Lesson 4

Prenatal Care

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Prenatal Care/Antenatal Care

It refers to the health care given to a woman and her family during pregnancy.

The primary goal of prenatal care is to provide maximum health to expectant mothers and their babies.

Stages of Prenatal Care

Pre-Consultation Stage

- Demographic data
- Chief concern
- History of Present Illness
- History of Past Illness
- Gynecologic History
- Obstetric History
- Family History
- Partner's Health History
- Physical Examination

Consultation Stage

- High Risk Pregnancy Identification
- Fundal Height Measurement
- Leopold's Maneuvers
- Fetal Heart Rate
- Fetal Activity
- Pelvic Examination
- Laboratory Data

Post Consultation Stage

- Health Teaching

OBSTETRICAL HISTORY

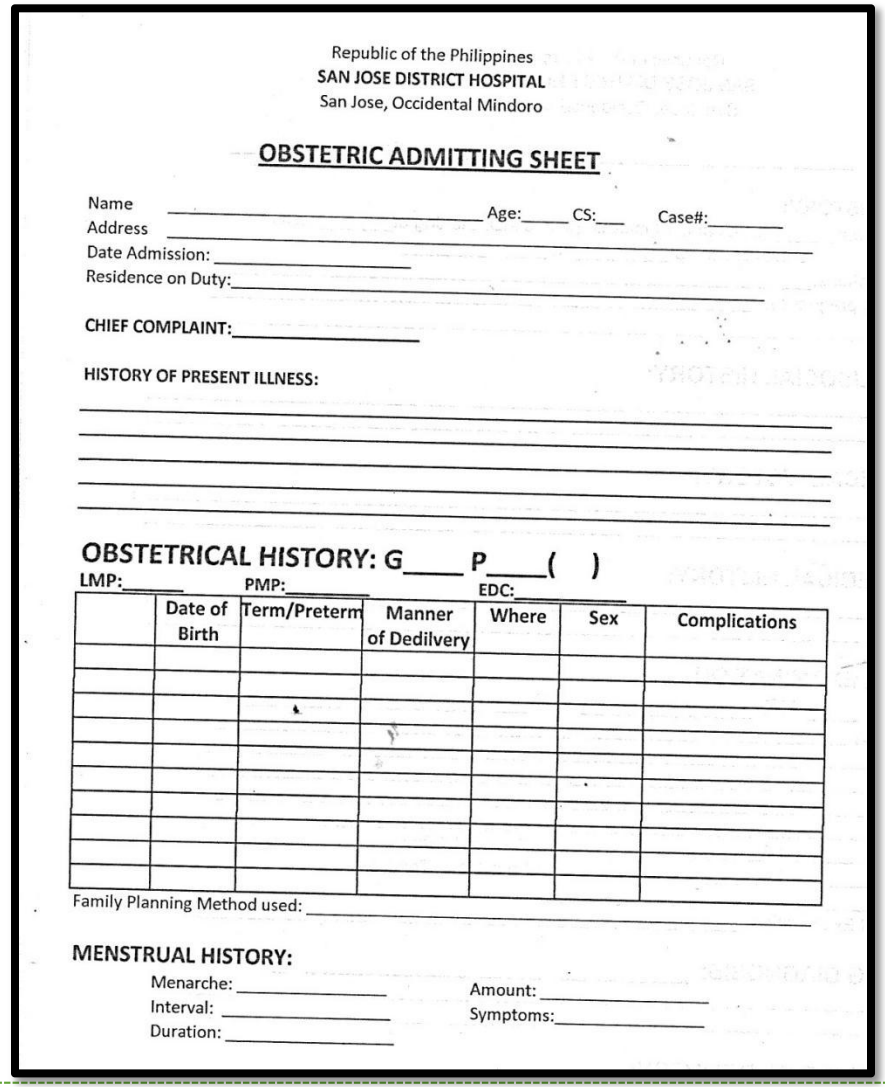
History of **Present** Pregnancy

History of **Past** Pregnancy

History of Past Pregnancies

Included here are the events of the past pregnancies.

1. Number of past pregnancies
2. Pregnancy outcome
3. Labor time
4. Method of delivery
5. Puerperium
6. Complications of labor and puerperium



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SAN JOSE DISTRICT HOSPITAL
San Jose, Occidental Mindoro

OBSTETRIC ADMITTING SHEET

Name _____ Age:____ CS:___ Case#:_____
Address _____
Date Admission: _____
Residence on Duty: _____

CHIEF COMPLAINT: _____

HISTORY OF PRESENT ILLNESS:

OBSTETRICAL HISTORY: G____ P____( )
LMP:_____ PMP:_____ EDC:_____

	Date of Birth	Term/Preterm	Manner of Dedilvery	Where	Sex	Complications

Family Planning Method used: _____

MENSTRUAL HISTORY:
Menarche: _____ Amount: _____
Interval: _____ Symptoms: _____
Duration: _____

Gravida is the number of pregnancies irregardless of the outcome of pregnancy. This includes abortion, molar, ectopic, preterm and term pregnancy.

Multiple pregnancies are counted as one pregnancy.

Para is the number of pregnancies that reached viability. Viability refers to the earliest age at which the fetus can survive extrauterine life if born at that time.

20 weeks
when the fetus has weighed 500 grams at birth.

T number of **full term infants** (≥37 weeks)

P number of **preterm infants** (≤ 37 weeks)

A number of spontaneous or induced **abortions**

L number of **living children** (determine also the sex of each child and the mother's attitude towards each child)

GP (TPAL)

Gravida

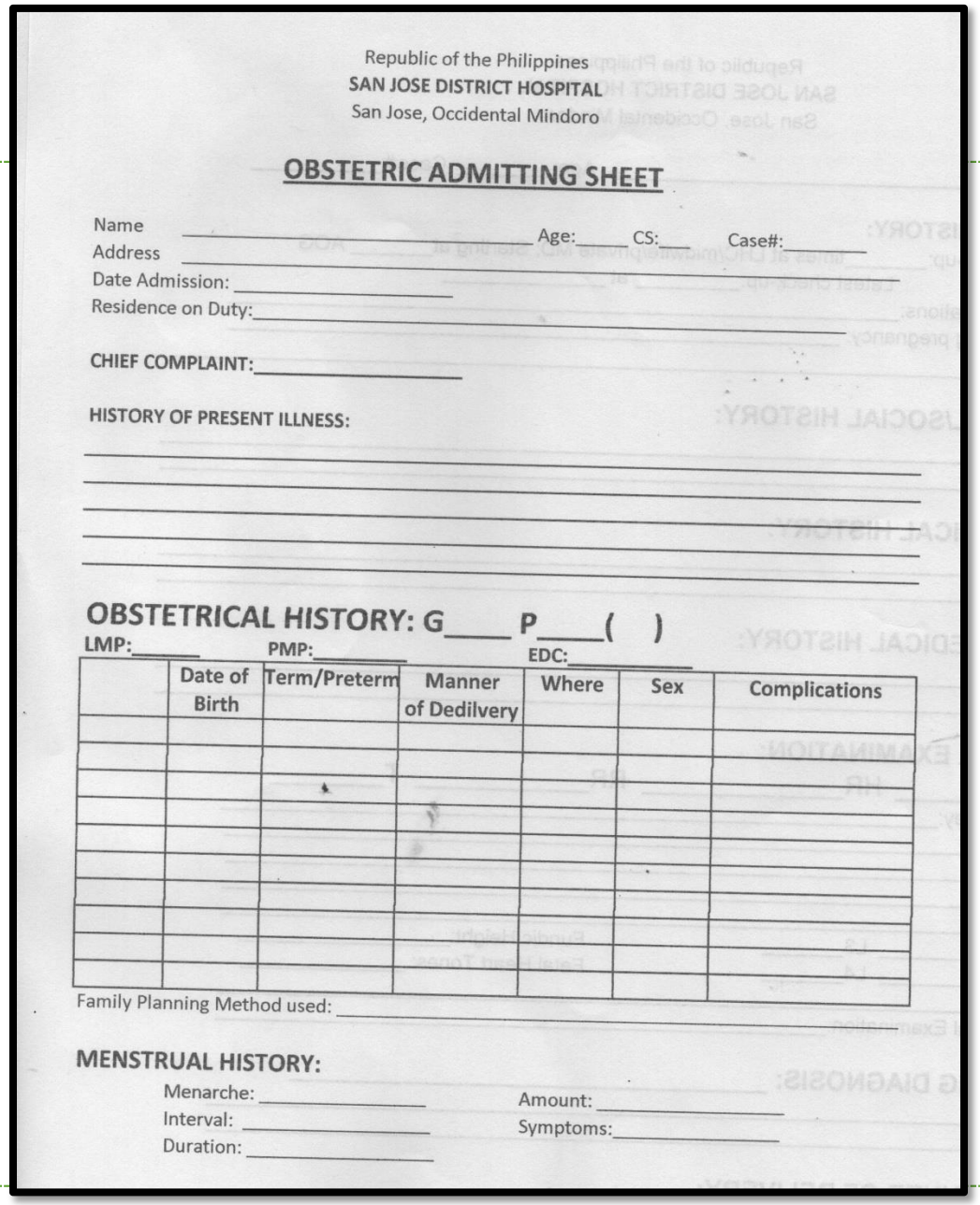
Para

Term

Preterm

Abortion

Living



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Family Planning Method used: _____

MENSTRUAL HISTORY:
Menarche: _____ Amount: _____
Interval: _____ Symptoms:_____
Duration: _____

OB Medical Terminologies:

Gravida refers to a pregnant woman. The number of pregnancies a woman has had irregardless of the outcome of pregnancy.

Nulligravida is a woman who has never been pregnant.

Primigravida is a woman pregnant for the first time.

Multigravida is a woman who has had two or more pregnancies.

Para is the number of pregnancies that reached viability or the number of pregnancies that reached 20 weeks or more, or number of fetus delivered with birth weight of 500 grams or more.

Nullipara is a woman who has never delivered a fetus that reached the age of viability. Such woman may or may not have been pregnant before.

Primipara is a woman who has completed one pregnancy to viability.

Multipara is a woman who has completed two or more pregnancies to viability.

Term infant is an infant born between 37 and 42 weeks gestation.

Preterm Infant is an infant born after 20 weeks but before 37 weeks gestation.

Post term Infant is an infant born after 42 weeks of gestation (primigravida), infant born after 40 weeks of gestation (multigravida).

Parturient is a woman in labor.

Puerpera is a woman who has just delivered within six weeks after delivery.

Live Birth is an infant born with signs of life: breathing, spontaneous movement of voluntary muscles and heartbeat.

Stillbirth is an infant born without signs of life

History of Present Pregnancies

1. Confirmation of Pregnancy
2. Age of Gestation (AOG)
3. Expected Date of Delivery (EDC)

Age of Gestation (AOG)

Gestation is the period of time between conception and birth..

1. **Menstrual Age / Gestational Age** measures from LMP. It is the average duration of pregnancy using the menstrual age of 280 days.

2. **Ovulatory Age / Fertilization Age** measures from the date of ovulation or fertilization. The average duration of pregnancy from ovulation is 267 days.

Menstrual Age / Gestational Age

It is measured in weeks, from the first day of the woman's last
menstrual cycle to the current date.

LMP: Jan. 23, 2012

Clinic Visit: March 2, 2012

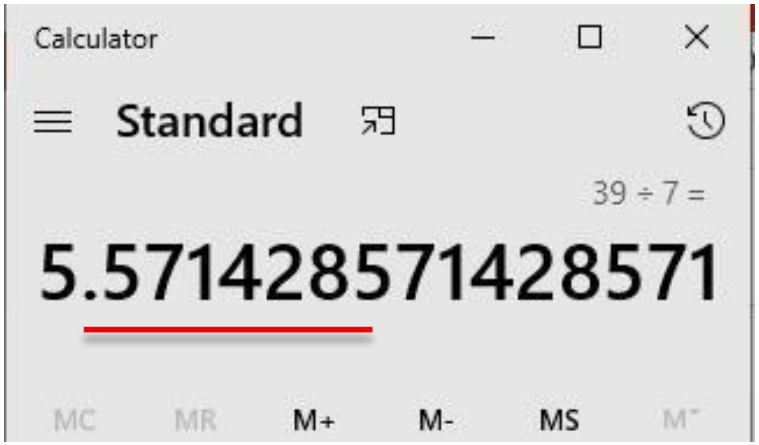
Jan	8	# of days of the month minus the date of LMP
Feb	29	Leap years: 2004, 2008, 2012, 2016…
Mar	2	Date of clinic visit
	39	Total # of days divided by 7 days per week

5 4/7 weeks — **AOG**

Calculator Technique

Screen	Days
0.2857147	2
0.4285714	3
0.5714285	4
0.7142857	5
0.8571428	6

39 ÷ 7 =



5 4/7 weeks

Expected Date of Delivery (EDD)

It is the approximated delivery date of the baby.

Parameters in Detecting Expected Date of Delivery

1. LMP
2. Quickening
3. Ultrasound
4. Fundic Height Measurement

Last Menstrual Period (LMP)

It calculates the length of time from last menstrual period up to the present.

Naegele's Rule

An estimation of date of delivery by subtracting 3 months, adding 7 days to the first day of the LMP and correcting the year.

Formula:

-3 +7 +1 (April-December)

+9 +7 (January-March)

LMP: May 3, 2004

LMP	5	3	2004
	-3	+7	+1
	2	10	2005

EDD: February 10, 2005

December 03, 2008

Confirmation of Pregnancy

1. Signs and symptoms
    - Presumptive signs
    - Probable signs
    - Positive signs
2. Ultrasonography
    - Transabdominal UTZ
    - Transvaginal UTZ
3. Pregnancy Test for HCG
    - Urine
    - Serum

Presumptive Signs

Changes felt by the woman

Time of Occurrence	Sign	Other possible cause
3-4 weeks	Breast changes	Premenstrual changes, oral contraception
4 weeks	Amenorrhea	Stress, vigorous exercise, early menopause, endocrine problem, malnutrition
6-16 week	Nausea and vomiting	GI virus, food poisoning
6-12 weeks	Urinary frequency	Infection, pelvic tumors
12 weeks	Fatigue	Stress, illness
16-20 weeks	Quickening	Gas, peristalsis

Probable Signs

Objective findings that can be documented by an examiner.

Time of Occurrence	Sign	Other possible cause
5 weeks	Goodell's sign	Pelvic congestion
6-8 weeks	Chadwick's sign	Pelvic congestion
6-12 weeks	Hegar's sign	Pelvic congestion
4-12 weeks	Positive pregnancy test (serum)	H-mole
6-12 weeks	Positive pregnancy test (urine)	Pelvic infection, tumor
16 weeks	Braxton Hick's contractions	Myomas, tumor
16-28 weeks	Ballotement	Tumor, cervical polyps

Chadwick	Vagina
Goodell	Cervix
Hegar	Uterus

Note:

Arrange them anatomically from external to internal organ, them match with alphabetized sequence.

Positive Signs

They are absolute signs of pregnancy.

FETAL

Heart Tone

Movement

Outline

Auscultation of Fetal Heart Sounds

3 months (**Doppler**)

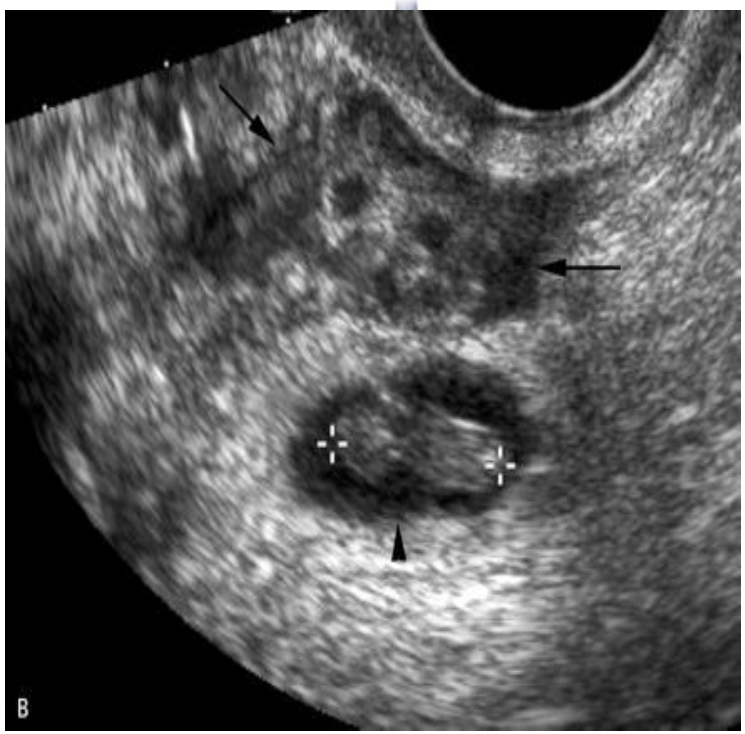
4 months (**Fetoscope**)

5 months (**Stethoscope**)

Fetal Movement Felt by Examiner from 20 weeks onward

Fetal Outline

Transabdominal ultrasound is using probe placed above the abdomen to confirm pregnancy as early as 5 to 6 weeks of gestation.



Transvaginal ultrasound used probe placed in the vagina to detect pregnancy as early as 16 days after ovulation.

It is most accurate method of confirming intrauterine pregnancy.

Pregnancy Test for HCG

SERUM

URINE

Beta subunit of human chorionic gonadotropin (HCG)

8 – 9 days after conception

42 days after the LMP

2 weeks after the first missed period

The most sensitive and specific pregnancy test.

The first voided urine in the morning is the best specimen to use.

Quickening

It occurs at 20 weeks in primiparas and 16 weeks in multiparas.

Primigravida: add 22 weeks to the date of quickening.

22 weeks = 5 months + 2 weeks

Multigravida: add 24 weeks
to the date of quickening.

24 weeks = 6 months

Melai, a primagravida, experienced the first movement of her baby last May 1, 2014. When will be her EDD?

Quickening:

5	1	14
+5	+14	
10	15	14

EDD: October 15, 2014

Ultrasound

The earlier ultrasound is performed in pregnancy, the more accurate is the EDD and AOG.

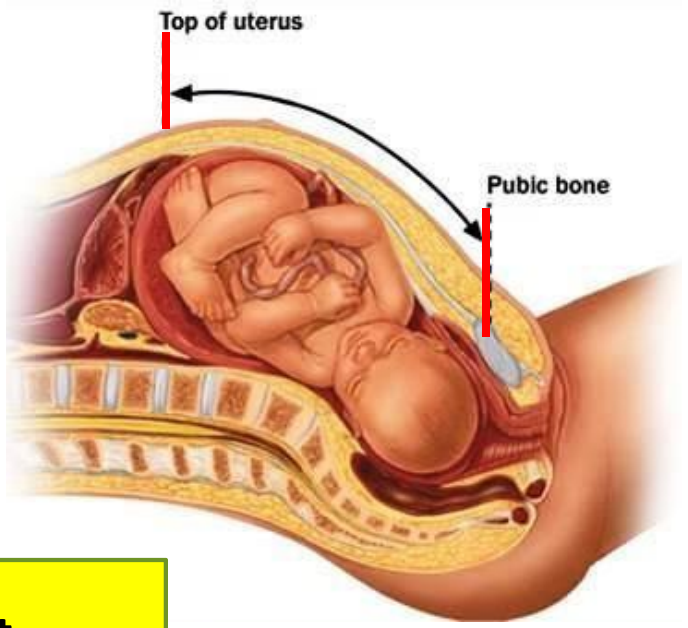
Trimester	EDD
1st trimester	-/+ 5 days
2nd trimester	-/+ 10 days
3rd trimester	-/+ 3 weeks

Marie Keth is 12 weeks pregnant. Her UTZ report states that will be expecting her newborn on March 23, 2014. During what dates she would prepare for her delivery?

March 18 – 28, 2014

Fundic Height Measurement

1. Place the client in supine position.
2. Place the end of the tape measure at the level of the symphysis pubis.
3. Stretch the tape to the top of the uterine fundus.
4. Note and record the measurement.



It should be measured **every clinic visit**.

To ensure accuracy, the woman should **empty her bladder**.

Fundic height increases as the fetus inside the uterus grows.

McDonald's Rule

It is an estimation of AOG in months and weeks by fundic height measurement.

Formula:

FH x 2/7 = AOG in months

FH x 8/7 = AOG in weeks

Example:

The fundic height is 20cm. Estimate the AOG.

20 cm x 2/7

AOG = 5-6 months

20 cm x 8/7

AOG = 22-23 weeks

Modified Mc Donald's Rule

It is an estimation of AOG from 22 weeks until term, the fundic height in cm approximately equals the fetus' age in weeks -/+ 2 cm.

Example:

The fundic height is 28 cm. Estimate the AOG.

28 – 2 = 26

28 + 2 = 30

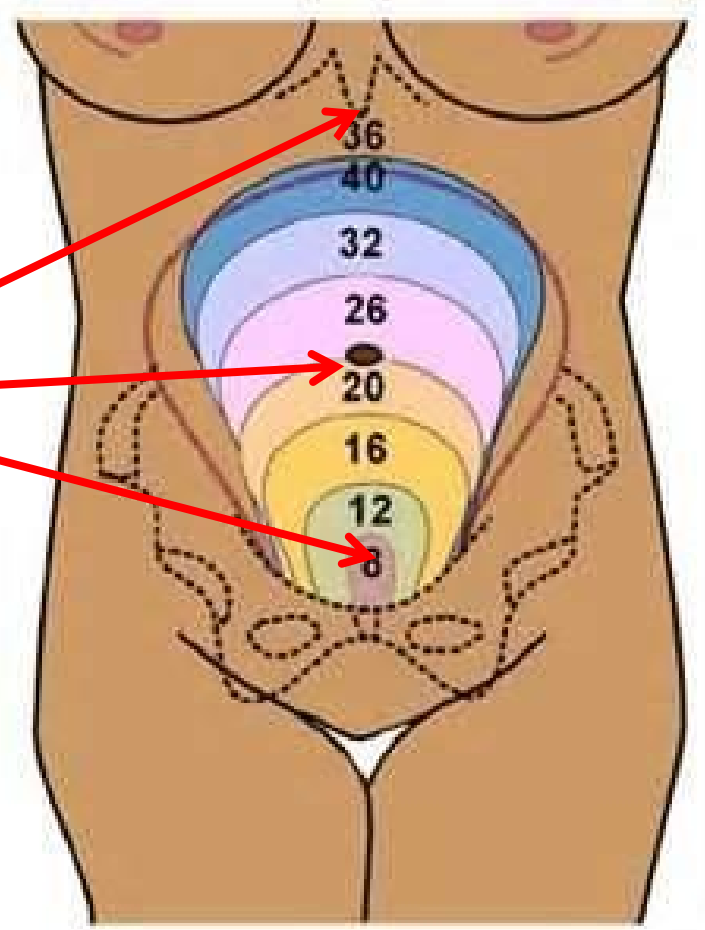
AOG = 26-30 weeks

Bartholomew's Rule of 4's

It measures AOG by determining the position of the uterus in the abdominal cavity.

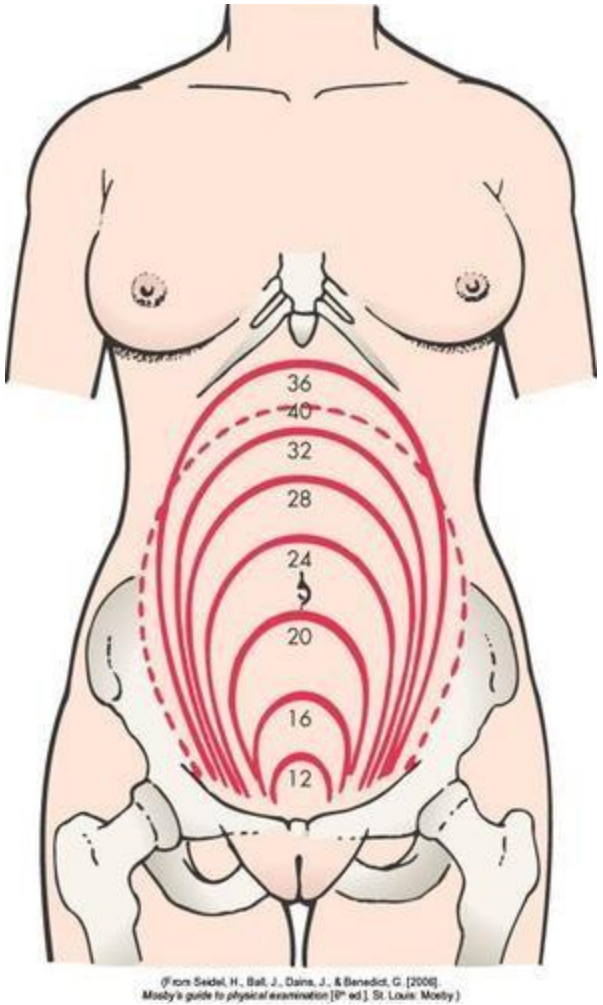
The different landmarks in the abdomen:

1. Symphysis pubis
2. Umbilicus
3. Xiphoid process



Fundic Height at Different Stage of Gestation

Weeks	Location
12	Level of symphysis pubis
16	Halfway between umbilicus and symphysis pubis
20	Level of umbilicus
24	2 fingers above umbilicus
28 - 30	Halfway between umbilicus and xiphoid process
32 - 34	Just below xiphoid process
36	Level of xiphoid process
40	Just below xiphoid process



(From Seidel, H., Ball, J., Dains, J., & Benedict, G. [2006]. *Mosby's guide to physical examination* [6th ed.]. St. Louis: Mosby.)

Interpretation:

Greater Fundal Height Than AOG

- Multiple pregnancy
- Miscalculated due date
- Polyhydramnios
- Hydatidiform mole

Lesser Fundal Height Than AOG

- Fetal growth rate retardation
- Fetal death
- Error in estimating AOG
- Oligohydramnios

Johnson's Rule

It estimates the weight of the fetus in grams.

Formula:

FH in cm – N x 155

N is 12 if the fetus is engaged.

N is 11 if the fetus is not yet engaged.

Example:

A fundic height of 28 cm, and the fetus is not engaged. Estimate the fetal weight.

28 cm – 11 x 155 = 17 x 155

= **2635 grams**

Haase's Rule

It is an estimation of fetal length in centimeters.

Formula:

AOG on the first 5 months = square age in months

Example: 3 months = 9 cms

AOG between 6 – 10 months = multiply age in months by 5

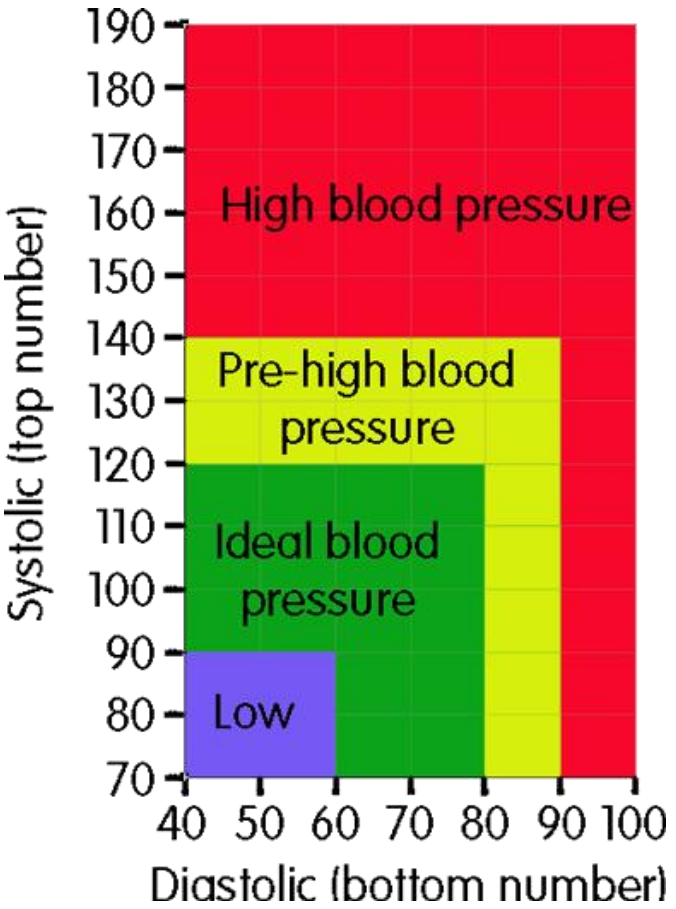
Example: 7 months = 35 cms.

PHYSICAL EXAMINATION

When performing physical examination on a pregnant client, pay special attention to the **reproductive organs** and other systems most affected by pregnancy.

Vital Signs

Blood Pressure is the most important vital sign that should be monitored every clinic visit. **There is no significant change in BP during gestation.** However expect a slight drop in the second trimester that returns to normal on the third trimester.



Always take the BP in **sitting position**. If the diastolic pressure on the initial assessment is above 90mmHg, let the woman rest for one hour and take the BP again. If diastolic BP is still elevated, ask the woman if she has:

- Severe headache
- Blurred vision
- Epigastric pain
- Check protein in urine

Roll-Over Test is used to screen patients at risk in developing **Pregnancy Induced Hypertension (PIH)**.

It is performed between 20 to 32 weeks gestation.

4. Place woman in left lateral position and take BP.
5. Roll woman on her back and take a second BP.
6. Take another BP after 5 minutes in the same position.
7. The test is positive if there is a 20 mmHg or more elevation in diastolic pressure.

Mean Arterial Pressure (MAP) is the average pressure in a patient's arteries during one cardiac cycle.

It is performed between 28 to 32 weeks of gestation.

The test is positive if MAP is more than 85 mmHg.

$$MAP = \frac{SBP + 2\,(DBP)}{3}$$

Nelia is 30 weeks pregnant. Upon clinic visit, her BP is 130/90 mmHg. Compute the MAP.

$$MAP = \frac{130 + 2\,(90)}{3}$$

$$= \frac{130 + 180}{3}$$

$$= \frac{310}{3}$$

MAP = 103.33 mmHg

Pulse Rate

PR increases by about 10 bpm due to increase cardiac workload.

Arryhythmias or palpitations are normal during pregnancy as long as it is not accompanied by dizziness and syncope.

Respiratory Rate

Increases in depth, no significant change in rate.

Shortness of breath and dyspnea late in pregnancy is common.

Temperature

Slight elevation of temperature early in pregnancy due to the thermogenic effect of progesterone.

It drops to normal after 16 weeks.

Leopold's Maneuver

It is a systematic method of observation and palpation to determine fetal presentation and position.

It is preferably performed after 24 weeks gestation when fetal outline can already be palpated.

Preparation:

Instruct woman to empty her bladder first.

Place the woman in dorsal recumbent position, supine with knees flexed to relax abdominal muscles. Place a small pillow under the head for comfort.

Drape properly to maintain privacy.

Warm hands first by rubbing them together before placing them over the woman's abdomen. Cold hands may stimulate uterine contractions.

Use palm for palpation not fingers.

First Maneuver: Fundal Grip

Purpose:

To determine fetal part lying in the fundus.

To determine fetal presentation.

Procedure:

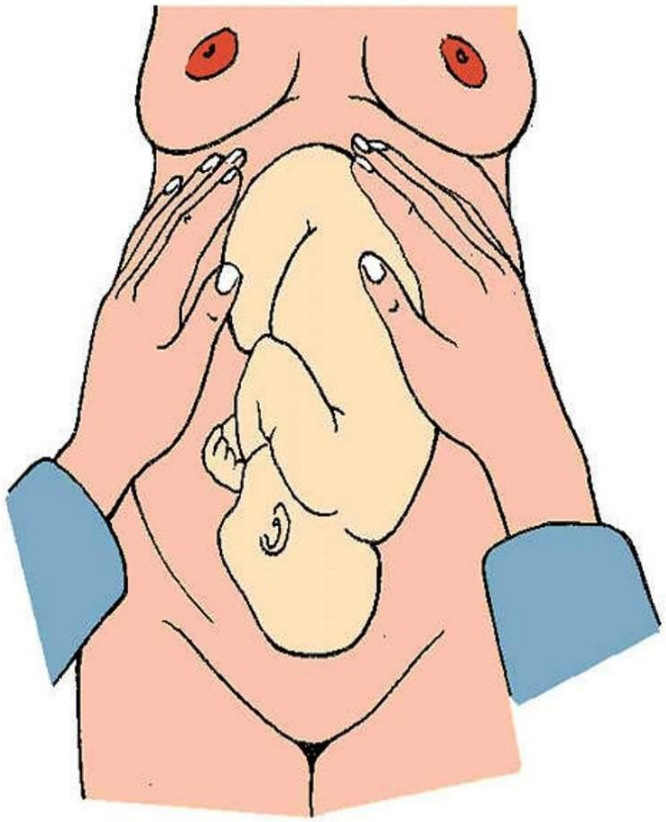
Place both hands in the upper quadrant of the patient's abdomen.

sing both hands, feel for the part lying in the fundus.

Findings:

Breech presentation: head (round, smooth with transverse groove of the neck).

Vertex presentation: buttocks (soft and angular).



First maneuver

Second Maneuver: Umbilical Grip

Purpose:

To identify location of the fetal back.

To determine the position.

Procedure:

Place both hands in the paraumbilical regions.

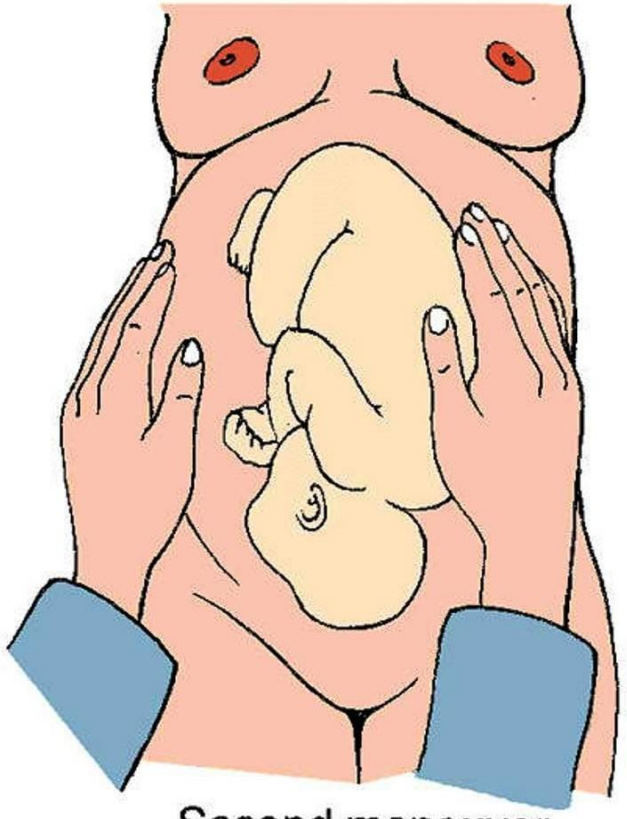
One hand is used to steady the uterus on one side of the abdomen while the other hand on the other side moves from top to the lower segment of the uterus to feel for the fetal back and small parts.

Use gentle but deep pressure.

Findings:

Small fetal parts feel nodular with numerous angular nodulations.

Fetal back feels smooth, hard, like a resistant plane.



Second maneuver

Third Maneuver: Pawlik's Grip

Purpose:

To determine engagement of presenting part and to estimate fetal station.

To determine presentation.

Procedure:

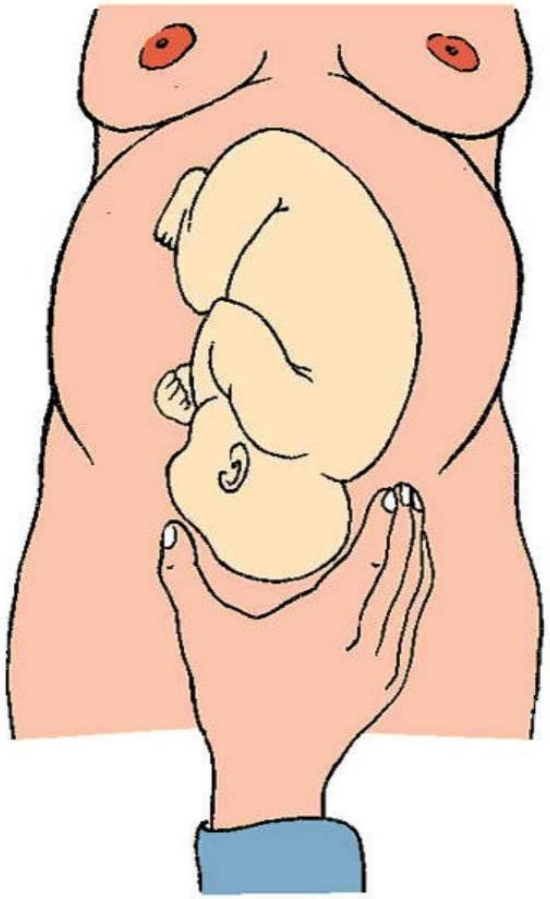
Place the dominant hand in the suprapubic area.

Using thumb and fingers, grasp the lower portion of the abdomen above the symphysis pubis, press in slightly and make gentle movements from side to side.

Findings:

The presenting part is engaged if it is not movable.

It is not yet engaged if it is still movable



Third maneuver

Fourth Maneuver: Pelvic Grip

Purpose:

To determine the degree of flexion of fetal head.

To determine fetal attitude or habitus.

Procedure:

Place both hands in the lower quadrants of the abdomen.

Facing foot part of the woman, palpate fetal head pressing downward about two inches above the inguinal ligament.

Findings:

If descended deeply, only small portion of the feta head will be palpated.

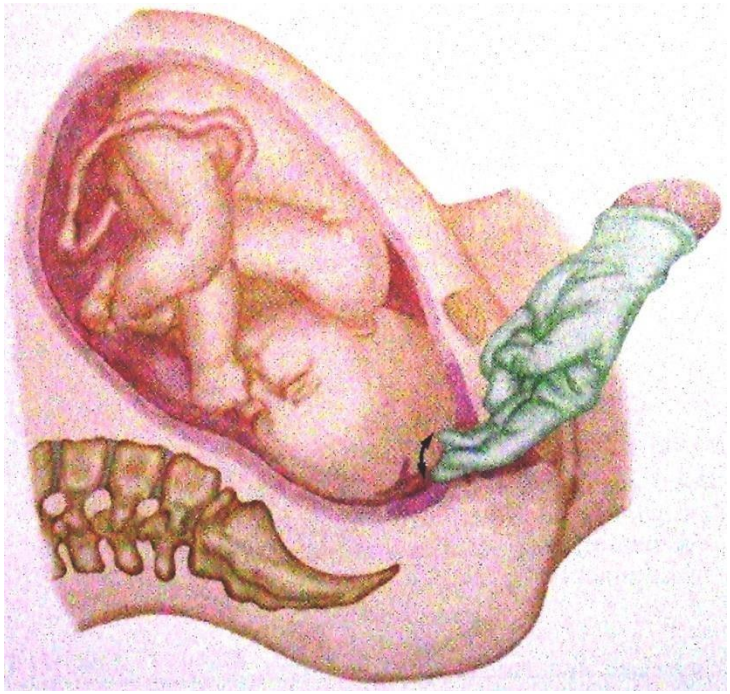
If cephalic prominence or brow of the baby is on the same side of the small fetal parts, the head is flexed.

If cephalic prominence is on the same side of the fetal back, the head is extended.

Fourth maneuver

Internal Examination

It involves the midwife by putting on a sterile glove and often using an antiseptic cream, applied to the first and second fingertips. Their two fingers are then gently inserted into the woman's vagina.



Purpose:

During the first clinic visit, IE is used to confirm pregnancy and gestation.

On the last trimester, IE is performed to assess consistency of the cervix, length and dilatation, fetal presenting part, bony architecture of the pelvis, anomalies of the vagina and perineum.

Preparation:

Explain the procedure. It may be slightly uncomfortable.

Let the woman empty her bladder first.

Provide good lighting.

Place the woman in lithotomy position with buttocks extended slightly beyond examining table.

Drape properly.

Let support person stay at the head of bed.

Instruct the woman not to:

Hold or squeeze your hands or that of her husband.

Hold her breath.

Close eyes tightly.

Clench fist.

Contract perineal muscles.

After the procedure, provide tissue to wipe perineum of lubricant.

LABORATORY TESTS

Complete Blood Count (CBC) – to detect infection or cell abnormalities.

Hemoglobin (Hgb) or **Hematocrit (Hct)** – to detect anemia.

Normal Hgb level is 12-16mg/dl

Normal Hct count is 37-47%

Blood Grouping – to determine blood type.

Rh Factor – for possible maternal- fetal blood incompatibility.

Venireal Disease Research Laboratory (VDRL) – for screen maternal syphilis.

HIV Screen – to detect HIV antibodies.

Rubella Antibody Titer – to determine woman's immunity against German measles.

Oral Glucose Challenge Test – to screen for gestational diabetes.

Maternal Serum Alphafetoprotein (AFP) – to determine for fetal abnormalities.

Hepatitis B Screen – to detect presence of Hepa B antigens in maternal blood.

Cervical Culture – to detect for STDs.

Tuberculin Test – screen for tuberculosis.

Urinalysis – to detect infection, renal disease, diabetes.

FETAL ASSESSMENT

Fetal Heart Rate

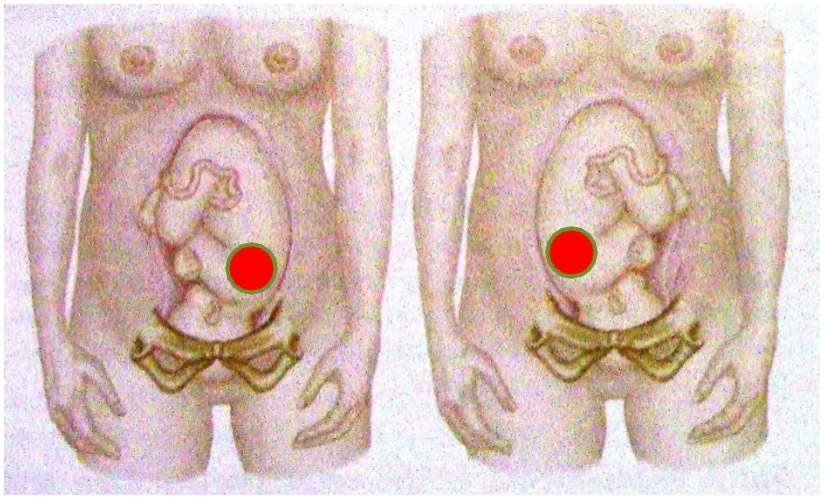
Normal FHR is 120 – 160 bpm.

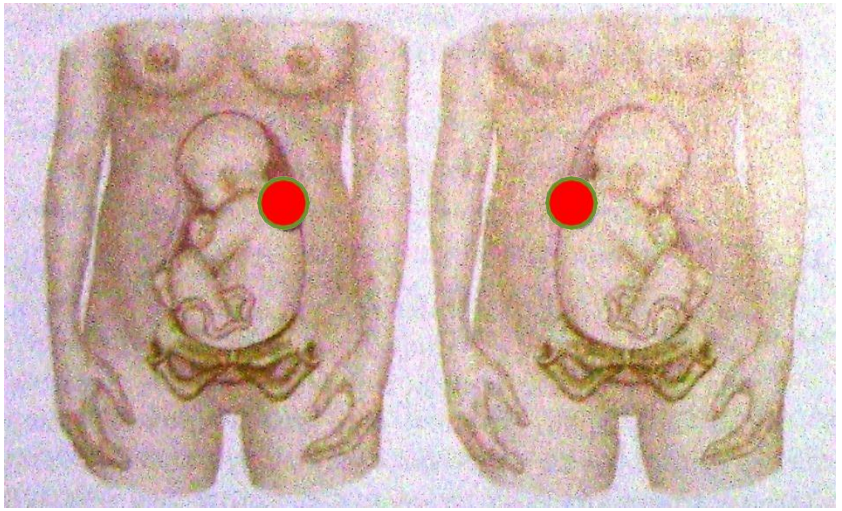
Fetal heart tone heard in an upper quadrant of the abdomen suggests that the fetus is in breech presentation.

Fetal Movement

It is first noticed by the expectant mother at 16 weeks (multigravida) to 20 weeks (primigravida).

Fetal activity indicates that the fetus is physically healthy.





MINOR DISCOMFORTS OF PREGNANCY

- Nausea and Vomiting
- Urinary Frequency
- Syncope
- Fatigue
- Nasal Stuffiness
- Breast Tenderness
- Leukorrhea
- Heartburn
- Leg Varicosities
- Vulvar Varicosities
- Hemorrhoids
- Constipation
- Backache
- Ankle Edema
- Headache
- Shortness of Breath / Dyspnea

MINOR DISCOMFORTS OF PREGNANCY

Nausea and Vomiting

Urinary Frequency

Syncope

Fatigue

Nasal Stuffiness

Breast Tenderness

Leukorrhea

Heartburn

Leg Varicosities

Vulvar Varicosities

Hemorrhoids

Constipation

Backache

Ankle Edema

Headache

Shortness of Breath / Dyspnea

NORMAL

Danger Signs of Pregnancy

1. Vaginal bleeding of any amount
2. Persistent vomiting
3. Chills and fever
4. Sudden escape of fluid from vagina
5. Swelling of face and fingers
6. Visual disturbances
7. Painful urination or dysuria
8. Abdominal pain
9. Severe or continuous headache

Danger Signs of Pregnancy

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REFERRAL