

Chapter 5

Nursing Care of Patients with Complications During Pregnancy

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Fetal Diagnostic Testing – Table 5-1

Amniotic Fluid Volume	Non-Stress Test (NST)	Doppler Ultrasound Blood Flow Assessment	MRI
Estimation of Gestational Age	Contraction Stress Test (CST)	AFR	
Ultrasound	Biophysical Profile	Tests of Fetal Lung Maturity	
Amniocentesis	Kick Counts	L/S Ratio	FSI

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ASSESSMENT TESTS FOR FETAL WELL-BEING

*** BIOPHYSICAL PROFILE ***



1ST Choice for Follow Up Fetal Evaluations

A. Fetal Breathing Movements - 1 episode of 30 sec. in 30 min.
 B. Fetal Tone - At least 1 episode of extremity extension and flexion
 C. Body Movement - 3 episodes over 30 min.
 D. Amniotic Fluid Volume - More than 1 pocket > 1cm in 2 planes
 E. Non-Stress Test - Reactive - FHR ↑ with activity. Each has a possible score of 2

Max Score = 10 

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DANGER SIGNS in Pregnancy

Sudden gush of fluid from vagina

Vaginal bleeding

Abdominal pain

Persistent vomiting

Epigastric pain

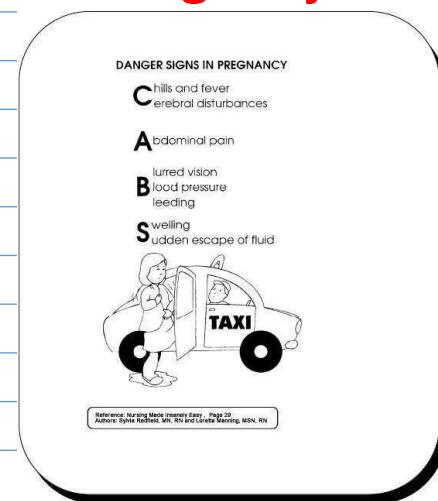
Edema of face and hands (Swelling)

Severe, persistent headache (Cerebral Disturbances)

Blurred vision / dizziness (Cerebral Disturbances)

Chills with fever (100.4° F / 38° C)

Painful urination / Decreased urine volume



TEACH the pregnant woman to report these signs immediately!

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Hyperemesis Gravidarum

- S&S: severe N&V, Wt. loss, dehydration with electrolyte imbalances, poor skin turgor, unusual stress, ambivalence about pregnancy
- Tx: Rule-out other Dx, Antiemetics, IV fluids, TPN-if overly excessive
- Nsg care: Avoid food odors, I & O's, small meals, carbs, avoid stress, eat crackers before getting up in the morning



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Bleeding in Early Pregnancy

- Abortion
- Ectopic Pregnancy
- Hydatiform Mole



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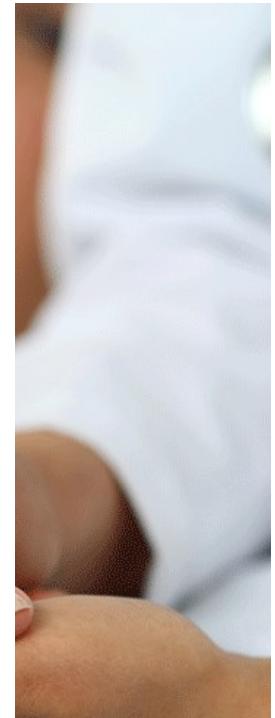
Types of Abortions

- Spontaneous (nonintentional)
 - Threatened
 - Inevitable
 - Complete
 - Incomplete
 - Missed
 - Recurrent
- Induced
 - Therapeutic
 - Elective
- Table 5-2

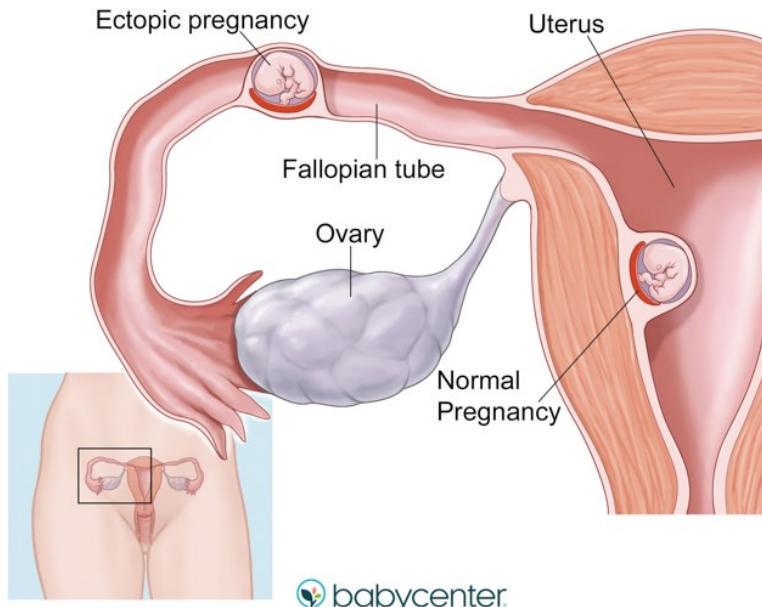
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Nursing Care

- Physical Care
- Emotional Care:
reduce number of staff member interaction
 - Nursing Care Plan



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babycenter

Ectopic Pregnancy

- Abdominal pain with light spotting
- Severe lower abdominal pain and vaginal bleeding if ruptures

3 Treatment plans:

- May reabsorb pregnancy
- Methotrexate
- Surgical removal

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Hydatidiform Mole

- Chorionic villi develop vesicles resembling tiny grapes
- Signs/Symptoms
 - Bleeding (slight to profuse)
 - Rapid uterine growth
 - No fetal heart activity
 - Signs of hyperemesis gravidarum
 - Higher than expected hCG levels
 - Snowstorm pattern on ultrasound



Management

- D&E; induced labor
- Contraception
- hCG levels for 1 year

Nursing: Teach / Implement

- Contraception
- hCG levels for 1 year
- Grieving / No pregnancy x 1 year
- Actions for hyperemesis gravidarum, bleeding, etc.

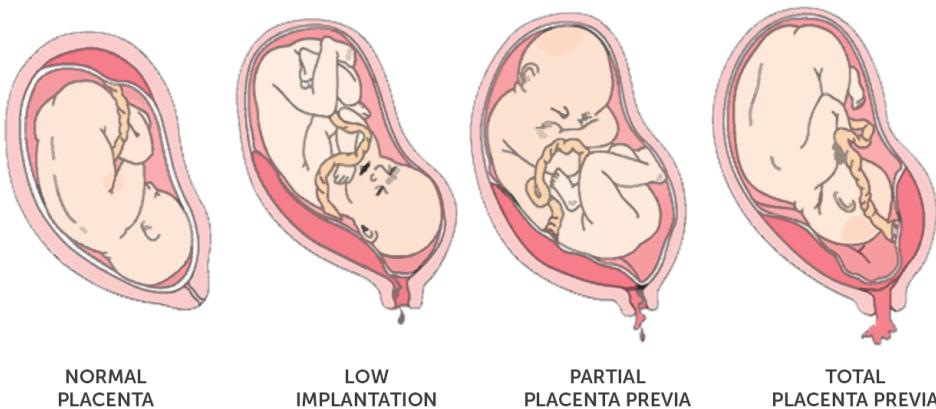
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Placenta Previa

- 3 Types
- Manifestations
 - Painless vaginal bleeding – bright red
 - Abnormal presentation of fetus
 - Postpartum complications
 - Infection, Hemorrhage, signs of fetal compromise
- Treatment
 - Bedrest – left side
 - Cesarean Section
- Nursing Care
 - Monitor vaginal bleeding
 - Vital signs/FHR
 - O2
 - No Vaginal exams
 - Prepare for C/S

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Types of Placenta Previa



Abruption Placenta

- Predisposing factors
 - Hypertension
 - Cocaine/alcohol use
 - Smoking
 - Poor Nutrition
 - Trauma to the abdomen
 - Prior history
 - Folate deficiency

- Manifestations
 - Abdominal/low back pain
 - Bleeding maybe concealed
 - Bleeding – dark-red vaginal bleeding
 - Uterus – tender and firm

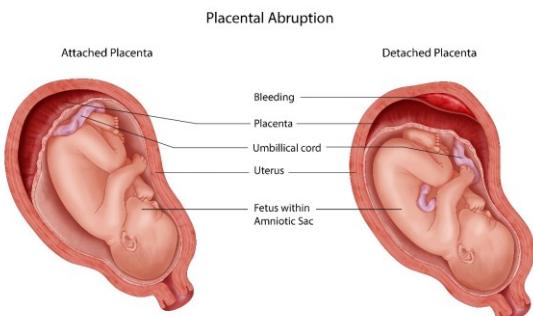
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Abruption Placenta

- Treatment
 - Emergency Cesarean Section
 - Monitor for DIC

- Nursing Care
 - Pre/Post-op care
 - Vital signs/FHR
 - Monitor for shock and bleeding

- Box 5-2 – Care of the Pregnant Woman with Excessive Bleeding***



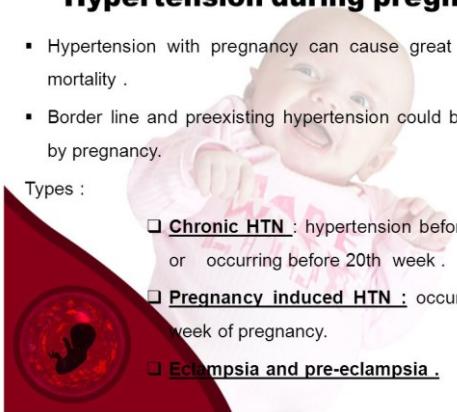
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Hypertension during pregnancy

- Hypertension with pregnancy can cause great morbidity and mortality .
- Border line and preexisting hypertension could be exacerbated by pregnancy.

Types :

- Chronic HTN** : hypertension before pregnancy , or occurring before 20th week .
- Pregnancy induced HTN** : occurring after 20th week of pregnancy.
- Eclampsia and pre-eclampsia .**



Hypertension in pregnancy



Risk Factors – Box 5-3

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MATERNAL AND CHILD HEALTH NURSING NURSING MNEMONICS & TIPS

PREECLAMPSIA CLASSIC TRIAD

"PRE" ECLAMPSIA

PROTEINURIA

P Proteinuria is defined as $> 300 \text{ mg}/24 \text{ h}$. Alternatively, proteinuria is diagnosed based on a protein:creatinine ratio > 0.3 or a dipstick reading of $1+$. Absence of proteinuria on less accurate tests (eg, urine dipstick testing, routine urinalysis) does not rule out preeclampsia.



RISING BLOOD PRESSURE

R High blood pressure may develop slowly, but more commonly it has a sudden onset. Blood pressure that is $140/90$ millimeters of mercury (mm Hg) or greater — documented on two occasions, at least four hours apart — is abnormal.



EDEMA

E Sudden weight gain and swelling (particularly in the face and hands) often manifests; pitting edema—an unusual swelling, particularly of the hands, feet, or face, notable by leaving an indentation when pressed on.

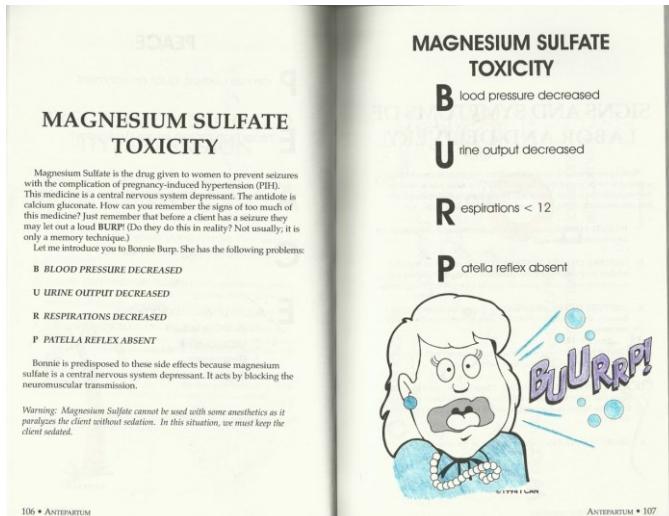


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Anticonvulsant therapy: Magnesium Sulphate:

- Initiated at onset of labor or induction or prior to CS delivery and continued for 24 hours postpartum
- The most common regimen:
- A loading dose of 4 to 6 g intravenously in 150 ml of 5% Dextrose Injection, at a rate not exceeding 3 ml per minute
followed by 1 to 2 g per hour as a continuous infusion.
- Maintenance Dose: is given only if;
 - A patellar reflex is present (loss of reflexes being the first manifestation of symptomatic hypermagnesemia)
 - Respirations exceed 12 per minute.
 - The urine output exceeds 100 mL per four hours.

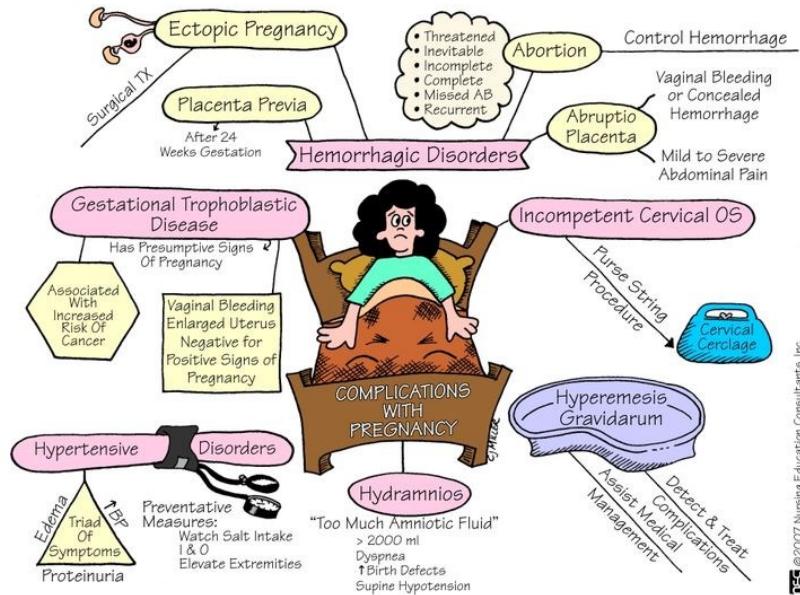
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Calcium Gluconate

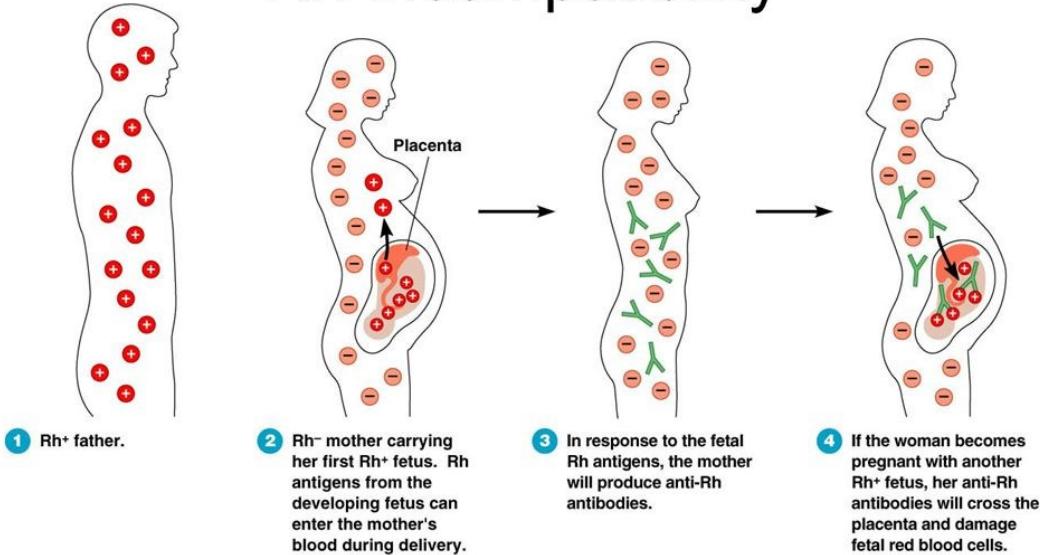
Hypotension

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Rh Incompatibility



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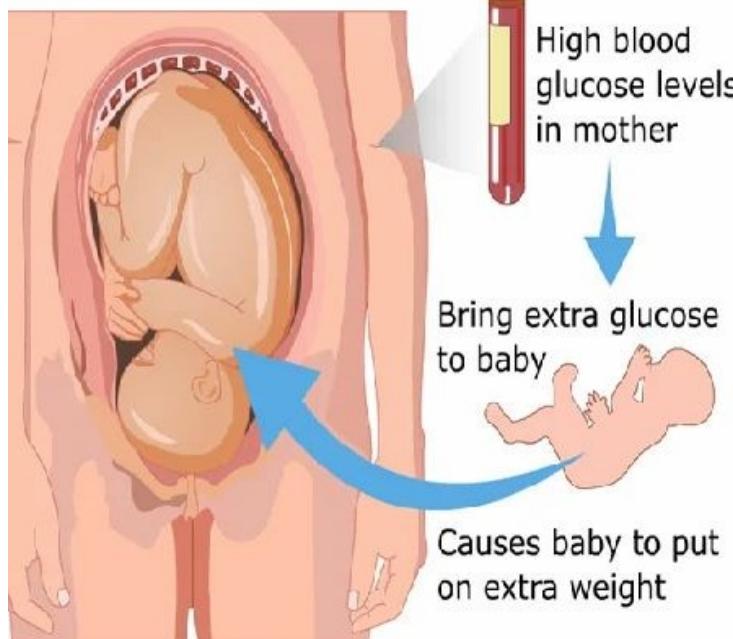
RHOGAM

- Prevents formation of active antibodies against Rh+ erythrocytes which may enter maternal bloodstream during pregnancy with Rh+ fetus
- Generally given at 28 weeks. Also given with:
 - Bleeding or suspected hemorrhage
 - Threatened abortion
 - Abdominal trauma
- Prior to administration:
 - Send current type & screen
 - Indirect Coombs
 - Explain purpose and side effects; answer pt questions
 - Obtain informed consent
 - Verification by 2 RNs

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Gestational Diabetes



- Insulin Deficiency/Insulin Resistance
- First Trimester: Insulin needs decrease
- Second & Third Trimesters: Insulin needs increase due to placental hormones causing an insulin resistant state.
- Following delivery: Insulin needs decrease

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Meal	Some healthy options to choose from:
Breakfast 45-60 g of carbs	Egg salad-sprouts sandwich; ham-spinach omelet; baked avocado eggs; or banana-oatmeal pancakes.
Snack 15-30 g of carbs	Fresh melon or apple; sugar-free oatmeal cookie; cheese and crackers; nut-raisin mix; or peanut butter-apple slices.
Lunch 46-60 g of carbs	Mediterranean feta salad; chicken salad sandwich; beef burger on whole-wheat bun; or tuna salad whole-wheat wrap.
Snack 15-30 g of carbs	Frozen yogurt; cucumber slices with hummus; guacamole with toasted corn tortilla; or avocado-cacao pudding.
Dinner 45-60 g of carbs	Grilled salmon with veggie rice; pork-sausage millet stir fry; baked tilapia and sweet potato fries; or whole grain pesto pasta.

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Table 2 Screening For & Diagnosis of Gestational Diabetes

- Perform a 75-g oral glucose tolerance test (OGTT), with plasma glucose measurement fasting and at 1 and 2 hours, at 24–28 weeks of gestation in women not previously diagnosed with overt diabetes.
- The OGTT should be performed in the morning after an overnight fast of at least 8 hours.
- The diagnosis of gestational diabetes is made when any of the following plasma glucose values are exceeded:
 - Fasting ≥ 92 mg/dl (5.1 mmol/l).
 - 1 hour ≥ 180 mg/dl (10.0 mmol/l).
 - 2 hour ≥ 153 mg/dl (8.5 mmol/l).

Source: Adapted from: American Diabetes Association. Standards of Medical Care in Diabetes—2011. *Diabetes Care*. 2011;34:S11-S61. Available at: http://care.diabetesjournals.org/content/34/Supplement_1/S11.full.pdf

Blood Glucose Test

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- (L) Term Newborn
- (R) Newborn of Diabetic Mother
- Large for Gestational Age (Macrosomia)
- Problems:
 - Hyperglycemia
 - Hyperbilirubinemia
 - Respiratory distress
 - Hypocalcemia
 - Congenital anomalies



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Should I Breastfeed Having Gestational Diabetes?



Yes, women with gestational diabetes should **breastfeed** their babies, if possible.



A weight loss after having the baby not only enhances overall health, but also **helps to reduce** the risk of developing **type 2 diabetes** later in life.

Breastfeeding is not only **beneficial to the baby**, but it is also **beneficial to the mother**.

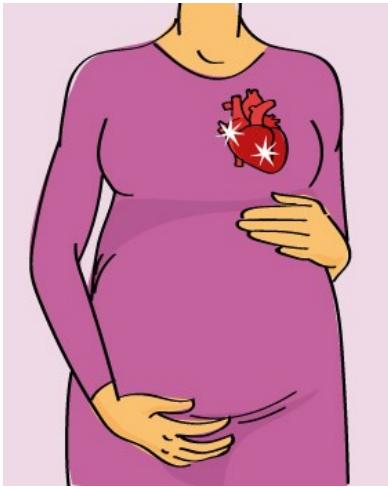


Breastfeeding allows the body to use extra calories stored **during pregnancy**, allowing for **weight loss**.



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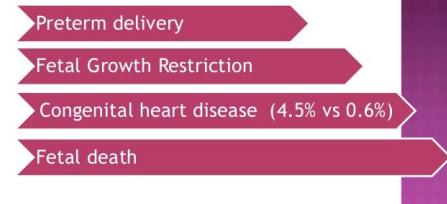
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Manifestations

- Increased levels of clotting factors
- Increased risk of thrombosis
 - If woman's heart cannot handle increased workload, congestive heart failure (CHF) results
 - Fetus suffers from reduced placental blood flow

EFFECT OF MATERNAL CARDIAC DISEASE ON PREGNANCY



Heart Disease and Pregnancy

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Signs of CHF During Pregnancy Assess / Teach

Box 5-5

Orthopnea

Persistent cough

Moist lung sounds

Difficulty breathing on exertion

Palpitations

Fatigue or fainting on exertion

Severe pitting edema of the lower extremities or generalized edema

Changes in fetal heart rate

Indicating hypoxia or growth restriction

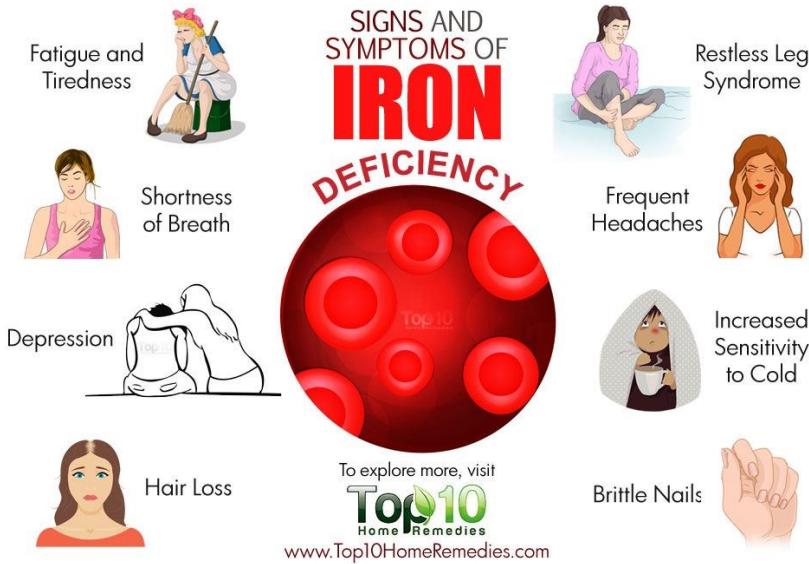


HEPARIN

- Prevents clot formation
- Teach / report
 - Bruising without reason
 - Petechiae
 - Bleeding from gums
 - Nosebleeds
- Teach / implement
 - No Vitamin K foods



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IRON DEFICIENCY ANEMIA

DESCRIPTION

- Iron deficiency anemia develops when body stores of iron drop too low to support normal red blood cell (RBC) production.
- It is the most common type of anemia in all age groups.

PATHOPHYSIOLOGY

- The body stores of iron decrease as do the stores of transferrin which binds and transports iron. This leads to depletion of red blood cells, resulting in decreased hemoglobin concentration and decreased oxygen-carrying capacity of the blood.

ETIOLOGY

- Dietary factors (insufficient iron intake)
- Chronic blood loss from GI bleeding.
- Impaired GI absorption of iron (prolonged diarrhea, gastrectomy)
- Increased iron requirements (rapid body growth, menstruation, pregnancy).
- Iron-refractory deficiency anemia (IRIDA)

NURSING DIAGNOSIS

- Fatigue related to decreased hemoglobin and diminished oxygen-carrying capacity of the blood.
- Deficient knowledge related to the complexity of treatment, lack of resources, or unfamiliarity with the disease condition.
- Risk for infection
- Risk for bleeding

NURSING MANAGEMENT

- Administer prescribed medications which includes iron supplements (IV, IM, or oral)
- Advise patient to take iron supplements an hour before meals for maximum absorption.
- Advise patient to take liquid forms of iron using a straw to prevent teeth staining.
- Treat underlying cause of iron deficiency anemia through diet and iron supplementation.
- Educate about foods high in iron which includes organ and other meats, leafy vegetables, raisins, molasses, beans.
- Encourage client to have diet rich in vitamin C to enhance absorption of iron in iron-rich foods.
- Educate client and caregivers about IDA by explaining importance of diagnostic procedures, iron supplementation.

FOLLOW NURSESLABS ON SOCIAL MEDIA

MASTER NURSING CONCEPTS AT NURSESLABS.COM

High Iron in Foods

Beans	Red meat	Oysters

Iron Boosting Foods

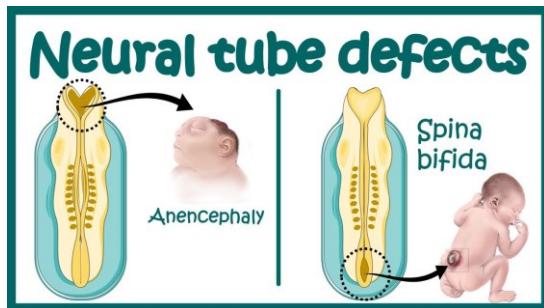
Meats	Vegetables	Fruits	Breads & Cereals	Sugars	Soups
Organ Meats (ex. liver) Beef Pork Shellfish Sardines Turkey Chicken Veal Ham Tuna Shrimp	Dried Beans Dried Peas Lima Beans Turnip Greens Collard Greens Spinach Broccoli Kale Chard Sweet Potatoes Cowpeas	Prunes Raisins Watermelon Dried Apricots Strawberries Dates Figs Dried Peaches	Bran Flakes Cream of Wheat Oatmeal Whole Wheat Bread Semi-sweet Chocolate Oat Cereal Corn Syrup Enriched White Bread	Molasses Sorghum Bitter Chocolate Clam Chowder Cream of Shrimp Oyster Stew Vegetable Beef Chicken Noodle	Clam Chowder Cream of Shrimp Oyster Stew Vegetable Beef Chicken Noodle

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FOLIC ACID DEFICIENCY



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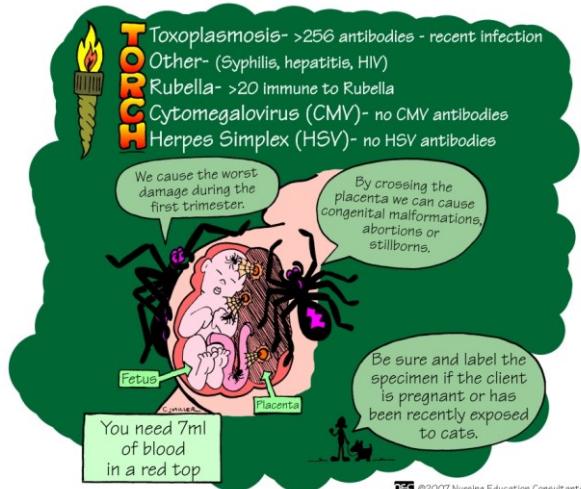
Infections During Pregnancy

TORCH

- Toxoplasmosis**
- Other** (hepatitis B, syphilis, group B beta strep)
- Rubella**
- Cytomegalovirus**
- Herpes simplex virus**

A vertically transmitted infection (or mother-to-child transmission) is an infection caused by bacteria, viruses, or in rare cases, parasites transmitted directly from the mother to an embryo, fetus, or baby during pregnancy or childbirth. It can occur when the mother gets an infection as an intercurrent disease in pregnancy. Nutritional deficiencies may exacerbate the risks of perinatal infection.

Upload your own at nursetips.com



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Immunizations: Rubella

- Woman should not get pregnant for at least one month after immunization
- Vaccine offered during the postpartum woman to nonimmune women

NO LIVE VACCINES DURING PREGNANCY

- Rubella immunization is a live attenuated (weakened) form of virus.

Congenital Rubella

Crosses placenta when **mother has acute infection**.
The earlier the fetus is infected → more serious disease.

May result in serious congenital abnormalities

- Intrauterine growth retardation
- Hepatosplenomegaly
- Cataracts
- Mental retardation
- Sensorineural hearing loss
- Heart- Patent ductus arteriosus
- Pulmonary stenosis
- Thrombocytopenic purpura



Cataracts



PDA



Blueberry Muffin Rash

- Classic triad:**
- PDA
 - Cataracts, and deafness
 - +/- "blueberry muffin" rash

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WHAT IS HEPATITIS B?

Hepatitis B is a potentially life-threatening viral infection that affects the liver. Although many people with hepatitis B don't experience any symptoms, it is a chronic infection that can lead to severe liver conditions like cirrhosis and liver cancer. It is estimated that over 300 million people are living with hepatitis B.

Hepatitis B can be transmitted or spread in several ways, including:

- Perinatal transmission (Icon: pregnant woman)
- Exposure to infected blood (Icon: blood drop)
- Sexual transmission (Icon: two people)
- Needle sharing (Icon: syringe and needle)

Dr. Axe
FOOD MEDICINE

Hepatitis B Vaccine Schedule

- Birth
- 1-2 months
- 6-18 months

A series of 3

**Immunization at birth
After first bath**

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Congenital toxoplasmosis



Clinical manifestations. Hydrocephalus, lesions in the organs of the vision (chorioretinitis), cirrosis of the liver and enlargement of the spleen.

Teach / Implement

- Cook all meat thoroughly
- Wash hands and all kitchen surfaces after handling raw meat
- Avoid uncooked eggs and unpasteurized milk
- Wash fresh fruits and vegetables well
- Avoid materials contaminated with cat feces

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Group B Streptococcus Infection

- Leading cause of perinatal infection with high mortality rate
- Organism found in woman's rectum, vagina, cervix, throat, or skin
- The risk of exposure to the infant is greater if the labor is long or the woman experiences premature rupture of membranes
- GBS significant cause of maternal postpartum infection
 - Symptoms include elevated temperature within 12 hours after delivery, rapid heart rate, abdominal distention
- Can be deadly to the infant
- Treatment
 - Penicillin

Today's Fact For
GBS July Awareness Month

Group B Strep is the most common cause of life-threatening infections in newborn babies and most GBS infections can be prevented

www.gbs.org.uk • #GBSaware • Text **GBSS01 £5** to 70070 to donate £5

Group B Strep fact a day

July is Group B Strep Awareness Month

Time to tell everyone about group B Strep

#GBSaware

Like and share to make others #GBSaware

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Urinary Tract Infection (UTI) in Pregnancy

Why?

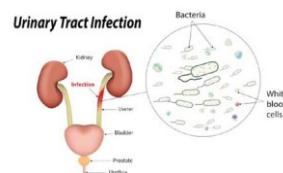
- Pregnancy alters self-cleaning action due to pressure on urinary structures
- Prevents bladder from emptying completely
- Retained urine becomes more alkaline
- May develop cystitis
 - Burning with urination
 - Increased frequency and urgency of urination
 - Normal or slightly elevated temperature
- Pyelonephritis
 - High fever
 - Chills
 - Flank pain or tenderness
 - Nausea and vomiting

What to do...

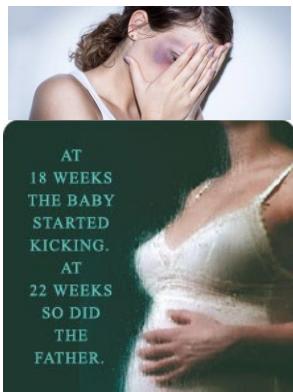
Teach measures to prevent UTI:

- Wipe front-to-back
- Fluid intake adequate (Eight glasses/day)
- Exclude caffeinated beverages
- Cranberry juice (increase acidity)
- Urinate before and after intercourse
- Teach signs / symptoms to report

Preterm Labor Could Result



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➤ Non judgmental communication

➤ Community Resources

Domestic Violence Screening

- Should be conducted in private, with **only the patient** present
- "Because violence against women is so common, I ask all of my patients do you have any reason to feel unsafe at home?"
- Document patient statements accurately and quote them directly

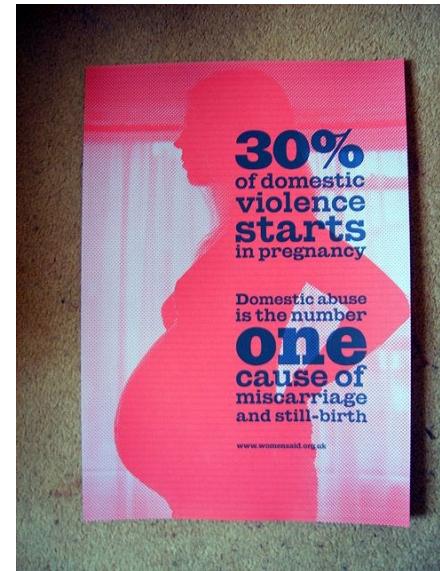
Very Important

Very Important

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Safety Alert (p. 119)

- If a woman confides that she is being abused during pregnancy, this information must be kept absolutely confidential.
- Her life may be in danger if her abuser learns that she has told anyone.
- She should be referred to local shelters, but the decision to leave her abuser is hers alone.



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Match The Terms

- | | |
|--------------------------------|--|
| • Abruptio placentae _____ | A. Placental attachment in the lower uterus |
| • Ectopic pregnancy _____ | B. Premature separation of the normally implanted placenta |
| • Hyperemesis gravidarum _____ | C. Spontaneous loss of a pregnancy before 20 weeks |
| • Incompetent cervix _____ | D. Failure of the cervix to remain closed until the fetus is mature enough to survive outside the uterus |
| • Placenta Previa _____ | E. Excessive nausea and vomiting during pregnancy |
| • Spontaneous abortion _____ | F. Development of the fetus outside the uterus |

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Match The Terms

- Group B streptococcus _____
 - Hepatitis B _____
 - Rhogam _____
 - Rubella _____
 - Toxoplasmosis _____
- | | |
|----|--|
| A. | Give immune globulin immediately after birth followed by vaccine |
| B. | Immunize children to avoid infecting pregnant women; immunized nonimmune woman after birth |
| C. | Treat culture positive woman and her infant with penicillin |
| D. | Wash hands and surfaces after handling raw meat, cook meat thoroughly, and avoid cat litter |
| E. | Given to the Rh negative woman at 28 weeks gestation and within 72 hours after birth of an Rh positive infant or abortion. |

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The nurse should emphasize the importance of long term follow up care for the woman who has had evacuation of a hydatidiform mole to detect the occurrence of:

- A. Recurrent pregnancy
- B. Choriocarcinoma
- C. Hypertension
- D. Continued bleeding

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The nurse should expect to teach the pregnant woman with gestational diabetes to monitor her glucose by:

- A. Assessing the blood glucose levels several times a day
- B. Determining glucose levels in the urine twice a day
- C. Recording monthly glycosylated hemoglobin levels
- D. Keeping a written record of hypoglycemic symptoms

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What nursing care should be provided to the woman receiving Magnesium Sulfate for gestational hypertension? Why?