Antepartum care (ch7)

• Preconception care:

women's health before pregnancy is really important, thus **several models of preconception care have been developed … why we need it?**

- By the time the pregnant women have their first prenatal visit, it is too late to **address** and to **reduce** (how?? Our goals are assessing the risk + optimizing the health + medical intervention "in prenatal") the risk of some birth defects like:
  - **Poor placental development (due to preeclampsia)**
  - **low birth weight (<2500 grams) (seen in Preterm birth, and IUGR).**

> * **REMEMBER**: Organogenesis begins early in pregnancy and placental development starts with implantation, about 7 days after conception.

who mostly need it?

- Women who are in high-risk are those with obesity, diabetes, or hypertension … etc.
  - Preconception care in this type of women should be started 6 months to 1 year before conception is attempted.
  - **Examples of medical conditions:**

Affected by pregnancy:

1- **SLE:**

- Pregnancy **should** occur during disease **quiescence**, for less 6 months EGA
- **If disease activate during pregnancy**: adverse maternal and obstetrical complication
- All SLE medication should be reviewed
- **Goal:** maintain disease control with maximizing safety profile

2- Hypertension:

- **Classification:**

Normal: <140/90	Mild to moderate: 140-159/90-109 → no benefit of treat it	Severe: >160/90 → must treat it

- **Treatment:** methyldopa or labetalol
- **Contraindication:** ACE inhibitors, angiotensin II receptor blockers, direct renin inhibitors
- **Pregnancy risk:** Superimposed preeclampsia, Placental abruption and Fetal growth restriction.

3- DM:

Can lead to organ damage, that lead to Life-threatening: Diabetic nephropathy, Diabetic retinopathy and Hypertension

- ↓ Perinatal mortality, because ability to control glucose level by insulin and hyperglycemic agent.

Affect the pregnancy:

1- DM:

The relationship between the hemoglobin A1C level and fetal malformation Risk:

Hg A1c	fetal malformation risk
<7	Baseline
7.2-9.1	14%
9.2-11.1	23%
>11.2	25%

- Diabetic related fetal malformation: CVS, CNS, Gastric and genital urinary, Skeleton

- The relationship between the hemoglobin A1C level and mischarge rate:
- If Hg A1c level = 11 → 44% mischarge rate

Remember: the organ formation occurred at 3-10 week EGA

What are the element of preconception care?

Risk Assessment of:	- Reproductive life plan, - Past reproductive history (their outcomes), - Past medical history (+ screen for ongoing chronic conditions such as HTN and DM), - Medications (Review current + Avoid category X drugs) , - Infections (Screen for urogenital[1] + STDs) and immunizations (hepatitis B, rubella[2], varicella, TORCH)[3], - Genetic screening and family history (Assess risk of chromosomal or genetic disorders based on family history[4], ethnic background[5], and age), - Nutritional assessment: BMI, biochemical (anemia[6]), - Substance abuse (smoking, alcohol, drug use), - Psychosocial concerns: intimate-partner violence (leads to poor reproductive outcomes), - Physical examination (thyroid, heart, breasts, and pelvic examination.), - Laboratory tests: CBC (, urinalysis, cervical cytology, diabetes, TSH.

[1] Screening for, and treatment of asymptomatic bacteriuria significantly reduces the risk of pyelonephritis and preterm delivery.
[2] Its vaccination is contraindicated during pregnancy, if pregnant found to be seronegative should be vaccinated immediately postpartum.
[3] Remember we do this before the prenatal care bc if she is infected we can't give her a live vaccination during pregnancy since they cause fetal malformation.
[4] If mother and father both carriers' disease: Can do pre-implantation genetic diagnosis to diagnosis the embryo before implantation, or conceive natural and fetus can be test it for disease by Chorionic villus sampling, or Amniocentesis.
[5] - SCD: African descent, - Beta & alpha thalassemia: Southeast Asian and African descent, - Cystic fibrosis: European
[6] remember: folic acid and Iron.

Health Promotion:	- Family planning: based on a woman's reproductive life plan "if not planning on getting pregnant, promote effective contraceptive use", - Healthy weight, nutrition, behaviors and environments: exercise, safe sex, effective use of contraception - Stress resilience.

- **Prenatal care:**

- Women who is receive Antepartum care in **1st trimester** had better pregnancy outcome.
- Good **Hx** of OB, Gyne and medical problems + identification of the Risk factors + A complete **physical examination** (including general[7], breast, pelvic[8]) are essentials.
- The clinician should use the first prenatal visit to **confirm pregnancy*** and **determine viability***, **estimate gestational age** and **due date**, diagnose and deal with early pregnancy loss, **provide genetic counseling.**

* mentioned in abortion lecture

1- Confirming Pregnancy:

- Probable signs: enlargement of the uterus, uterine contractions or fetal movement, Hegar sign (softening of the junction between the corpus and cervix),
- Pregnancy symptoms (Presumptive signs): fatigue, vomiting, nausea, breast tenderness, Amenorrhea.
- **Definitive sign: Home (urine) pregnancy test : positive when beta HCG ≥ 25, less than 5 IU/L is considered negative, (gives the quality not the quantity like the blood test[9])**

2- Determining Viability:

- DEFINITION: the **lowest age** at which we can deliver the baby and resuscitate him in the (ICU) and he can be a live and not a handicap. This number comes down when ever we have adequate the bower and the facility.
- This done by 2 ways:
  1- **The level of HCG[10]:** In the first 30 days of a normal gestation, the level of hCG **doubles every 2.2 days.**
  2- **US:** findings that improve the viability:
    - Gestational sac > seen at 5 weeks' gestation,
    - Fetal pole > seen at 6 weeks,
    - Fetal cardiac motion > seen at 6-7 weeks

3- Estimating Gestational Age + "due date":

- Gestational age should be determined during the first prenatal visit…? for management of some conditions: preterm labor, IUGR, and postdate pregnancy.

Menstrual Dating:	Naegele's rule:	Ultrasonography[11]:
Due Date: determined by: 1st day of LMC **+ 9 months + 7 days.** - In case of regular period, **Duration** is determined to be **280 days or 40 weeks from the LMP[12]**. - In case of **irregular cycle**, Ultrasonography is used to estimate gestational age. - The accuracy of menstrual history is ±1 week[13]. To Know why? (open kaplan ch4 p37)	**Due Date*:** (LMP - 3 months + 7 days) * Assuming 28-day cycles,	**Due Date:** - Depends on the gestational age. - earlier sonograms are more accurate than later ones. - At (12-20) weeks, **Gestational Age** can be determined within 10 days by the average of multiple measurements (e.g., biparietal diameter, femur length, abdominal and head circumferences).

* to know what should happen in each trimester, see Kaplan ch4 p 39

4- follow up:

- every 4 weeks, until 28 weeks
- every 2 weeks, until 36 weeks
- every 1 weeks, until delivery

During visit asses: weight , blood pressure, fetal assessment

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[7] physical findings associated with normal pregnancy, such as systolic murmurs, exaggerated splitting and S3 during cardiac auscultation, or spider angiomata, palmar erythema, linea nigra, and striae gravidarum.
[8] appearance and length of the cervix and the status of the last Pap smear should be documented, or a new Pap smear obtained
[9] The hCG molecule is first detectable in serum 6-8 days after ovulation.
[10] In patients whose pregnancies are destined to abort, the level of hCG rises more slowly, plateaus, or declines.
[11] It has an added value by determining the location of the pregnancy + number of fetuses
[12] Remember this depends on the cycle length which normally vary from 21 to 35 days.
[13] Precise Day of Ovulation: (21-day cycle "3w": day 7), (28-day cycle "4w": day 14), (35-day cycle "5w": day 21)

5- Prenatal Laboratory Testing:

<table>
<tr><td rowspan="5">1st trimester</td><td>CBC:</td><td>- Hemoglobin: Normally in pregnancy it range is 10-12g/dl (remember the dilutional effect of greater plasma volume increase than red blood cell (RBC) mass).
- (MCV): MCV may be the most reliable predictor of true anemia. (revise the UTI and anemia in pregnancy lecture).
- Platelet count: low platelet most likely indicate gestational (pregnancy-induced) thrombocytopenia.</td></tr>
<tr><td>Infection:</td><td>- Urine Screening:
1- Urinalysis: Assessment of proteinuria, ketones, glucose, leukocytes, and bacteria is important to screen for underlying renal disease, diabetes, and infection,
2- Culture: Screening for asymptomatic bacteriuria (ASB) is essential
- STD Screening: cervical culture, - TB screening: is not done routinely and performed only on high-risk populations
- HIV Screening: recommended for all pregnant women as part of the initial lab testing,</td></tr>
<tr><td>Cervical Pap Smear:</td><td>Cervical cytology screening can identify if the mother has cervical dysplasia or malignancy; <u>not routinely</u></td></tr>
<tr><td>Type, Rh:</td><td>- The patient’s blood type and Rh is determined with the direct Coombs test. If the patient is Rh negative, she is at risk for anti-D isoimmunization.
- Women who are <u>Rh</u> negative should receive RhO(D) immune globulin (RhO-GAM) at 28 weeks’ gestation and postpartum, and at any point of care when sensitization may occur.</td></tr>
<tr><td>Immunization:</td><td>- Rubella IgG Antibody: 1-Present > Immunity, 2- Absent > Susceptibility.
- Hepatitis B Virus: 1- Surface antibody > successful vaccination, 2- Surface antigen[14]: (if present > either a previous or current infection), 3- E antigen: if present > signifies a highly infectious state.
SAFE AND UNSAFE IMMUNIZATIONS: (giving the vaccine during pregnancy)
SAFE immunizations include antigens from killed or inactivated organisms:
• Influenza (all pregnant women in flu season)
• Hepatitis B (pre- and postexposure)
• Hepatitis A (pre- and postexposure)
• Pneumococcus (only high-risk women)
UNSAFE immunizations include antigens from live attenuated organisms:
• Measles, • Mumps, • Polio, • <u>Rubella</u>,
• Yellow fever, • Varicella</td></tr>
<tr><td>2nd trimester</td><td colspan="2">- Maternal Serum α-Fetoprotein (MS-AFP): AFP concentration peaks at 12 weeks in the <u>fetus</u> and <u>amniotic fluid</u> (AF), then rises until 30 weeks in the <u>maternal serum.</u>
• AFP Increased in: Fetal structural defects ([NTD] and ventral wall defects), twin pregnancy, placental bleeding, fetal renal disease, and sacrococcygeal teratoma.
• MS-AFP: performed within a gestational window of 15–20 weeks, as part of multiple marker screenings.
○ In both ELEVATED and LOW level, the most common cause is dating error and US is used for confirmation.
if US was (-ve) proceed with AF-AFP for AChE measurement.
- Quadruple Marker Screen: (MS-AFP, estriol, inhibin-A, and hCG).</td></tr>
<tr><td>3rd trimester</td><td colspan="2">- Diabetic Testing: 1 hours glucose tolerance test between 24-28 weeks[15]
- Complete Blood Count: for Anemia
Back to their lectures</td></tr>
</table>

6- Monitor The Fetus During Pregnancy:

1. Fetal HR by Doppler device **<u>at 12 weeks</u>**
2. Chromosomal screening: (risk of chromosomal anomaly in general population is 3-6%)
   A. 1st trimester screen: **trisomy 21\18** (the cause of early miscarriages); **<u>Preformed between 10-13 week</u>**
      - A combination of **maternal age**, fetal nuchal translucency **(NT)**[16] thickness, maternal serum test (serum-free β-human chorionic gonadotropin [β-hCG] and pregnancy-associated plasma protein-A [PAPP-A])and **visualization of nasal bone**[17]**.** (Down syndrome detection rate of 93%)
      - Elevated levels of free β-hCG and low levels of plasma protein-A are associated with an increased risk for Down syndrome (Down syndrome detection rate of 93%)

   B. 2nd trimester screen:
      I. Maternal serum screening; Preformed between **15-20 weeks**
         - **<u>Triple test</u>**: alpha fetal protein, estriol, HCG
         - **<u>Quad test:</u>** alpha fetal protein, estriol, HCG, inhibin A (trisomy 21 detection rate of 81%)
      II. Fetal survey ultrasound performed between **18-20 weeks**

[14] HBV surface antigen indicates high risk for vertical transmission of HBV from the mother to the fetus or neonate.
[15] for obese women: diabetes screening initial at first visit
[16] not diagnostic, only probability.
[17] reduce the risk for Down syndrome, whereas (absence) has been associated with an increased risk.

3. **Non stress test**,
4. **Maternal kick counts**: (5 movement\1 hours), or (10 movement\2 hours)
5. **Fundal height**: (indicate fetal growth) measurement the higher (pubic symphysis to top of fundus) = #of week gestational
6. **Amniotic fluid index:** decreased fetal urinary output lead to decrease amniotic fluid
7. **fetal lung maturity:** respiratory system is last system mature functionally (amnioseesis > look for lung markers)
8. No Placenta Previa in the 1st-2nd trimester (it's called migratory placenta)

Biophysical profile:
- (NST),
- Amniotic fluid index,
- Fetal movements,
- Fetal tone.

Modified Biophysical profile: Adding
- Fetal breathing movements
- Amniotic fluid volume

7- Unique nutrition need during pregnancy:

- **Folic acid**: 0.4 mg/day to reduce neural tube defect, In high risk women (DM, antiepileptic medication, pervious NTD): 4 mg/day
- Weight: recommended weight gain based on pre-pregnancy:

pre-pregnancy BMI:	weight gain:
<18.5	28-40 lbs
18.5 – 24.9	25 – 35 lbs
25 – 29.9	15 – 25 lbs
>30	11 – 20 lbs

Excessive weight gain	Inadequate weight gain
Increase risk of complication , ex: macrosomia Post partum obesity	Preterm delivery Low birth weight

- Food with risk:
  - Milk and cold lunch meal ⟶ listeriotic ⟶ increase IUFD
  - Large fish (tuna , shark, king mackerel) ⟶ increase mercury
  - Some Herbal.

Intrapartum Care (advice you to study induction of labor 1st)

Labor is diagnosed by **regular**[18], painful uterine contractions that **increase in frequency** and **intensity** with **progressive cervical effacement or dilation** resulting in **delivery of the fetus** and **expulsion of the Placenta.**

- **False labor** "Braxton-Hicks contractions": Contractions with **no progressive dilation or effacement.**
- **Uterus change during labor:** composed of **contractile upper uterine segment** consist of smooth muscles and become thicker as the labor progress and **lower uterine segment** consist of mostly collagen fibers.

When the mom presents to the hospital in labor we must assess:
- **Vital signs,**
- **Establish the gestational age through:** (last menstrual period, sonography, and physical exam [e.g. fundal height]).
- **Focused maternal Hx and PE + identify any new maternal conditions + Review routine screenings tests**
- **Fetal conditions (review records + Hx and PE)**
- **Establish fetal viability using external ultrasound Doppler or bedside sonography (Fetal heart tone)**
- **Fetal presentation + estimated fetal weight (using Leopold's maneuvers, vaginal exam or bedside sonography)**
- **do Vaginal exam to assess:**
  - **Cervical dilation:** This occurs as the passive lower uterine segment is thinned and pulled up by the contractile upper segment, Complete dilation is 10 cm
  - **Effacement:** when the length between external OS and internal OS is decreased "expressed in percentages with the uneffaced (0%) cervix assumed to be 2 cm long and 2 cm wide."
  - **Consistency of the cervix,**
  - **Position of the cervix**: if posterior > too early to deliver.
  - **State of the membrane***: if ruptured > comment on the fluid "bloody if the placenta is abruptured, uterus atony or ruptured uterus if she has previous CS, and rarely; fetal bleed"
  - **Station:** is the fetal presenting part in relation to ischial spine
    - **Ischial spine:** 0 station
    - **Above ischial spine:** -1,-2,-3,-4,-5
    - **Below ischial spine:** +1,+2,+3,+4,+5

Meconium:
- **Early passage**: occurs any time before rupture of the membranes and is classified as trace (+1, +2, +3) and particulate based on its color and viscosity.
- **Late passage**: usually occurs during the 2nd stage of labor, after clear amniotic fluid has been noted earlier. It's usually associated with (e.g., umbilical cord compression or uterine hypertonus) that causes fetal distress.

- ## Stage of labor:
  1- **Stage 1:** lasts from the onset of true labor to full dilation of the cervix.
  2- **Stage 2:** spans from full dilation of the cervix to the birth of the baby.
  3- **Stage 3:** lasts from the birth of the baby to delivery of the placenta.
  4- **Stage 4:** spans from delivery of the placenta to stabilization of the patient's condition, usually at about **6 hours postpartum**.

[18] Contractions will occur at least every 5 min lasting 30 s.

Stage 1	PHASES: - **latent phase:** during which cervical effacement and early dilation occur, ends with cervical dilation acceleration. • Although the upper limit of latent phase duration may be up to 20 h in a primipara and up to 14 h in a multipara, this is never an indication for cesarean section. - **active phase:** during which more rapid cervical dilation occurs, ends with complete cervical dilation. • begins when the cervix is **dilated > 4 cm + regularly occurring uterine contractions**. • minimal dilation during the active: (primiparous = 1cm/hr.) , (multiparous women = 1.2cm/hr.) [19] • **Arrested Active Phase:** - ≥ 6cm cervical dilatation + ruptured membranes + 4 hours of adequate uterine activity and there is **no cervical change. Or** - ≥ 6cm cervical dilatation + ruptured membranes + ≥6 hours of oxytocin administration with inadequate uterine activity and there is **no cervical change**
	LENGTH: vary in relation to parity, sedation and stress - **primiparous patients generally experience a longer first stage than do multiparous patients.**
	MEASUREMENT OF PROGRESS: cervical effacement, cervical dilation, and descent of the fetal head.
Stage 2	PURPOSE: to descent of the fetus through the birth canal. - **Maternal Pushing Efforts**[20] are vitally important to augment the uterine contractions to bring about descent of the fetal presenting part - **Molding:** is the alteration of the relationship of the fetal cranial bones to each other as a result of the compressive forces exerted by the bony maternal pelvis. - **Caput:** is a localized, edematous swelling of the scalp caused by pressure of the cervix on the presenting portion of the fetal head.
	LENGTH: may be up to 3 h in a primipara (4 h with epidural) or 2 h in a multipara (3 h with epidural).[21]
	Cardinal Movements of Labor: The first 3 steps occur simultaneously: 1- **Engagement:** movement of **the presenting part** below the **plane of the pelvic inlet**. 2- **Descent**: movement of **the presenting part** down through the curve of the birth canal. 3- **Flexion**[22]: placement of the fetal chin on the thorax. The next 4 steps occur in order: 4- **Internal rotation:** rotation of the position of the fetal head in the **mid pelvis** from transverse or oblique to anterior-posterior. (occur when zero station) 5- **Extension:** movement of the fetal chin away from the thorax. **Crowning** occurs when the largest diameter of the fetal head is encircled by the vulvar ring. (at 5 station)[23] 6- **External rotation:** rotation of the fetal head **outside the mother** as the head passes through the pelvic outlet. 7- **Expulsion:** delivery of the anterior shoulder under the symphysis pubis, followed by the posterior shoulder over the perineal body and the body of the child.
Stage 3	The mechanism of placental separation from the uterine wall is dependent on myometrial contractions shearing off the anchoring villi. This is usually **augmented**[24] with IV oxytocin infusion. • Signs of stage 3 include: **1-** gush of blood vaginally, **2-** change of the uterus from long to firm globular, **3-** "lengthening" of the umbilical cord and **4-** the fundus rises up • Duration may be up to 30 minutes in all women • Main abnormality is **prolonged third stage.** - **the cervix and vagina should be thoroughly inspected for lacerations, and surgical repair should be performed when necessary**. (we have 4 degrees of laceration mentioned in the "operative Deliveries & C-section" lecture) - Active management of the **3rd stage** of labor: This can decrease postpartum hemorrhage[25] **(the 1st cause of maternal death is bleeding)> caused by uterine atony (especially in multiparty)** It includes: • Fundal massage, • Gentle cord traction, • IV\IM Oxytocin - Finally, the **placenta should be examined** to ensure its complete removal (no missing cotyledons) and to detect placental abnormalities (Dilation + curettage > to evacuate retained placental tissue that is causing hemorrhaging.

[19] In prolonged 1st stage evaluation for uterine dysfunction, fetal malposition, or cephalopelvic disproportion should be undertaken.
[20] Mother usually has a desire to bear down with each contraction. (the dr. said it like the urge of defecation!!)
[21] check "operative delivery" lecture for more about prolonged second stage
[22] Partial flexion exists before labor as a result of the natural muscle tone of the fetus. During descent, resistance from the cervix, walls of the pelvis, and pelvic floor causes further flexion of the cervical spine.
[23] When indicated, (episiotomy) may aid in reducing perineal resistance.
[24] Squeezing the fundus to hasten placental separation is not recommended, because it may increase the likelihood of passage of fetal cells into the maternal circulation.
[25] Patient who is at risk for postpartum hemorrhage (e.g., because of anemia, prolonged oxytocic augmentation of labor, multiple gestation, macrosomia, or polyhydramnios),

Stage 4	The hour immediately following delivery and the first 4 hours postpartum require continued close observation of the patient to prevent postpartum hemorrhage. - Monitoring the Blood pressure, pulse rate, and uterine blood loss is a must.

- Pain management:
  - Pain Pathways:
    - Uterine contractions and cervical dilation result in visceral pain (T-10 through L-1)
    - Descent of the fetal head and subsequent pressure on the pelvic floor, vagina, and perineum generate somatic pain transmitted by the pudendal nerve (S2–4).
  - Analgesia and Anesthesia options:
    - Breathing exercise, • Systemic narcotics (I.M), • Continuous lumbar epidural, • Prepared childbirth (e.g.Lamaze classes)
    - Regional:
      - Local anesthetic agents,
      - Pudendal block,
      - Para-cervical block.

- **Operative Delivery:** (for more info, see "operative Deliveries & C-section" lecture)

Is used when:
- **Prolonged or arrested second stage of labor,**
- **Suspicion of immediate or potential fetal death,**
- **Shortening of the second stage for maternal benefit.**

Instruments used: Forceps, Vacuum

Major complications after delivery:
- Bleeding, - Infections, - High blood pressure, - Unsafe abortions, - Complications from delivery

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Post partum care (entitled in Haker as Puerperium ch8 p113)

The puerperium consists of the period following delivery of the baby and placenta to approximately 6 weeks postpartum. During the puerperium, the reproductive organs and maternal physiology return to the prepregnancy state.

- **ANATOMIC AND PHYSIOLOGIC CHANGES:**

Reproductive tract changes:	1. **Involution of the Uterus:** return to prepregnancy place in pelvis **by 2 week of PP**, and back to normal size by **6week PP** 2. **Cervix:** similarly loses its elasticity and regains its prepregnancy firmness. 3. **Lochia** (a uterine discharge that appears the first few days after delivery **due to shedding of the superficial layers of the endometrial decidua through the vagina**), I consist of **3 phases:** a. **Lochia rubra (red):** because of the presence of erythrocytes, it appears the first few days PP (3-4 days) b. **Lochia serosa (pinkish, watery):** few week PP c. **Lochia alba (yellowish):** by the tenth day, lasts for 6-8week PP 4. **Vagina and vulva:** change in vaginal tone /pelvic floor muscles may cause urinary incontinence**, Kegel's exercise**[26] help to recovery phase **"**Although the vagina may never return to its prepregnancy state, the supportive tissues of the pelvic floor gradually regain their former tone. 5. **Cramping:** may by painful, managed by analgesics 6. **Perineal pain:** minimized in the first 24 hrs with ice packs. A heat lamp or sets bath after first day.
Urinary tract changes:	1. **Hypotonic bladder:** increase in residual volumes due to **Intrapartum bladder trauma**, managed by: bethanechol (urechoilne), or Foley catheter if need 2. **Stress urinary incontinence** 3. **Dysuria**: conservative management, may need to analgesics 4. **Kidney function**: GFR stile increase to 2-3 week PP
GIT changes:	**1. Constipations:** Decreased GI tract motility, because of perineal pain and fluid mobilization, management is oral hydration and stool softeners **2. Hemorrhoids: Prolonged second-stage** pushing efforts can exaggerate preexisting hemorrhoids management is oral hydration, stool softeners, and sets bath

[26] (intermittent tightening of the perineal muscles)

CVS changes:	- Normal CVS functions retune by 2-3week PP, - **Coagulation:** Pregnancy have **hypercoagulation state** to prevent bleeding during delivery → increase VTE in pregnancy specially PP System back to normal balance state by 6-8 week PP
Psychosocial changes:	1. **Bonding**: shows no interest in baby, PP 1 day, management is Psychosocial evaluation and support (outpatients) 2. **Blues**: mood swings and tearfulness (mom cares for baby, tears) PP 2 day, probably due to both emotional and hormonal factors. management is conservative with support (outpatients) 3. **Depression**: feeling despair and hopelessness occur, mom dose not get out of bed, dose not care for self or baby, PP 21 day, management is psychotherapy and antidepressants. (outpatients) 4. **Psychosis**: rare, mom bizarre behavior and hallucinations, management is hospitalization, antipsychotic medication and psychotherapy. - to include a management plan for **potential postpartum depression,** we should Review the risk factors for postpartum depression, screening methods (e.g., Edinburgh Postnatal Depression Scale), and indications for immediate intervention.
Return of Menstruation and Ovulation:	• The average time to ovulation is 45 days in non-lactating women (menstrual flow usually returns by 6 to 8 weeks, although this is highly variable) and 189 days in lactating women. • The likelihood of ovulation increases as the frequency and duration of breastfeeding decreases. • Review the physiological basis [reactivation of the HPOA axis] for clinically relevant postpartum changes such as resumption of ovulation and menstruation.

- **The 7Bs aspect for PP care:**
  1. **Breast vs. bottle:** recommended breast feeding at least 6 months
  2. **Bladder:** urinary incontinence vs. urinary retention (by nerve compaction during delivery or Anastasia)
  3. **Bowel movement**
  4. **Bottom (perineum)**
  5. **Bleeding**
  6. **Blues:** risk factors: history of depression, poor social support
  7. **Birth control:**
     - **Breast feeding:**[27] for 3 months, every 3 hours
     - **Diaphragm:** usually at 6week PP[28]
     - **IUD:** can be inserted immediately postpartum[29].
     - **Combinations contraceptive: contraindication in breast feeding women** (bc the estrogen effect of diminishing milk production) **and if nonlactating start after 3 weeks PP to decrease the risk of DVT**[30]
     - **Progesterone-only contraceptive:** can begun immediately after delivery**. Can used by breast feeding women** (no reduction in milk production).
     - **If you have a patient with persistently elevated blood pressure remember that combined bill Is going to increase the lipid level > increase the pressure so we go with the mechanical contraception or the mini pills**

- **PP immunizations:**
  1. **RhoGAM:** if mother D- and her baby D+, within 72 hours PP
  2. **Rubella:** if the mother is rubella IgG antibody negative

Done by: Dalal Alhuzaimi

[27] Emphasize that unless women are breastfeeding every 3-4 hours around the clock, they may be fertile before the 6week postpartum checkup.
[28] Diaphragm. Fitting for a vaginal diaphragm should be performed after involution of pregnancy changes.
[29] Higher IUD retention rates, and decreased expulsions, are seen if IUD placement takes place at 6 weeks postpartum
[30] Combined estrogen-progestin oral contraceptives **should not** be used during the first 21 days after delivery as there is an increased risk of VTE. " CDC guidelines"