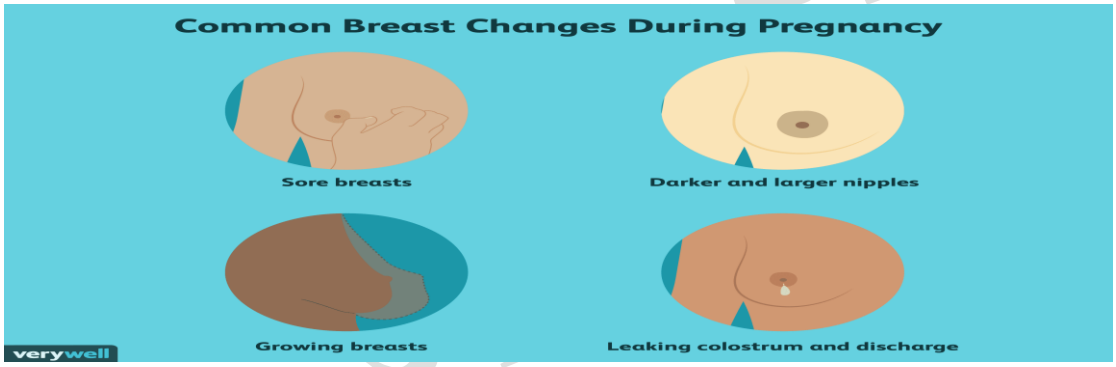
* the earliest symptoms and signs are:

a. increased vascularity and sensation of heaviness almost of pain appear at 6 weeks

b. by 8 weeks the nipple and surrounding area ; the primary areola have become more pigmented.

- Montgomery's tubercles –sebaceous glands which become more prominent as raised pink-red nodules on areola

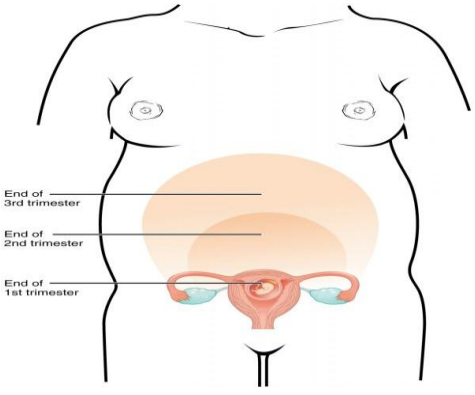
c. by 16 weeks a clear fluid (colostrums) is secreted and may expressed by 20 weeks.



5.Utrine changes:

Although no longer commonly undertaken , uterine enlargement

may be detected on bimanual examination at seven to eight weeks.



6.Pregnancy tests:

* Detection of HCG
By 14 days after fertilization the chorionic of blastocyte is secreting Chorionic

Gonadotrophine (HCG) and this can detected in either the mother's blood or urine

by the time of the first missed period

Modern pregnancy tests identify specifically the beta subunit of HCG and can detect as little as 25 IU/ 1 HCG

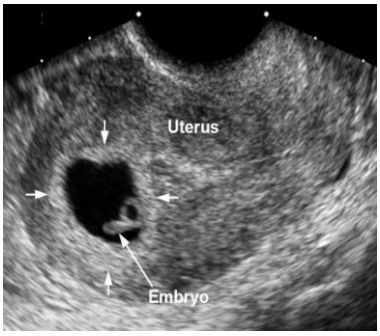
hCG levels during pregnancy (in weeks sincelast menstrual period)	
3 weeks LMP	5 - 50 mIU/ml
4 weeks LMP	5 - 426 mIU/ml
5 weeks LMP	18 - 7,340 mIU/ml
6 weeks LMP	1,080 - 56,500 mIU/ml
7 - 8 weeks LMP	7, 650 - 229,000 mIU/ml
9 - 12 weeks LMP	25,700 - 288,000 mIU/ml
13 - 16 weeks LMP	13,300 - 254,000 mIU/ml
17 - 24 weeks LMP	4,060 - 165,400 mIU/ml
25 - 40 weeks LMP	3,640 - 117,000 mIU/ml
non pregnant	55-200 ng/ml

7. Ultrasound:

An ultrasound can detect an intrauterine gestation sac after 5-6 weeks of

amenorrhea. this can be measured to determine gestational age.

* ultrasounds the only technique which can confirm fetal viability in early pregnancy.



Trimesters

Pregnancy is divided into three trimesters, each lasting for approximately 3 months.

The exact length of each trimester can vary between sources.

- The **first trimester** begins with the start of gestational age , that is, the beginning of week 1, or 0 weeks + 0 days of gestational age (GA).
  - **It ends at week 12 (11 weeks + 6 days of GA) or end of week 14 (13 weeks + 6 days of GA).**

- The **second trimester** is defined as starting, between the beginning of week 13 (12 weeks +0 days of GA) and beginning of week 15 (14 weeks + 0 days of GA).

It ends at the end of week 27 (26 weeks + 6 days of GA) or end of week 28 (27 weeks + 6 days of GA).

- The **third trimester** is defined as starting, between the beginning of week 28 (27 weeks + 0 days of GA) or beginning of week 29 (28 weeks + 0 days of GA).

It lasts until childbirth.

How the date of delivery (E.D.D) is calculated:

1.By adding 7 days & 9 months to the date of last menstruation (LMP).
e.g LMP 8/2/2020
add 7 days 15/2/2020
add 9 months 15/11/2020: is the expected date of delivery.
2. By adding 7 days & 1 year and subtract 3 months from the date of last menstruation:
e.g. LMP 6/5/2020
add 7 days 13/5/2020
13/5/2021
The expected date of delivery is 13/2/2021.

Placenta: organ filled with blood vessels that nourishes the baby in the uterus.

Placental function:

a. Respiratory function: efficient transport of oxygen and carbon dioxide, chiefly by diffusion.

b. Excretory function: it is known that placental transfer of molecules like urea is linked to lipid solubility.

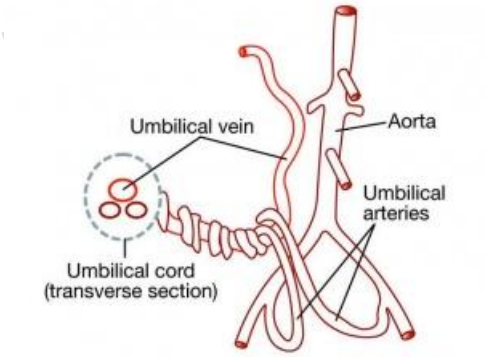
c. Nutritional: since the permeability of placenta to glucose is much greater than would be expected from its lipid solubility it is now known that there is specific transport mechanism for glucose.

d. Endocrine function: a large number of hormones are produced by the placenta.

These include hormones analogous to adult hypothalamamic and pituitary hormones and steroid hormones.

Umbilical Cord*:*

connects the baby to the placenta nourishes baby ,removes waste.



Amniotic fluid:

Amniotic fluid is a clear , slightly yellowish liquid that surrounds the unborn baby (fetus) during pregnancy. It is contained in the amniotic sac.

At term become 1500 ml , secreted first from amniotic sac then with fetus urine.

Embryonic & Fetal Development

Prenatal Baby Development

Development of the baby during the period before birth.

Develops in three stages

Zygote Embryo Fetus

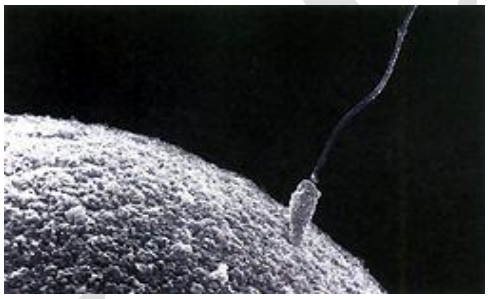
Conception:

*Once a month and ovum is released Ovum- A female egg

*The Egg moves through the Fallopian Tube to the uterus

Where the baby develops during pregnancy

*If not fertilized it disintegrates and is flushed away with menstruation



But . . . If it is fertilized in the Fallopian Tube by a sperm—Conception occurs…. This Union is what we call a zygote!

Embryonic Development

week 1

* fertilized oocyte, zygote, pronuclei

Measurement (0.1 -0.1.5) mm

week 2

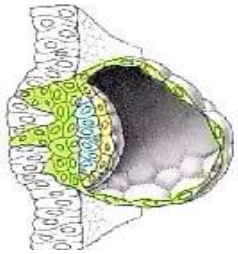
1. morula cell division with reduction in cytoplasmic volume, blastocyst formation of inner and outer cell mass

2. loss of zona pellucida, free blastocyst

3. attaching blastocyst

4.implantation

Measurement (0.1-0.2) mm

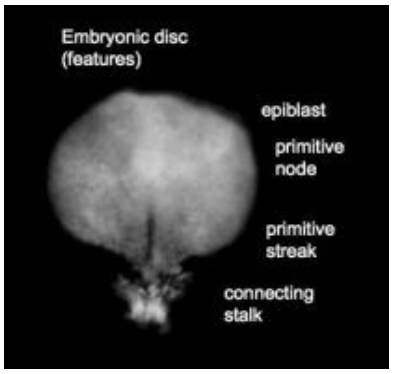


week 3

1.Extra embryonic mesoderm, primitive streak,

2.gastrulation, notochordal process

Measurement (0.2-0.4) mm



Week 4

1.primitive pit, notochordal canal

2. Somitogenesis **Somite Number 1 - 3** neural folds, cardiac primordium, head fold

3.Somite Number 4 - 12 neural fold fuses

Measurement (2- 3.5) mm

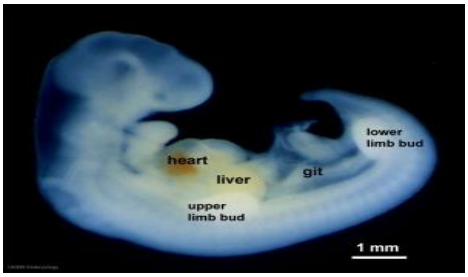
week 5

Somite Number 13 - 20 rostral neuropore closes

Somite Number 21 - 29 caudal neuropore closes

Somite Number 30 leg buds, lens placode, pharyngeal arches

Measurement (4-6) mm



week 6

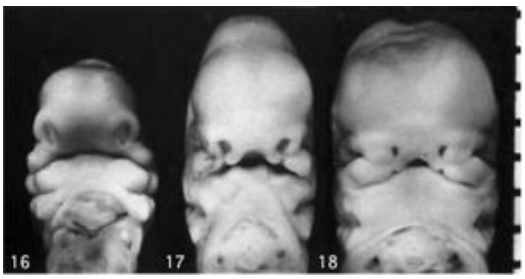
1. lens pit, optic cup

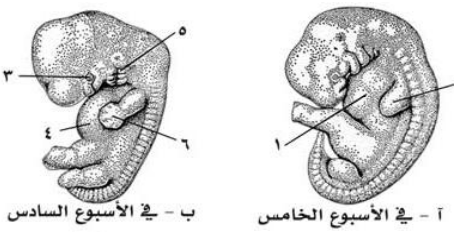
2. lens vesicle, nasal pit, hand plate

3. nasal pits moved ventrally, auricular hillocks, foot plate

Measurement (7-11) mm

fingers and external ears form . tail and gills disappearing





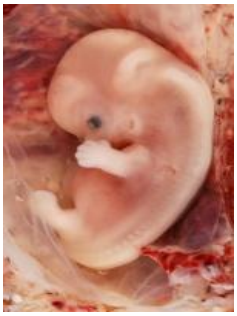
week 7

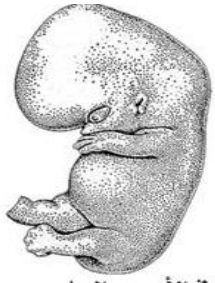
1.finger rays

2.ossification commences

3.Toes form .bones begin to harden eyelids form.

Measurement (13-17) mm





آ – في الأسبوع السابع

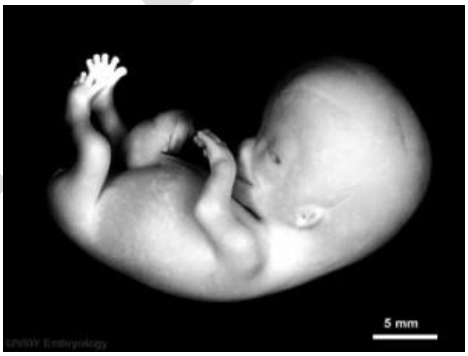
(**week 8**)

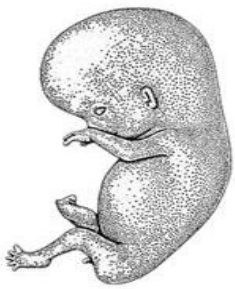
1.straightening of trunk

2. upper limbs longer and bent at elbow

3.Genitals begin to development.

Measurement (18-22) mm

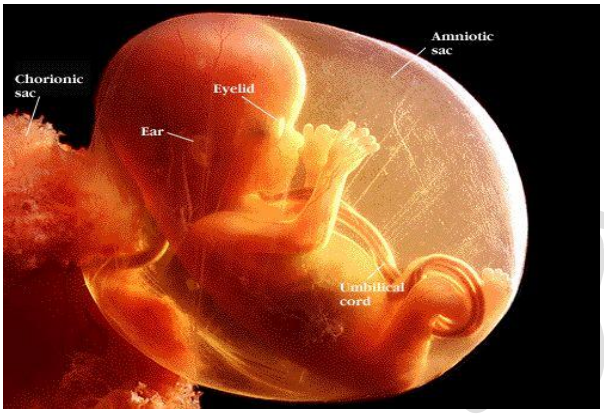




ب – في الأسبوع الثامن

Fetal Development

Once cell differentiation is mostly complete, the embryo enters the next stage and becomes known as a fetus. The fetal period of prenatal develop marks more important changes in the brain. This period of development begins during the ninth week and lasts until birth. This stage is marked by amazing change and growth.



The Fetus—Month 3:

1.The fetus is about 1 inch long

2.Nostrils, mouth, lips, teeth buds, and eyelids form Fingers and toes are almost complete

3.Eyelids are fused shut

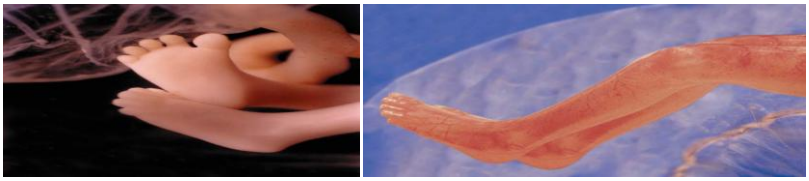
4.Arms, legs, fingers, and toes have developed

5.All internal organs are present—but aren't ready to function

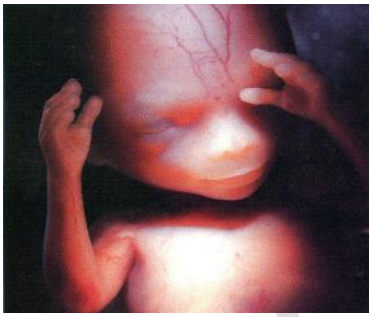
6.The genital organs can be recognized as male or female

(87mm) 3 months

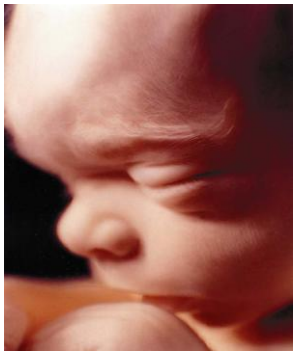
Well-defined neck appears genital formation complete. sucking reflex appears.



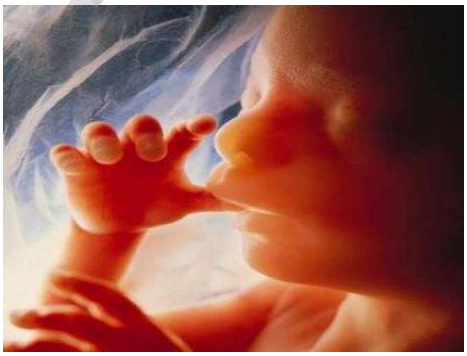
11 Weeks **12 Weeks**



15 Weeks



16 Weeks



18 Weeks

The Fetus—Month 5

(190mm) 5 months

All major organs formed blood cells form. Head and body hair appear.

1.The Fetus is about 6 inches long and weighs 4-5 oz.

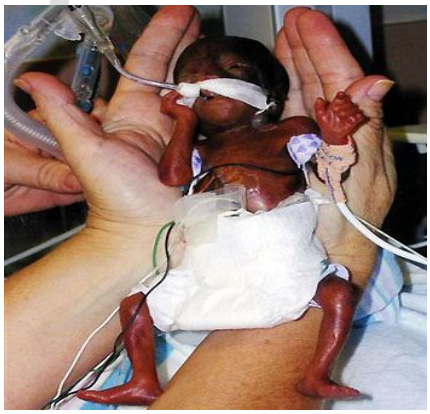
2.A protective coating called **vernix** begins to form on baby's skin.

3.Hair eyelashes and eyebrows appear

4.Organs keep maturing

5.Fetus is very active

6.The eyes can open and blink



The Fetus—Month 6

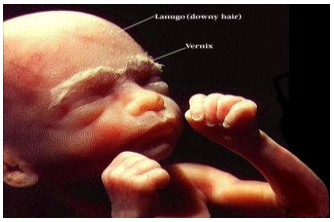
1.The fetus is 8-10 inches long and weighs 4-5 oz.

2.baby's lungs are filled with **amniotic fluid**, and he has

started breathing motions.

3.he can hear the **talk** or **sing** .

4.Fat is starting to deposit under the skin



The Fetus—Month 7

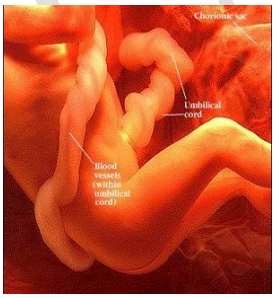
(270mm) 7 months

Lungs and lung circulation develop. Eyelids open .Fat deposited under skin .may be viable if born.

1.Fetus is 10-12 inches long and weighs about 1-2 pounds.

2.Fetus is active and then rests.

3.The baby now uses the four senses of vision, hearing, taste and touch



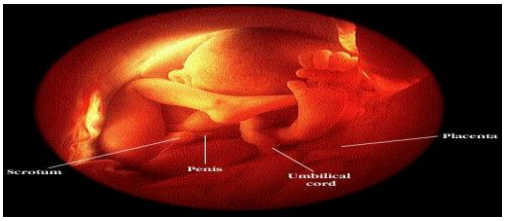
The Fetus—Month 8

1.The fetus is 14-16 inches long and weighs 2-3 pounds

2.Layers of fat are piling on.

3.Fetus has probably turned head-down in preparation for birth.

4.Fetus may react to noises with a jerking action



The Fetus—Month9

(350mm) 9 months

Fetus usually viable if born. Body hair lost. Head hair well developed. Most senses are well developed

1.Fetus is about 17-18 inches long and weighs 5-6 pounds

2.Skin is smooth because of the fat

3.Baby's movement slows down due to lack of room

4."Lightening" occurs when the baby drops in the pelvis

5.Disease fighting antibodies are taken from the mother's blood

Common problems during pregnancy:

*Bladder and bowel problems during pregnancy

During pregnancy, many women experience some rather unpleasant conditions.

Managements: healthy diet and doing regular exercise can help make the pregnancy a bit less uncomfortable.

*Changes of skin during pregnancy

As the pregnancy develops, may find that there is experience changes to skin and hair. Some women can develop dark patches on their face and hormonal changes can make the skin a little darker.

*Dealing with fatigue during pregnancy

Feeling tired and hotter than usual is quite common during pregnancy. Many pregnant women also feel faint and this is due to hormonal changes.

*Headaches and indigestion during pregnancy

Many women find that they experience headaches and indigestion at various Stages of their pregnancy.

*Itching during pregnancy

Mild itching is common in pregnancy because of the increased blood supply to the skin, but if the itching becomes severe it can be a sign of a liver condition called 'obstetric cholestasis'.

*Morning sickness

Morning sickness is a common symptom of early pregnancy that usually goes away by the end of the first three months. Morning sickness or nausea (with or without vomiting) can happen at any time of the day and is caused by changes in hormones during pregnancy.

*Heart burn:

It is a burning discomforted localized behind the lower part of the sternum and radiation upward to the esophagus.

To avoid it; taking small meals a day. Avoid fatty foods, smoking and coffee. Drink 6-8 glasses of water daily. take anti acid eg. (aluminum hydroxide) (magnesium trisilicate).

*Backache:

Most pregnant women experience some degree of backache,

It relieve by applying heat pad or hot water battle to the lower back.

*Dyspnea:

Difficult breathing or shortness of breath, result from pressure on diaphragm by the enlarged of the uterus which interfere with woman's sleep and comfort during the last weeks of the pregnancy.

*Cramp in pregnancy

Cramp is a sudden, sharp pain, usually in calf muscles or feet. It is most common at night. Nobody really knows what causes .

*Varicose veins in pregnancy:

Varicose veins are veins that have become swollen. The veins in the legs are most commonly affected . They usually get better after the birth.

Coping with hemorrhoids when pregnant:

Piles, also known as haemorrhoids, are enlarged and swollen veins in or around the lower rectum and anus. Anyone can get piles – they don't just happen in pregnancy. In the pregnancy, piles can occur because hormones make the veins relax.Piles may itch, ache or feel sore. They may also bleed a little .

How to ease piles

Constipation can cause piles and if this is the case try to keep the stools soft and regular. and prevent them, by making some changes to diet and lifestyle

*Edema:

Swelling of the lower extremities is very common during pregnancy.

*Vaginal discharge in pregnancy:

All women, whether they're pregnant or not, have some vaginal discharge starting a year or two before puberty and ending after the menopause.

Complications of pregnancy

Some women experience health problems during pregnancy. These complications can involve the mother's health, the fetus's health, or both. Even women who were healthy before getting pregnant can experience complications. These complications may make the pregnancy a high-risk pregnancy.

* Gestational hypertension:

Gestational hypertension or pregnancy-induced hypertension (PIH) is defined as the development of new arterial hypertension in a pregnant woman after 20 weeks gestation without the presence of protein in the urine.

Preeclampsia:

Pre-eclampsia is gestational hypertension plus proteinuria (>300 mg of protein in a 24-hour urine sample). Severe preeclampsia involves a blood pressure greater than 160/110, with additional medical signs and symptoms.

Eclampsia*:*

This is when tonic- clonic seizures appear in a pregnant woman with high blood pressure and proteinuria.

Risk factors:

1. Classification of causes: -

1/Maternal causes e.g. :

*Obesity *Age 35 years or more.

*Past history of D.M, Hypertension and Renal diseases. *Adolescent pregnancy.

2/Pregnancy:

*Multiple gestation (twins or triplets, etc.)

*Placental abnormalities:

1. Hyperplacentosis: Excessive exposure to chorionic villi. 2. Placental ischemia

3/Family history :-

*Family history of pre-eclampsia.

*Possibility of African American race

Managments and Treatment:

*Drug treatment options are limited, as many antihypertensive may negatively affect the fetus., hydralazine, and labetalol are most commonly used for severe pregnancy hypertension.

* Urgent reduction of severe hypertension is essential in antepartum or postpartum women to reduce the risk for cerebral vascular accident or seizures.

* Hydralazine is administered as an intravenous or intramuscular dose of(5- 10)mg

every 20-30 minutes to control hypertension of >170 systolic and / or 110 diastolic.

* The preferred administration method is by intravenous (IV) injection or by IV infusion.

* Women with renal or hepatic impairment may require a reduced dose of hydralazine.

* Hydralazine may result in sodium and fluid retention, producing oedema and reduced urinary output . A concomitant use of a diuretic may be useful. Urinary output should be monitored.

Nursing care:

MATERNAL:

1.Check BP, heart rate, maternal oxygen saturation levels, and respirations minutely for 15 minutes following administration ,then 15 minutely for 1 hour until BP remains stable and within an acceptable range.

2.Fluid balance is to be monitored to avoid overload.

FETAL:

Monitor the fetal heart rate continuously in ante partum women.

A rapid decrease in BP may effect uteroplacental perfusion and result in fetal distress.

***Anemia during pregnancy**

Causes :-

1- Increase need of the mother by the growing fetus .
2- Iron deficiency.
3- Folic acid deficiency

Signs & symptoms :-

- Weight loss
- Skin pale
- Fatigue
- Palpitation
- Dizziness
- Headache

Effect of anemia on pregnancy :-

1- Premature birth
2- Abortion
3- Small for gestational age
4- Decrease immunity
5- Weak fetus
6- Increase uterine bleeding

Treatment :-

1- Take folic acid daily.
2- In severe anemia need blood transfusion .
3- Iron therapy .
4- Good diet , especially at 2^{nd} and 3^{rd} trimester.

***Diabetes mellitus during pregnancy**

Effect of diabetes on pregnant woman :-

1- Decrease immunity
2- Slow and difficult labor
3- Increase incidence of C\S
4- Increase incidence of pre-eclampsia
5- Maternal death.

Effect of diabetes on fetus :-

1- Macrosomia – increase fetal size .
2- Habitual abortion .
3- Congenital malformations .
4- Prenatal death .
5- Polyhydramnios .

Signs and symptoms :-

1- Poly urea.
2- Delay wound healing .
3- Loss of weight .
4.Glucose urea .

5.Loss or disturb vision .

Treatment & nursing care :-

1- Admission at third month to regulate blood sugar by insulin .

2- Antenatal care-every week after third month because blood sugar increase with pregnancy .

3- Diet control .

4- During cold and morning sickness , consult the doctor .

5- Psychological rest .

6- Admission at 36 week .

7- Induction of labor or C\S to avoid complication at 37 wks .

Uterine bleeding during pregnancy

Vaginal bleeding occurs during (15-25%) of first trimester pregnancies, half go on to miscarry and half bring the fetus to term. There are a number of causes.

Bleeding in early pregnancy may be a sign of a threatened or incomplete miscarriage. In the second or third trimester a placenta previa (a placenta partially or completely overlying the cervix) may bleed quite severely. Placental abruption is often associated with uterine bleeding as well as uterine pain.

Abortion:

Is the ending of pregnancy by the removal or forcing out from the womb of a fetus or embryo before it has obtained the ability to survive on its own.

An abortion can occur spontaneously, in which case it is often called a miscarriage. It can also be purposely caused in which case it is known as an induced abortion.

types of abortion

1.Threatened Abortion:

*Could be any vaginal bleeding during early pregnancy.

* Without cervical dilatation .

*Without extrusion of products of conception.

*No exists pain, mild cramp occur.

2. inevitable abortion:

*In an early pregnancy with vaginal bleeding.

*Dilatation of cervix.

*The bleeding is worse than the threatened abortion.

*More cramping.

*No tissue has passed yet.

3. Incomplete abortion:

*Pregnancy that associated with vaginal bleeding.

*Dilatation of the cervical canal.

*Pass products of conception.

*The cramps are intense.

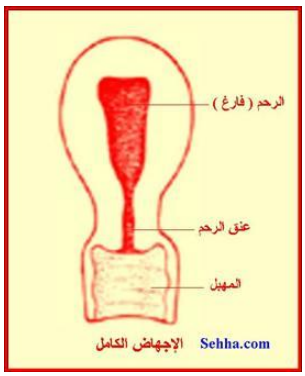
*Vaginal bleeding is heavy.

4.Complete abortion:

*Complete spontaneous abortion after tissue passes.

*The Paine subsides and vaginal bleeding diminishes.

*The u/s demonstrate an empty uterus.



5.Missed abortion:

*A nonviable intrauterine pregnancy.

*Has been retained within the uterus without spontaneous abortion.

*No symptoms exist beside amenorrhea.

*The pregnancy stopped developing fetal heart beat is not observed.

Management of some types of abortion by cervix legation

Ectopic Pregnancy:

Definition: Implantation of the zygote anywhere else outside uterine cavity.

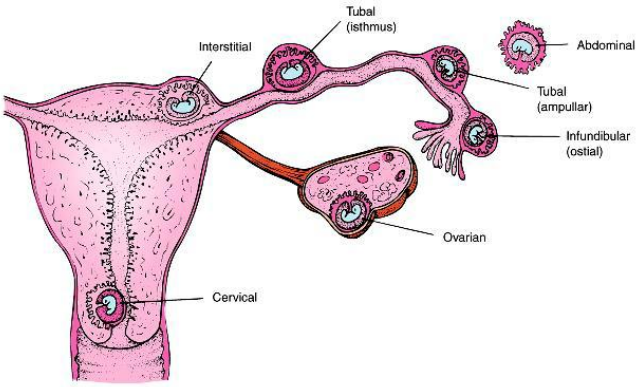
Site of ectopic pregnancy:

Extra uterine :

-Tubal :95%.
-Ovarian 1 %.
-Abdominal 2%.

Uterine :

Rudimentary horn
-Cervical 0.15%
-Uterine diverticulum
-Angular 2%



S&S of ectopic pregnancy:

Pain, amenorrhea, vaginal bleeding.

Abdominal pain – most frequent complaint. With rupture,

Treatment:

- Resuscitation if patient come with sign of rupture ectopic
- D-negative women with an ectopic pregnancy who are not sensitized to D-antigen should be given anti-D immunoglobulin.
- Surgical Management
- Tubal surgery for (EP) is considered conservative when there is tubal salvage.

Hydatidiform mole:

Is a disease in which there is an abnormal development of the placenta ; and the trophoblastic tissue proliferates.

Types of molar pregnancies:

1.complete mole.

2. partial mole.

Clinical signs:

1.Vaginal bleeding: brownish (prune juice).

2. Anemia.

3. Hydropic vesicles (grape-shape; cluster).

4. Uterine enlargement.

5. Absence of fetal heart sounds.

6. Elevated HCG.

7. Diagnosis US—usually after 6-8 weeks.

TREATMENT:

-Suction evacuation of the mole

-Curretage of the uterus

FOLLOW-UP:

-Regular measurement of the HCG

-Baseline chest x-ray

-Physical examination, including pelvic exam

Effective contraception (between 6-12 months)

Uterine bleeding during pregnancy(after 28 weeks)

Definition

It is bleeding from the genital tract after the 28th week of pregnancy and before the end of the second stage of labor.

Classification

A/ Placental site bleeding: (62%)

1.Placenta praevia (22%) : Bleeding from separation of a placenta wholly or partially implanted in the lower uterine segment.

2.Abruptio placentae (30%) : Premature separation of a normally implanted placenta.

3.Marginal separation(10%) : Bleeding from the edge of a normally implanted placenta.

B/Non-placental site bleeding: (28%)

1. vasa praevia: Bleeding from ruptured fetal vessels.

2.Rupture uterus.

3.Cervical ectopy, polyp or cancer.

4.Vaginal varicosity.

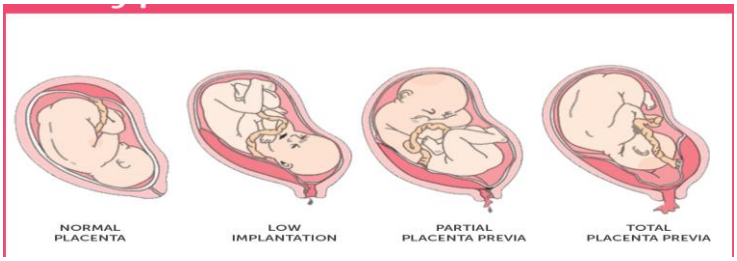
****

1.Placenta Praevia: Implantation of placenta over cervical os

Risk for placenta praevia:

-Endometrial scarring of upper segment of uterus – implantation in lower uterine segment

-Prior D&C or C-section -Multiparty. -Advance age



Clinical presentations:

-Painless vaginal bleeding – 70-80%

-Mostly during third trimester – shearing force from lower uterine segment growth and cervical dilation

-Uterine contraction – 10-20%

Complications :

Maternal:

Maternal mortality rate is 0.2%.

During pregnancy:

1.Abortion. 2.Preterm labor. 3.Antepartum hemorrhage.

4.Malpresentation and non-engagement.

During labor:

1.Premature rupture of membranes. 2.Cord prolapse.

3.Inertia. 4.Obstructed labor. 5.Postpartum haemorrhage.

6.Retained placenta. 7.Placenta accreta . This may necessitate hysterectomy.

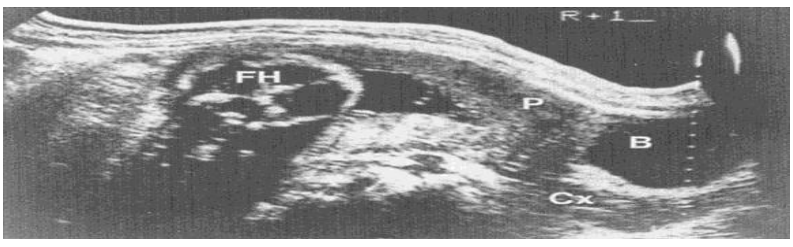
8.Lacerations of lower uterine segment due to increased vascularity and friability.

9.Air embolism due to low placental site.

Fetal:

1.Fetal mortality rate is 20 %. 2.Prematurity. 3.Asphyxia. 4.Malformations (2%)

Diagnostic test: Ultrasound



Management of placenta praevia

-Gestational age

-Amount of bleeding

-Fetal condition and presentation

-No large clinical trials for the recommendations.

-Consider hospitalization in third-trimester.

-Corticosteroid for lung maturity.

-Delivery at (36-37) weeks gestation. -Cesarean hysterectomy.

-Uterine conservation.

-Placental removal .

-Localized resection and uterine repair

2. Placenta Abruption:

Premature separation of placenta from the uterus

Risk factors for placental abruption:

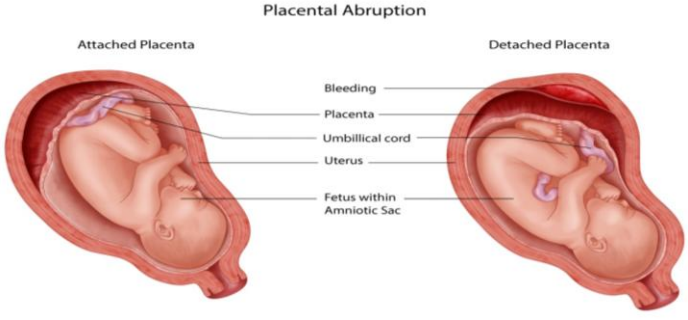
-Maternal hypertension. -Maternal age and parity

-Blunt trauma – motor vehicle accident .

-Tobacco smoking and cocaine.

Clinical presentations:

*± Vaginal bleeding *Uterine contraction and pain *Abdominal pain



Management:

-Hemodynamic monitoring

-Urine output with Foley

-BP drop – late stage, 2-3 liter of blood loss

-Fetal monitoring

Treatment:

-Most respond to oxytocin and methergine

-Hysterectomy for uncontrolled bleeding

Marginal separation

Definition

Bleeding from the edge of a normally situated placenta after 28th weeks' gestation.

Clinical Picture

Similar to that of placenta praevia.

Symptoms

Vaginal bleeding.

Signs

General examination:

*The general condition proportionate to the amount of bleeding as all the blood loss is revealed

Abdominal examination:

*No characteristic signs.

Vaginal examination:

*Done under the same precautions in placenta praevia.

*There is vaginal bleeding and if the cervix is dilated the placenta is not felt.

Non-placental site bleeding:

Vasa praevia: is a condition in which fetal blood vessels cross or run near the internal opening of the uterus. These vessels are at risk of rupture

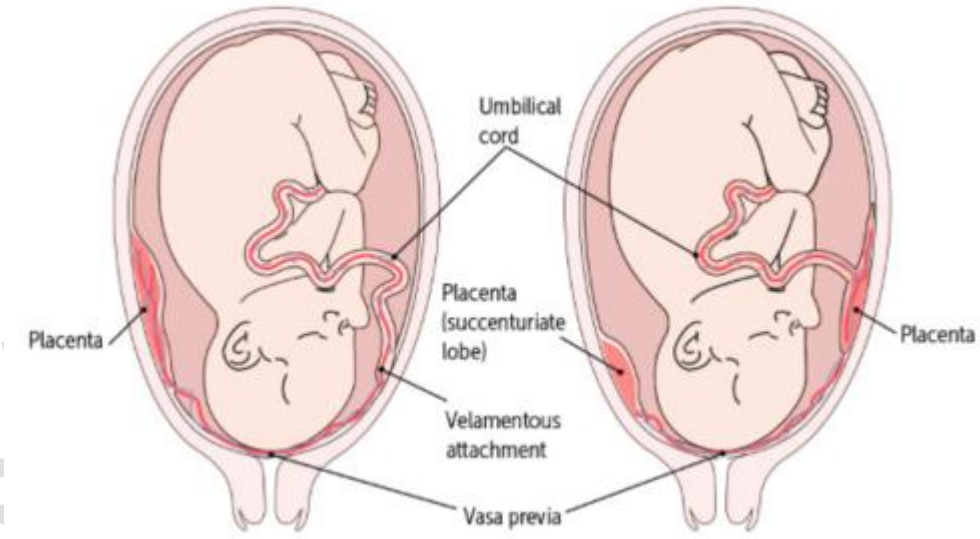
Bleeding from ruptured foetal vessels.

Symptoms & signs

the classic presentation of vasa previa is painless vaginal bleeding, rupture of membranes, and fetal bradycardia

Treatment :

Prenatal monitoring to detect cord compression Cesarean delivery



2.Uterine rupture: is spontaneous tearing of the uterus that may result in the fetus being expelled into the peritoneal cavity.

Causes of uterine rupture include

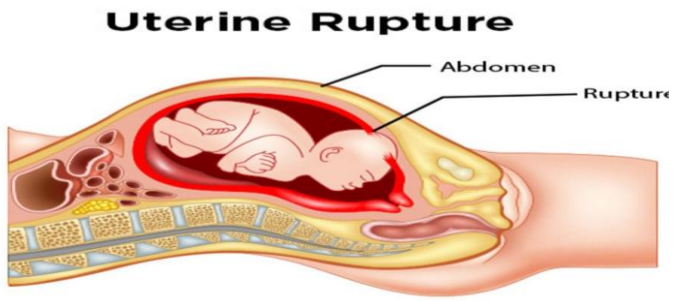
1.Uterine overdistention (due to multifetal pregnancy, polyhydramnios, or fetal anomalies)

2.External or internal fetal version

3.Iatrogenic perforation 4.Excessive use of uterotonics

5.Failure to recognize labor dystocia with

6.excessive uterine contractions against a lower uterine restriction ring .

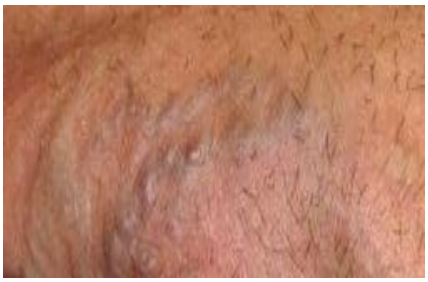


Diagnosis of uterine rupture is confirmed by laparotomy.

Treatment of uterine rupture is immediate laparotomy with cesarean delivery and, if necessary, hysterectomy.

3. Cervical ectopy : is the most common cause of bleeding during the last months of pregnancy. The reason for these symptoms is that glandular cells are more delicate than epithelial cells. They produce more mucus and tend to bleed easily.

4.Vaginal varicosity: **Vulvar varicosities** are **varicose veins** at the outer surface of the female genitalia (vulva). They occur most often during pregnancy. This is due to the increase in blood volume to the pelvic region during pregnancy.



Normal Labor and Delivery

Labor:-The expulsion of the fetus , placenta , membranes .and cord from the uterus via the birth canal .

Delivery : The actual birth of the baby .

The onset of labor :-

- sensitivity of the uterus to oxytoxic drugs .
- progesterone suddenly drops down before labor .
- prostaglandin synthesis which lead to increase muscle contraction .

premonitory signs of labor

(1) lightening ⟶ The descent of the fetus into the pelvic cavity occurs about 10-14 days before delivery .

Is followed by signs :-

1- pain in legs .
2- constipation .
3- difficulty in walking .
4- Increase amount of vaginal discharge .
5- Frequency of urination .

(2) False labor or Braxton – Hicks contractions irregular and intermittent occurs 3-4 wks before true labor .

Signs of true labor:

1- Show >>> expulsion of blood mixed with mucus from the cervix

2- Effacement >>>> Thinning the cervix (3 cm to zero)

3- Dilatation >>> The degree of opening of the cervical os (10 cm or 4 fingers) .

4- Uterine contractions

Characteristics of contractions:

* Increment ⟶ Intensity of the contractions increase

* Acme⟶ The top of the contractions

* Decrement ⟶ diminishing of the contraction intensity

* Frequency ⟶ the time from the beginning of one contraction to the other .

* Intensity ⟶ it's moderate , mild , severe .

* Interval between contraction ⟶ 10-15 min (1st stage) / 2-3 min (2nd stage)

Distinguishing between true & false labor:

True labor	False labor
1- contractions regular	1- Irregular con.
2- Abdominal pain that spread to the back	2- pain that is localized in the abdomen
3- progressive cervical dilatation and Effacement	3- no cervical changes
4- Gradually shortened intervals between Contraction	4- no change
5.Increased intensity of con. With ambulation	5- No change in with ambulation
6.Increase uterine con. In duration and intensity	6- Remains same
7- Show usually present	7- none

Stages of labor

The process of labor divided into:

First stage : Is measured from the onset of true labor to complete dilatation of the cervix (dilating stage) .

This stage divided in to 3 phases :-

1. Latent phase ⟶ 0-3 cm D.
2. Active phase ⟶ 4-7 cm D.
3. Transitional phase ⟶ 8-10 D.

Nursing care during 1st stage of labor:

- Taking information .
- Do physical and obstetrical examination .
- Check vital signs and FHB .
- Do urine and blood test .
- Take advising about diet and fluid intake .
- Do perineal care .
- Checking the drops of pitocin .
- Checking uterine contraction .
- Do cleaning enema .
- Advising about walking and warm bath .
- Psychological support .

Second stage : It extends from full or complete dilatation of the cervix until the delivery of the baby .

Nursing care during 2nd stage of labor:

- prepare the delivery room .
- sterile equipment (cord set , episiotomy set , damps)
- Preparation the baby clothes .
- Teaching mother about deep breathing .
- Check F.H.B. every 5 / min & B \ P .
- Check cervical dilatation by vaginal examination.

Third stage :- It extends from delivery the baby to expulsion of the placenta .

Signs of placenta separation:

1- The fundus feels hard and globular and rises abdominally to the level of the umbilicus

2- The umbilical cord descends 3 or more inches out of the vagina .

3- Sudden gush of blood .

Fourth stage : Is the first hours after delivery of placenta .

Approximate length of time for each stage

	1st stage	2nd stage	3rd stage
Primi gravid	12-14 hr	1/2-1 1/2 hr	5-15 min
Multi gravid	6-12 hr	5-30 min	5-15 min

Immediate post partum care:

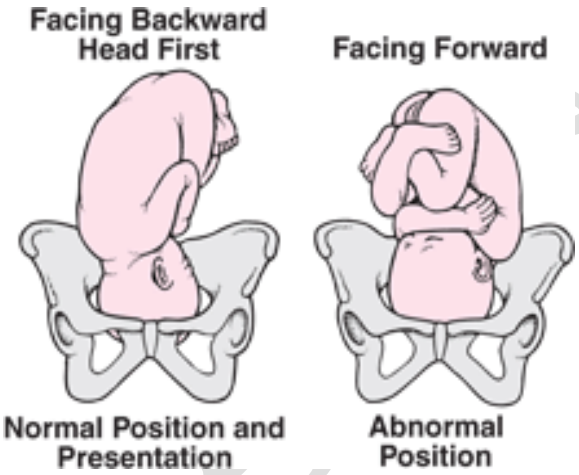
- See the uterus:
  - well contracted
  - In the midline at the level of umbilical .

  If not so doing massage but gently to avoid bleeding and give methargin or pitocin by inj.
- See the laceration:
  Check the vagina or birth canal of the blood is cloth it's from uterus , if fresh that mean the blood from vagina.
- Perinal care ⟶ The purpose
  1- To prevent infection .
  2- For mother comfort .
  3- To promote healing .
- Cover the women and keep her warm .
- Check vital signs .
- Take warm fluid and rest.

Abnormal Position and Presentation of the Fetus

Position : refers to whether the fetus Is facing rearward (toward the woman's back- that is, face down when the woman lies on her back) or forward (face up).

Presentation : refers to the part of the fetus's body that leads the way out through the birth canal (called the presenting part). Usually, the head leads the way, but sometimes the buttocks or a shoulder leads the way.



Types

1. Fetal head or cephalic presentation
   - brown
   - vertex
   - face

   Most common 97 %

2- Shoulder presentation .

3-the buttocks presentation

Position

1- Longitudinal lie .
2- Transverse lie .
3- Oblique lie .

Causes of abnormal presentation

1- Unknown .
2- Multiparity .
3- Premature labor ⟶ the fetus is mobile
4- Polyhydraminous ⟶ can move freely
5- Hydrocephalic .
6- Multiple pregnancy (Twin) .
7- Placenta previa } prevent the head from entering the pelvic
8- Fibroid & tumors } brim
9- Contracted pelvis .
10- Head high not engaged .

Diagnosis:

1- By abdominal examination
- Palpate mass in the fundus ⟶ breech P.
- The fundus is low ⟶ shoulder p.

2- By auscultation
- FH. Above the level of the umbilical
- FH. Is heard below the umbilical

3- By sonar .

Danger of breech P.

For mother :-

1- perineal trauma 2.Prolonged labor .

For baby :-

1- Intracranial hemorrhage .
2- Anoxia .
3- Injuries .
4- Death .
5- Cord prolapsed .

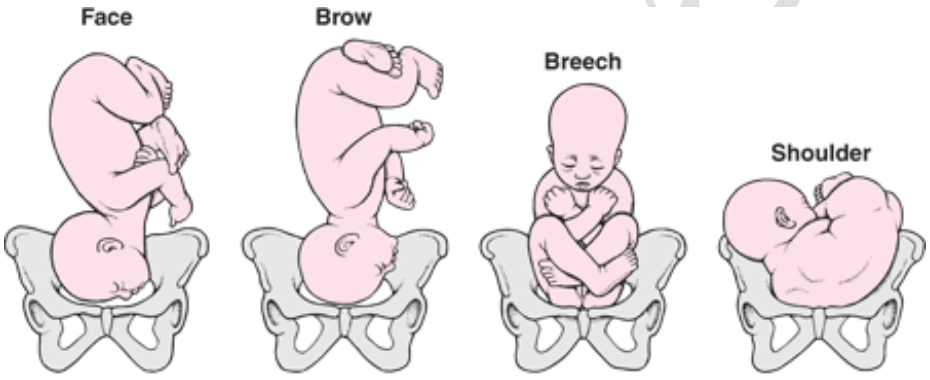
The most common and safest combination consists of the following:

- Head first (called a vertex or cephalic presentation).
- Facing down.
- Face and body angled toward the right or left.
- Neck bent forward
- Chin tucked in
- Arms folded across the chest.

** If the fetus is in a different position or presentation, labor may be more difficult, and delivery through the vagina may not be possible.

An abnormal position is facing forward, and abnormal presentations include

face, brow, breech, and shoulder.



Abnormal Presentations

1.Breech presentation:

*The buttocks present first.

*Breech presentation occurs in 2 to 3% of full-term deliveries.

*When delivered vaginally, babies that present buttocks first are more likely to be injured than those that present head first.

*Such injuries may occur before, during, or after birth.

*The baby may even die.

*Complications are less likely when breech presentation is detected before labor or delivery.

2. face presentation:

the neck arches back so that the face presents first.

3. brow presentation:

the neck is moderately arched so that the brow presents first.

4.shoulder presentation:

a fetus lying horizontally (transversely) across the birth canal presents shoulder first. A cesarean delivery is done.

Post partum period

Puerperium_The time between delivery until the reproductive organs have returned to their pre pregnant state (6 weeks) .

1.Uterus : The pregnant term uterus (not including baby, placenta, fluids, etc) weights approximately 1000 g . In the 6 weeks following delivery , the uterus recedes to a weight of 50-100 g.

Involution

It is the process of returns of the uterus to its normal size .

Lochia It's uterine discharge consists blood with a small amount of mucous .

Types

1- Lochia rubra >>>> (lasts about 3 days red in color)
2- Lochia serosa >>>> (lasts 7 days pinkish in color)
3- Lochia alba >>>>>> (colorless)

2.Cervix:

The cervix also begins to rapidly revert to a non pregnant state, but it never returns to the nulliparous state.

3.Vagina:

The vagina also regresses but it does not completely return to its pre pregnant size.

4.Perineum:

The perineum has been stretched and traumatized, and sometimes torn or cut, during the process of labor and delivery. The swollen and engorged vulva rapidly resolves within 1-2 weeks.

5.Abdominal wall:

The abdominal wall remains soft and poorly toned for many weeks. The return to a pre pregnant state depends greatly on maternal exercise.

6.ovaries:

The resumption of normal function by the ovaries is highly variable and is greatly influenced by breastfeeding the infant. The woman who breastfeeds her infant has a longer period of amenorrhea and an ovulation than the mother who chooses to bottle-feed.

**The mother who does not breastfeed may ovulate as early as 27 days after delivery.

The mean time to first menses is 7-9 weeks.

7.Breasts:

The changes to the breasts that prepare the body for breastfeeding occur throughout pregnancy. If the mother is not breastfeeding, the prolactin levels decrease and return to normal within 2-3 weeks.

Nursing care

1. Mother needs physical examination and palpation the fundus .
2. Perineal care (observe the color , amount and order) and teaching her about the perineal self care to promote healing) .
3. Check vital signs .
4. Advice about good diet for lactation .
5. Provide rest and sleep .
6. Early ambulation to prevent thrombosis constipation and to stimulates circulation .
7. Breast

Puerperial complication:

1.Postpartum hemorrhage (PPH): is defined as excessive blood

loss during or after the third stage of labor. The average blood loss is 500 mL at vaginal delivery and more at cesarean delivery.

Etiology:

Causes of early postpartum:

1.uterine atony.

2.retained products of conception.

3.Uterine rupture.

4.uterine inversion.

5.placenta accrete.

6.lower genital tract lacerations.

7.coagulopathy, and hematoma.

Causes of late postpartum hemorrhage include:

1.retained products of conception.

2. infection.

3. Sub involution of placental site.

4.coagulopathy.

5.Uterine atony and lower genital tract lacerations .

Treatment

1.oxygen delivery.

2. bimanual massage,.

3.removal of any blood clots from the uterus.

4. emptying of the bladder

5.administration of oxytocin infusion (20u in 50ml normal saline via a pump, starting at eg 10ml/hr).

2.Anaemia.

3.**Psychiatric Disorders.**

4.**Infections.**

5. **Endometritis**.

6. **Urinary Tract Infections**.

7. **Mastitis.**

Induction of labor(IOL)

Definition: induction of labor is the deliberate initiation of uterine contractions before the spontaneous onset by artificial means.

indication of IOL:

a.post maturity.

b. evidence of diminish fetal well being.

c. eclampsia.

e. fetal abnormality.

f. IUGR (intrauterine growth restriction).

g. DM.

h. R.H. incompatibility.

Contraindication of induction of labor:

a. severe fetal distress.

b. malepresentation.

c. cephalopelvic disproportion.

d. placenta previa.

e. herpes outbreak in the genitalia.

Steps of Induction of labor

1- Administration of enema .

2- Administration of oxytocin by Iv. Drip .

3- Observe the number of drops \ min the rate of administration should be increased gradually.

4- Observe the uterine contraction .

5- FH. Counted & recorded .

Artificial rupture of membrane (A.R.M.) OR **Amniotomy**

used to induced labor in the beginning of the 2nd stage of labor .

Forceps Indications:

1- Delay in the 2nd stage of labor .
2- Malposition of the fetus head .
3- Maternal and fetal distress .
4- Large head and post mature .
5- Severe P.E.T. & HD.

Condition which should be satisfied before the application of forceps :-

1. Cervix full dilated .
2. When have pelvic contraction .
3. Bladder should be empty .
4. Membrane rupture .

Complication of forceps

For mother ⟶ 1- damage the soft tissues of the pelvis .

2- Laceration or tear of the vagina , cervix , and perineum

3- bladder or rectum injury .

4- P.P.H.

5- Incontinence of urine

For fetus ⟶ 1- Intracranial hemorrhage .

2- Injuries .

3- Facial palsy .

Episiotomy:

It is making incision into the perineum to in large the vaginal os .

Indication:

1- Fetal distress in the 2nd stage .

2- prolapsed cord in the 2nd stage .

3- preterm baby to avoid intracranial .

4.Cardiac disease.

5.Previous 3rd degree tear .

Types 1- Medo lateral . 2- Medium .

Advantages of medium

1. Less bleeding .
2. Rapid healing .
3. Less pain .

Disadvantages of medolateral

1- More bleeding .
2- Difficult healing .
3- Discomfort to mother .
4- Pain is more common .

Nursing care

*Perineal clean .

*Warm stiz bath .

*Give antibiotic .

*Good diet .

Precipitate delivery:

Definition:

Precipitate Delivery-- is a rapid expulsion of fetus from the birth canal , less than 3 hr. from the time of the first contraction to the delivery of the baby.

There are common factors which may cause a woman to deliver rapidly.

1.A multipara with relaxed pelvic or perineal floor muscles may have an extremely short period of expulsion.

2.A multipara with unusually strong, forceful contractions. Two to three powerful contractions may cause the baby to appear with considerable rapidity.

Danger of precipitate delivery

Maternal:

1.lacerations of the cervix, vagina, and/or perineum.

2.Rapid descent and delivery of an infant does not allow maternal tissues adequate time to stretch and accommodate the passage of the infant.

3.There may be hemorrhaging originating from lacerations and/or hematomas of the cervix, vagina, or perineum.

4.There may also be hemorrhaging from the uterus.

5. There may be infection as a result of unsterile delivery.

Neonatal:

1.intracranial hemorrhage resulting from a sudden change in pressure on the fetal head during rapid expulsion.

2.It may cause aspiration of amniotic fluid,

Nursing Care Plans

The nursing care for patients with precipitous labor revolves around promoting maternal and fetal well-being, prevention of complications, and providing a safe delivery.

1.Risk for Deficient Fluid Volume **2.Anxiety** **3. Risk for Infection**

1.Risk for Deficient Fluid Volume

Nursing Interventions	Rationale
Note client's level of consciousness and mentation.	To evaluate ability to express needs.
Monitor intake and output balance.	To ensure accurate picture of fluid status.
Monitor vital signs.	To establish baseline data and note changes.
Encourage oral intake.	To aid in replacing fluid losses.
Provide supplemental fluids as indicated.	Fluids may be given in this manner if client is unable to take oral fluids.
Administer medications as indicated.	To restore and rule out any underlying conditions.
Review appropriate use of medications.	Those that have potential for causing and exacerbating the present condition.

2.Anxiety

Nursing Interventions	Rationale
Maintain a calm, deliberate manner.	The composure of the nurse and her reassurance helps prevent or alleviate anxiety.
Provide a quiet environment and privacy within parameters of the situation.	Helps reduce “contagious” anxiety of onlookers in or out of hospital delivery and supports modesty.
Encourage partner to remain with the client.	reduces anxiety, and provides assistance for the professional.
Remain with the client. Provide ongoing information regarding labor progression .	Reduces anxiety, fosters positive coping and cooperation, and reduces fear associated with the unknown.
Encourage appropriate coping or relaxation techniques.	Enhances sense of control; optimizes participation in the birth process.
Arrange for services of medical or nursing staff as soon as possible.	The arrival of assistance helps the client or couple feel less anxious and more secure.
Conduct delivery in a calm manner; provide ongoing explanation.	Helps client remain calm and cooperate with instructions.
Place newborn on maternal abdomen once newborn respirations are established. Allow partner to hold infant.	Helps promote bonding and establishes a positive feeling about the experience.
Administer sedation as appropriate.	May help slow labor progress and allow client to regain control.

3.Risk for Infection

Nursing Interventions	Rationale
Observe for localized signs of infection at the wound.	To establish presence of infection.
Stress proper hand hygiene by all caregivers between therapies and clients.	A first-line defense against healthcare-associated infections.
Recommend routine or preoperative body scrubs or showers when indicated	To reduce bacterial colonization.
Maintain sterile technique for all invasive procedures.	To prevent introduction of pathogens
Cover perineal dressings with plastic when using bedpan.	To prevent contamination.
Administer/monitor medication regimen and note client's response.	To determine effectiveness of therapy or presence of side effects.
Emphasize necessity of taking antibiotics as directed.	Premature discontinuation of treatment when client begins to feel well may result in return of infection and potentiation of drug-resistant strains.
Discuss importance of not taking antibiotics or using leftover drugs unless specifically instructed by healthcare provider.	Inappropriate use can lead to development of drug-resistant strains or secondary infections.

Dilation and curettage (D&C): is a minor surgical procedure used to remove tissue from the uterus (womb).

***Dilatation**: opens and widens the cervix (the opening of the uterus).

***Curettage**: (scraping) is used to remove tissue from the uterus.

Indication:

1· Try to find the cause of abnormal bleeding from the uterus

2· Treat abnormal bleeding from the uterus.

3· Remove polyps from the uterus.

4· Remove an IUD.

5· Remove pieces of placenta after childbirth.

6· Remove tissue remaining after a miscarriage.

7· Perform a termination of pregnancy (also called an abortion).

Perioperative Nursing Considerations

1.Stirrups should be padded, and a coccygeal support placed on the table to protect the lower sacral area.

2.Raise and lower the legs together and slowly to prevent disturbances caused by rapid alterations in venous return and/ or injury to the rotator hip joint.

3.Instruments are set up on the black table in order of usage, a scrub person may not be necessary during the procedure.

4.If a fractional D&C is performed, multiple specimens may be obtained. They should be placed in separate containers, and labeled accordingly.

Postoperative nursing care

1.arrange for someone to drive the patient after procedure.

2.Expect some spotting or vaginal bleeding for 3-5 days.

3. The discharge may last 3-4 weeks after an endometrial ablation or hysteroscopic resection.

4. the discharge should slowly taper off. If it increases, or pain increases instead of improving, call doctor .

5.Avoid using tampons or douching and only use pads until the discharge stops.

6. Avoid sexual intercourse for 2 weeks after surgery.

7.Resume normal activities usually in 24-48 hours. .

8. take pain medication as directed by doctor.

9.Resume a normal diet as tolerated.

10. follow up appointment in 2-4 weeks.

Emergency Caesarean -Section

A caesarean section : is the surgical delivery of a baby through the mother's abdomen.

Indication of an emergency caesarean section :

1.Problems with the placenta or umbilical cord

2.Baby's heart rate changes suddenly (fetal distress)

3.Baby appears to be too big to fit through the birth canal

4.Labor is taking too long or not progressing as it should

5.Mother is exhausted or some other maternal health concern emerges.

C-Section - emergency requires anesthesia:

* an epidural or spinal anesthetic.

*a general anesthetic will be used.

Managements of the surgery :

1.A catheter will be inserted into bladder so that it remains empty.

2. A drip in pt. arm and an oxygen mask over nose and mouth.

3.Abdomen will be cleaned with a disinfectant .

4. A blood sample taken, if the pt. have anemia.

5. White stockings, extra fluid, and blood-thinning injections to reduce the risk of a clot forming (deep vein thrombosis).

6. A cuff put on arm to monitor blood pressure, and electrodes placed on chest to monitor heart rate.

7. A sticky plastic plate attached to the leg to act as a harmless earth for the electrical equipment used.

8. An injection of antibiotics to prevent infection.

9.Anti-sickness medicine to prevent vomiting.

10.Strong pain relief during and just after the caesarean.

Risks and complications of an emergency caesarean

C-sections are generally considered safe, but with any type of surgery there are certain risks and complications to be aware of, such as:

1. Excessive bleeding

2.Infections

3.Allergic reaction to medications

4.Blood clots

5.Possible injury to mother's internal organs

6.Possible injury to baby.

Recovery time:

Recovery after a caesarean section: is a lot longer than a vaginal birth.

*There will be some element of pain or discomfort associated with the stitched incision but regular painkillers , as prescribed .

*In the days that follow the procedure, pt. feel very tired and sore.

*suffer from constipation and have difficulty moving.

*stay in hospital for 3 days.

*don't lift anything heavy for about 6-8 weeks after the surgery .

Procedure :

1.Preoperative steps:

this patient was undergoing an emergency caesarean section. In this instance it is now our practice to prep the vagina with iodine solution.

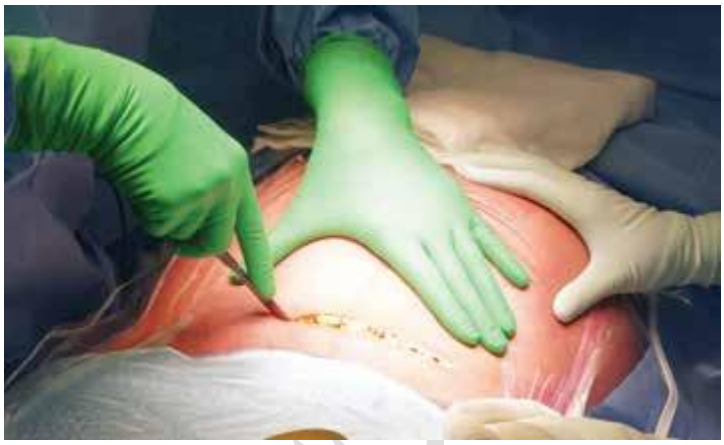
2. IV antibiotics:

currently the Therapeutic Guidelines recommend 2 g IV Cephazolin as routine prophylaxis 15–60 minutes prior to skin incision.

3. Skin preparation for caesarean section with chlorhexidine-alcohol prep, which should be allowed to dry prior to draping. It is important that solution does dry and doesn't pool underneath the drapes, as this is a fire risk and patient burns have occurred previously.

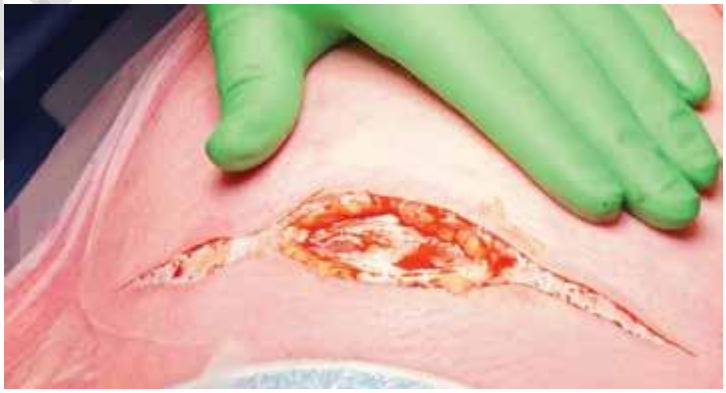
4. Skin incision:

involves making a straight incision 3 cm below the level of the anterior superior iliac spines.



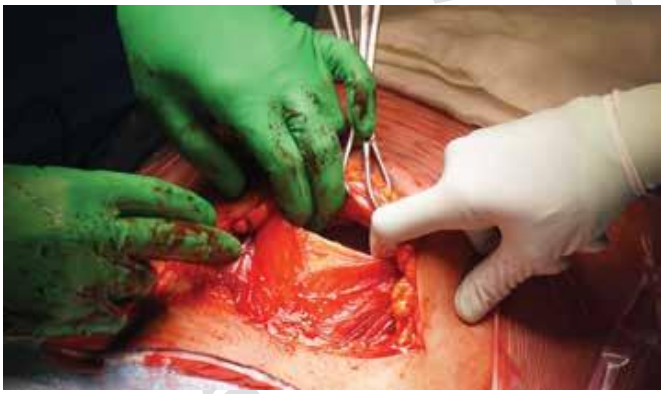
5. Entry technique:

sharp entry through the skin, middle 3 cm of the subcutaneous fat and rectus sheath is demonstrated here

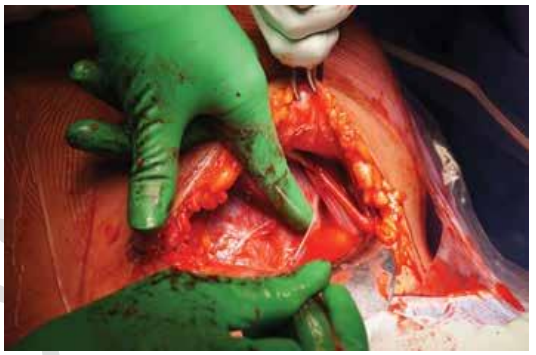


6. Blunt extension of the subcutaneous tissue and rectus sheath.

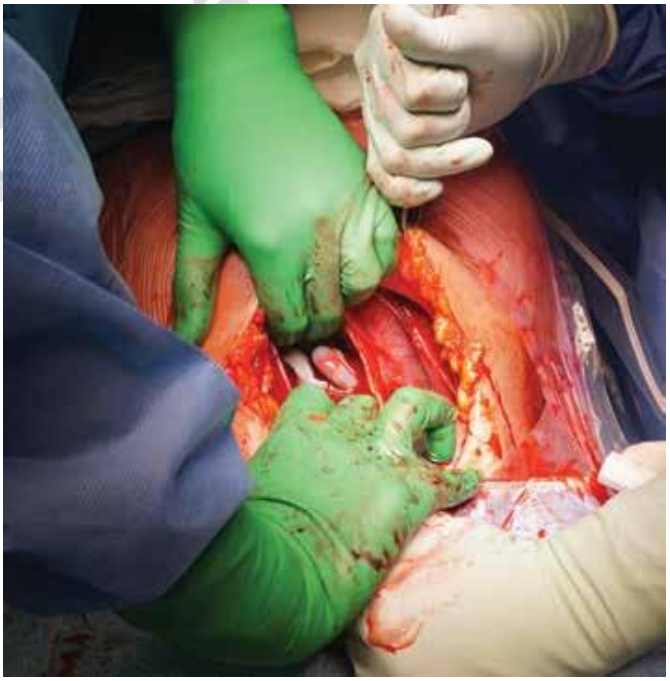
7. Blunt entry into the peritoneal cavity is used as a part of the caesarean section technique. This should be done high in order to avoid entering into the bladder, which may be high following prior CS or in the advanced stages of labor.



8/a (top) & 8b (bottom). Creation of a bladder flap. The loose utero-vesical peritoneum is identified. It should be opened approximately 2 cm below the level of its fixed attachment to the uterus in the midline and extended laterally each side.
The peritoneum can then be picked up with forceps and the bladder gently separated from the lower segment bluntly with the forefinger

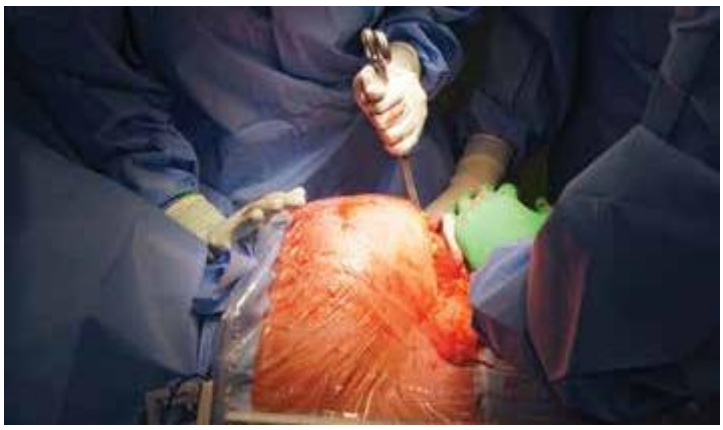


9. Uterine entry: this demonstrates cephalad-caudad blunt extension of the uterine incision performed after making a small 2–3 cm horizontal sharp incision on the lower uterine segment.

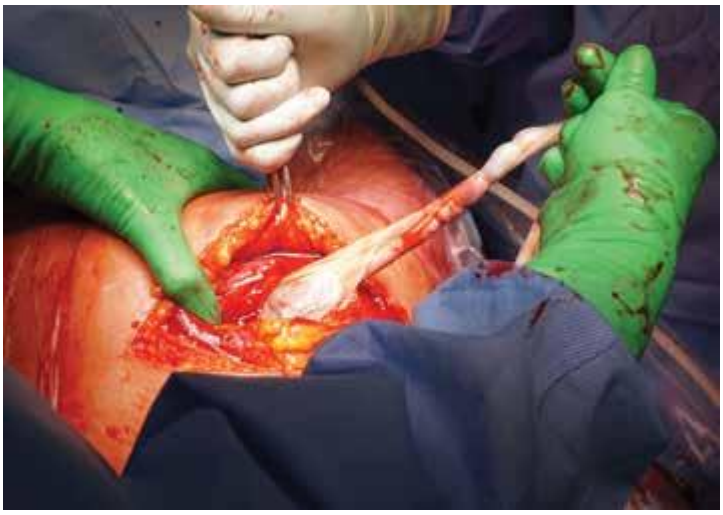


10/a (top) & 10b (bottom). Delivery of the fetal head is usually achieved with flexion and Elevation of the fetal head toward the uterine incision, and then completed with the addition of the assistant giving fundal pressure

(10b). In photo 10a, forceps delivery of the fetal head is demonstrated

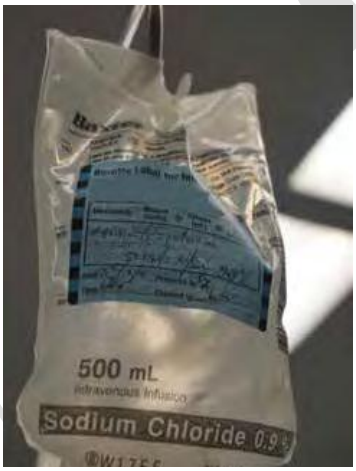


11. Spontaneous delivery of the placenta: fundal massage and controlled cord traction are being used here to achieve spontaneous delivery of the placenta.



12. An oxytocic is usually given following the delivery of the baby to reduce the risk of

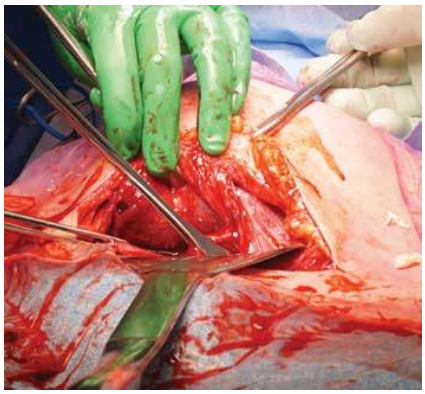
PPH, and here is shown an oxytocin infusion, as is current evidence-based practice.



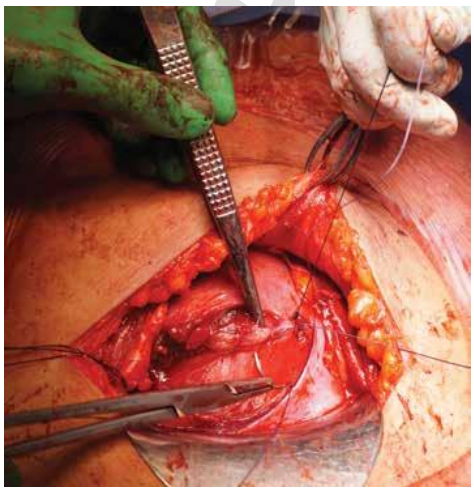
13. Identifying the uterine incision and uterine angles: it is useful to place Green-

Armytage forceps on the upper and lower edges of the uterine incision to ensure they are

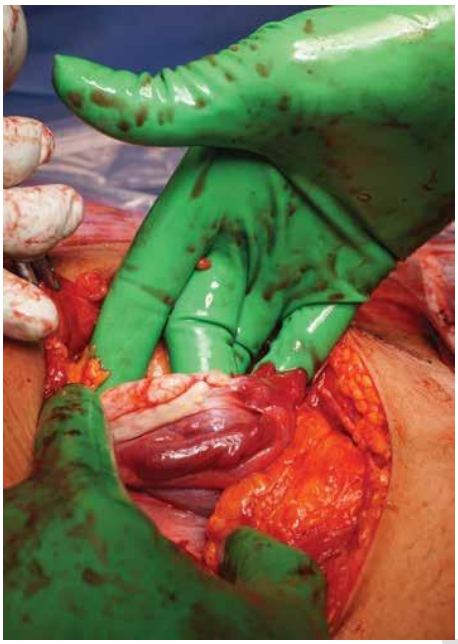
identified correctly (This practice also allows clear identification of the uterine angles that are often secured first).



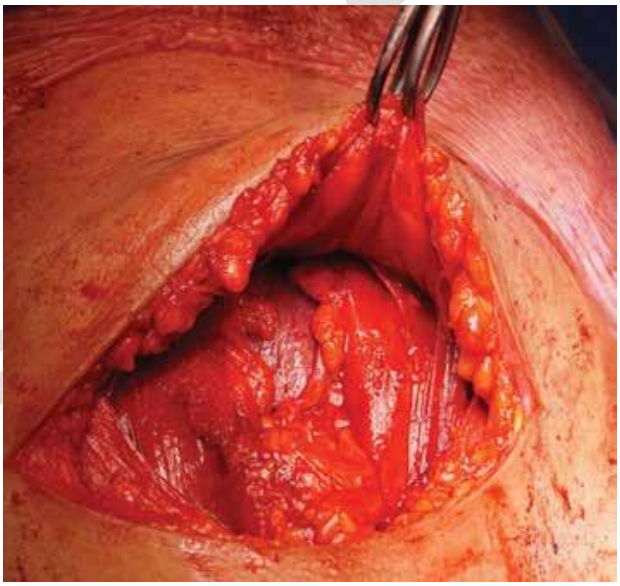
14. Closure of the uterus: here the uterus is closed with a double-layer, non-locking continuous monofilament (1 monocryl) suture. The first layer should include the cut edge of the myometrium and achieves haemostasis. The second layer pulls uncut myometrium together in order to cover the first layer.



15. Checking the tubes and ovaries should be done routinely at caesarean section, so as not to miss any adnexal pathology.

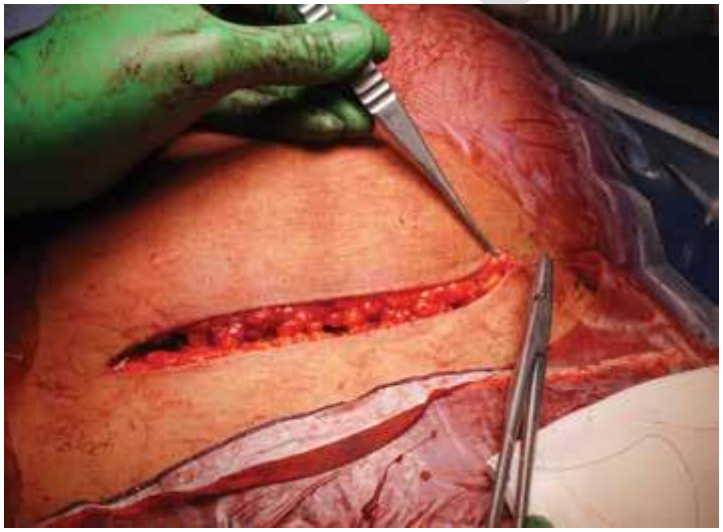


16. Non-closure of the peritoneum. Haemostasis between the rectus sheath and muscle should be checked at this point because of the risk of injury to perforating vessels during entry



17. Rectus sheath closure is demonstrated here with a 1 PDS suture, using a continuous non-locking technique.

18. The subcutaneous fat in this instance has not been closed as it is less than 2 cm. A continuous subcutaneous suture is used for skin closure.



Hysterectomy

An abdominal hysterectomy: is a procedure in which the uterus (womb) is removed through a cut in the abdomen.

Types of hysterectomy:

* **radical hysterectomy:** is the removal of the uterus, cervix, ovaries, fallopian tubes, and pelvic lymph nodes.

* **total hysterectomy** :is the removal of the uterus and the cervix, but not the ovaries or tubes.

* **subtotal hysterectomy :** is the removal of the uterus, but the ovaries, cervix, and fallopian tubes are left in place.

Indication of hysterectomy:

1. Tumors in the uterus .
2. Constant heavy bleeding that has not been controlled by medicine or dilatation and curettage (D&C).
3. Endometriosis - a condition in which the cells that normally line the uterus (womb) grow outside of the uterus.
4. Chronic pelvic pain.
5. Precancerous or cancerous cells or tissue on the cervix or in the uterus

To diagnose these problems the following procedures done:

1. **hysteroscopy :** is a procedure where a thin tube with a light on the end (called a hysteroscope). This tube is put in through the vagina.
2. **laparoscopy**: is a minor surgical procedure. A small incision (cut) is made near navel (belly button) and a tiny tube with a light on the end is put inside the abdomen through the cut.

prepare for an abdominal hysterectomy:(pre operative nursing care):

1. Allow for time to rest.

2. Do not smoking before and after the procedure .

3. minor pain reliever in the week before surgery don't use aspirin

4.Eat a light meal, such as soup or salad, the night before the procedure.

5. Do not eat or drink anything after midnight and the morning before the procedure.

6.Do not even drink coffee, tea, or water at the morning of the procedure.

6. shave the lower abdomen down to the top of the pelvis.

Procedure of the hysterectomy: (operative nursing care):

1. a regional or general anesthetic.

2. The catheter drains urine from the bladder.

3. an(IV) to give fluids and medicines, including antibiotics.

3. The doctor makes a cut in the abdominal wall and the uterus is removed.

Post operative nursing care:

1. The IV and catheter are removed 1 or 2 days after the surgery.

2. stay in the hospital for 3 to 5 days.

3. After go home, get plenty of rest.

4. Do not do heavy lifting for 4 to 6 weeks.

5. dealing with pain and preventing constipation.

the risks associated with this procedure:

1. risks of general anesthesia.

2. develop an infection or bleeding.

3.develop a hernia (weakening of the abdominal muscles, causing the intestines to push into the weakened area.

4. The cut in the abdomen (incision) may have to be reopened & bleeding.

5.bladder or the tubes leading to it may be injured and need surgical repair.

6. A piece of blood clot may break off, enter bloodstream, and block an artery in the lung.

7. intestine (bowel) may be injured during the surgery.