

# Third Trimester

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**NURSING DIAGNOSIS:**

**[Discomfort]**

**May Be Related To:**

Physical changes, hormonal influences

**Possibly Evidenced By:**

Reports of back strain/pain, leg cramps, paresthesia, pruritus, uterine contractions

**DESIRED OUTCOMES/EVALUATION CRITERIA—CLIENT WILL:**

Use appropriate self-care activities to reduce discomforts.

Report discomfort minimized/controlled.

Seek medical attention appropriately.

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**ACTIONS/INTERVENTIONS**

**RATIONALE**

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**Independent**

Continue ongoing assessment of client's discomforts and her methods of dealing with problems. (Refer to CP: Second Trimester; ND: Discomfort.)

Updates data base for planning care and evaluates appropriateness of interventions.

Assess client's respiratory status. (Refer to CP: Second Trimester; ND: Breathing Pattern, ineffective.)

Reduced respiratory capacity as the uterus presses on the diaphragm results in dyspnea, especially for the multigravida, who may not experience relief with engagement (lightening) until the onset of labor.

Note reports of back strain and altered gait. Suggest use of low-heeled shoes, pelvic-rock exercise, maternity girdle, heat application, and massage techniques to be used by partner.

Lordosis and muscle strain are caused by the influence of hormones (relaxin, progesterone) on pelvic articulations and a shift in the center of gravity as the uterus enlarges. Multiple interventions are usually more helpful to alleviate discomfort.

Determine presence of leg cramps. Encourage client to extend leg and turn foot upward in dorsiflexion, change position frequently; avoid prolonged standing/sitting; and reduce milk intake appropriately.

Reduces discomfort associated with altered calcium levels/calcium-phosphorus imbalance, or with pressure from enlarging uterus compressing nerves supplying the lower extremities.

Assess for presence/frequency of Braxton Hicks contractions. Provide information regarding physiology of uterine activity.

These contractions may create discomfort for the multigravida in both second and third trimesters. The primigravida usually does not experience this discomfort until the last trimester, when progesterone's protective effect on uterine activity is decreasing and oxytocin levels are increasing.

Note paresthesia of toes and fingers. Suggest client remove constrictive jewelry, maintain adequate intake of prenatal vitamins (take vitamin B<sub>6</sub> supplement with orange juice or banana), use correct posture, exercise limbs regularly throughout the day, and avoid extremes of temperatures.

Reduces effects of extreme lordotic posture (which strains brachial nerves and compresses nerve roots and femoral veins), edema, pressure on carpal tunnel nerves/ligaments, and vitamin B<sub>6</sub> deficiency. Note: Some sources report controversy over the effectiveness of vitamin B<sub>6</sub>.

Review reports of urinary frequency and bladder pressure. (Refer to ND: Urinary Elimination, altered.)

Assess for constipation and hemorrhoids.

Discuss dangers of using cathartics during the ninth month, and suggest other means of resolving constipation, such as a high-fiber diet. Note cultural practices that might influence behaviors. (Refer to CP: First Trimester; NDs: [Discomfort]; Constipation, risk for.)

Assess for pyrosis (heartburn). Review dietary limitations.  
is not modified.

Note presence of leukorrhea and pruritus.  
Encourage client to bathe frequently, use cotton underwear, wear loose clothing, and to avoid long periods of sitting.

Assess for problems related to diaphoresis; suggest use of lightweight clothing, frequent bathing, and cool environment.

## Collaborative

Give calcium supplements/calcium-rich antacid as appropriate. Recommend use of aluminum hydroxide gel as needed.

Refer for Therapeutic Touch or transcutaneous electrical nerve stimulation (TENS), as appropriate.

Third trimester uterine enlargement reduces bladder capacity, resulting in urinary frequency.

Increasing displacement of the bowel contributes to problems of elimination.

The use of cathartics may stimulate the onset of early labor. Some cultures, such as Hispanic, believe that use of cathartics ensures good delivery of a healthy boy.

Problem often occurs in second trimester and may continue as gastric emptying time is prolonged, especially when diet

As estrogen levels increase, secretions of the cervical glands create an acid medium that encourages proliferation of organisms.

Increased metabolism and body temperature caused by progesterone activity and excess weight gain may create a constant feeling of being overheated and may increase diaphoresis.

Substitutes for milk products when intolerance is a problem. Gel can reduce phosphorus levels, correcting calcium-phosphorus imbalance.

May be indicated if other comfort measures are insufficient to alleviate severe back pain.

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### NURSING DIAGNOSIS:

#### May Be Related To:

#### Possibly Evidenced By:

#### DESIRED OUTCOMES EVALUATION CRITERIA—CLIENT/COUPLE WILL:

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### Knowledge deficit [Learning Need], regarding preparation for labor/delivery; infant care

Lack of exposure/experience, misinterpretation of information

Request for information, statement of concerns or misconceptions

Discuss physical/psychological changes associated with labor/delivery.

Identify appropriate resources to obtain information about infant care.

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Verbalize preparedness for labor/delivery and infant.

## ACTIONS/INTERVENTIONS

## RATIONALE

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### Independent

Continue/institute learning program as outlined in CP: First Trimester.

Builds on previous learning and/or provides new information. Of greatest concern for the couple in this trimester is how to prepare physiologically and psychologically for the event of labor/delivery and issues surrounding infant care. Note: For various reasons (e.g., financial, cultural) clients may delay seeking care until pregnancy is well advanced or delivery is imminent, creating a challenge for healthcare providers to provide meaningful education in a timely fashion.

Provide information about normal physical/physiological changes associated with third trimester. (Refer to ND: Self Esteem, risk for situational low.)

Understanding the normalcy of such changes can reduce anxiety and foster adoption of self-care activities.

Review oral/written information about signs of labor onset; distinguish between false and true labor. Discuss when to notify healthcare provider and when to leave for hospital/birth center. Discuss stages of labor/delivery.

Helps client to recognize onset of labor, to ensure timely arrival, and to cope with labor/delivery process.

Discuss birth plan written by client/partner and provide additional information as needed. Note cultural expectations/preferences.

Helps client to make informed choices that are amenable to the specific care setting and reflect individual needs. Note: Some cultures or personal values may limit male involvement in the delivery process, necessitating the identification of other support person(s).

Provide oral/written information about infant care, development, and feeding; offer appropriate references. Elicit cultural beliefs.

Helps prepare for new caretaking role, acquiring necessary items of furniture, clothing, and supplies; helps prepare for breastfeeding and/or bottle feeding. Lack of preparation may be culturally linked, indicating belief that preparation may be associated with increased risk of infant's death because they are "defying God's will."

Determine plan for discharge after delivery and home care support/needs.

Early planning can facilitate discharge and help ensure that client/infant needs will be met.

Encourage enrollment in childbirth classes (if not already attending) and tour hospital/birth center.

Reduces anxiety associated with the unknown; enhances coping mechanisms for labor/delivery.

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### NURSING DIAGNOSIS:

### Sleep Pattern disturbance

#### May Be Related To:

Changes in level of activity, psychological stress, inability to maintain comfort

#### Possibly Evidenced By:

Interrupted sleep, awakening earlier/later than desired, difficulty in falling asleep, not feeling well rested, dark circles under eyes

### DESIRED OUTCOMES/EVALUATION

Report improvement in sleep/rest.

**CRITERIA—CLIENT WILL:**

Report increased sense of well-being and feeling rested.

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**ACTIONS/INTERVENTIONS**

**RATIONALE**

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**Independent**

Review normal sleep requirement changes associated with pregnancy. Determine current sleep pattern.

Helps identify need for establishing different sleep patterns (e.g., earlier bedtime and naps).

Suggest side-lying position with pillow between legs for support, or place bed board under mattress.

Back discomfort may necessitate change in position, use of multiple pillows/body pillow, or firmer mattress.

Evaluate level of fatigue; encourage client to rest 1–2 hr daily and obtain 8 hr of sleep per night. Give information about normalcy of moderate fatigue. Reassess commitments to work and family. (Refer to CP: First Trimester; ND: Fatigue.)

Increased fluid retention, weight gain, and fetal growth all contribute to feelings of fatigue, especially in the multipara with other children and demands.

Assess for occurrence of insomnia and for client’s response to sleep loss. Suggest aids to sleep, such as relaxation techniques/tapes, reading, warm bath, and reduced activity just before retiring.

Excess anxiety, excitement, physical discomforts, nocturia, and fetal activity all may contribute to sleeping difficulties.

Note reports of positional breathing difficulties. Suggest sleeping in a semi-Fowler’s position.

In a recumbent position, the enlarging uterus and the abdominal organs compress the diaphragm, thereby restricting lung expansion. Use of semi-Fowler’s position allows the diaphragm to descend, fostering optimal lung expansion.

**Collaborative**

Obtain red blood cell (RBC) count and Hb level.

Rules out organic problems such as anemia. Anemia and reduced Hb/RBC levels result in reduced oxygenation of tissues and contribute to feeling of excessive fatigue.

Refer client for counseling if sleep deprivation/fatigue is interfering with activities of daily living.

Additional support/guidance may be necessary for client to cope with alterations in sleep-wake cycle, identify appropriate priorities, and modify commitments.

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**NURSING DIAGNOSIS:**

**Urinary Elimination, altered**

**May Be Related To:**

Uterine enlargement, increasing abdominal pressure, fluctuation of renal blood flow, and glomerular filtration rate (GFR)

**Possibly Evidenced By:**

Urinary frequency, urgency; dependent edema

**DESIRED OUTCOMES/EVALUATION CRITERIA—CLIENT WILL:**

Verbalize understanding of condition.

Identify ways to prevent urinary stasis and/or tissue edema.

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## **ACTIONS/INTERVENTIONS**

## **RATIONALE**

### **Independent**

Provide information about urinary changes associated with third trimester.

Helps client understand the physiological reason for urinary frequency and nocturia. Third-trimester uterine enlargement reduces bladder capacity, resulting in frequency. Positioning affects kidney functioning so that a supine/upright position decreases renal blood flow by 50%.

Encourage client to assume lateral position while sleeping. Note reports of nocturia.

A left or right lateral recumbent position increases GFR and renal blood flow to increase kidney perfusion and mobilize dependent edema. Edema is reduced by morning in cases of physiological edema.

Advise client to avoid long periods in upright or supine position.

These positions potentiate vena caval syndrome and reduce venous return.

Provide information regarding need for fluid intake of 6 to 8 glasses/day (2+ liters), reduction of intake 2–3 hr before retiring, and moderate use of salt- or sodium-containing foods or products.

Maintains adequate fluid levels and kidney perfusion, which relies on dietary sodium to maintain an isotonic state.

Provide information regarding danger of taking diuretics and of eliminating sodium from diet.

Sodium losses/restrictions may overstress renin-angiotensin-aldosterone regulators of fluid levels, resulting in severe dehydration and hypovolemia.

Test midstream urine for presence of albumin. Note location and extent of tissue edema and urine output.

May indicate glomerular spasms or decreased kidney perfusion associated with PIH.

### **Collaborative**

Reassess contributory preexisting medical problems (e.g., kidney disease, hypertension, heart disease).

Problems affecting kidney function combined with increased fluid volume and stasis increase the client's risk for circulatory problems affecting the placenta/fetus.

Assess for signs and symptoms of UTI; obtain urine for colony count, and for culture and sensitivity, if count is greater than 100,000/ml.

The prenatal client is susceptible to urinary stasis/UTI due to progesterone's vasodilating effect on ureters and to compression of the ureters by the enlarging uterus. Women with bacteriuria are also at high risk for preterm labor, premature rupture of membranes (PROM), and chorioamnionitis.

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### **NURSING DIAGNOSIS:**

### **Sexuality Patterns, altered**

#### **May Be Related To:**

Changes in sexual desire, discomfort (shortness of breath, fatigue, abdominal enlargement), misconceptions/fears

#### **Possibly Evidenced By:**

Reported difficulties, limitations or changes in sexual behavior, concerns about fetal safety

#### **DESIRED OUTCOMES/EVALUATION CRITERIA—CLIENT/COUPLE WILL:**

Discuss concerns related to sexual issues in the third trimester.

Express mutual satisfaction with sexual relationship.

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## **ACTIONS/INTERVENTIONS**

## **RATIONALE**

### **Independent**

Continue/initiate sexual assessment, looking for changes in patterns from first and second trimesters.

Assess couple's perception of sexual relationship.

Encourage couple to discuss, separately and with one another, feelings and concerns related to changes in sexual relationship. Provide information as to the normalcy of changes.

Provide information about alternative methods of achieving sexual satisfaction to meet needs for intimacy/closeness.

Recommend alternative positions for intercourse other than the traditional male superior position (e.g., side-lying or female superior position).

Discuss importance of not blowing air into the vagina.

Encourage client/couple to verbalize fears that may reduce desire for intercourse.

Diminished interest in sexual activity/intercourse often occurs in the third trimester, owing to physical changes/discomforts.

Client's ability to identify, verbalize and accept changes in sexuality during the third trimester may influence the relationship and their ability to support each other emotionally.

Communication between client and partner is critical to constructive resolution of problems. The client may feel less sexually attractive as her body enlarges, and the man's responses to the client's changing shape may vary from increased desire to disinterest or repulsion. In addition, the client often notes changes in orgasmic experience with a single prolonged uterine contraction rather than rhythmic contractions.

Sexual needs can be met through masturbation, fondling, stroking, and so forth, if mutually desired/acceptable. Client may find that masturbation creates a more intense orgasm than does intercourse. Note: May be contraindicated in women with a history of, or at risk for, preterm labor.

The client's enlarging abdomen requires change of positioning for comfort and safety.

Maternal deaths as a result of air embolism have been reported.

Misconceptions and fears that intercourse may result in fetal injury, infection, and initiation of labor may also influence sexual desires. Intercourse has not been found to cause fetal injury, premature rupture of membranes (PROM), onset of labor, or infections in most women. Note: Prostaglandins in semen can soften the cervix and orgasm can stimulate uterine contractions in the at-risk client.

### **Collaborative**

Instruct client to discuss with her healthcare provider the safety of intercourse in the last 6–8 wk.

Refer for sexual counseling if concerns are not resolved.

If there is a history of complications or if complications are anticipated, specific instructions may be needed.

May be needed to promote positive adaptation to sexual changes.

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### **NURSING DIAGNOSIS:**

#### **Risk Factors May Include:**

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### **Self Esteem, risk for situational low**

Concern about ability to accomplish tasks of pregnancy/childrearing

**Possibly Evidenced By:**

[Not applicable; presence of signs/symptoms establishes an *actual* diagnosis]

**DESIRED OUTCOMES/EVALUATION CRITERIA—CLIENT WILL:**

Discuss reactions to altered body image, dreams.

Seek positive role models in preparation for parenting.

Verbalize feelings of confidence in self regarding new role.

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## **ACTIONS/INTERVENTIONS**

## **RATIONALE**

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### **Independent**

Note client's/couple's verbal and nonverbal cues in discussion of issues related to body change and role expectations. (Refer to CP: First Trimester; ND: Family Coping: potential for growth.)

A crisis situation may result in the last trimester because the client feels anxious, ambivalent, and depressed about her body and the effects of pregnancy on her abilities/activities. She may also fear injury to herself and the fetus and may feel vulnerable to rejection, loss, or insult.

Discuss nature/frequency of dreams.

At this time, dreams and fantasies related to the birth experience, possible abnormalities of the newborn, and role changes intensify.

Evaluate client's/couple's psychological adaptation to pregnancy.

Normal third-trimester tasks focus on preparation for motherhood/fatherhood. If the client and/or her partner have weak egos and do not accomplish the tasks of pregnancy, difficulties coping with the stresses of labor and delivery as well as parenting are possible.

Determine cultural background, including values regarding family.

Society and culture influence the couple's response to pregnancy and to role changes necessitated by the birth of the baby.

Provide information to couple regarding normalcy of introspection, mood swings, and fears.

Turning inward (self-preoccupation) may confuse the man, but allows the client to adjust, adapt, and gain inner strength needed for childbirth, parenting, and role changes. Dreams/fears about labor are common.

Provide/review information about normal physical changes in the third trimester.

Education/communication about how normal body changes can positively affect attitudes and perceptions facilitates understanding and appreciation of the pregnancy by the couple.

Encourage participation in childbirth classes, if not already enrolled.

Allows opportunity for development of peer support group to share emotional reactions to pregnancy and prepare for successful delivery.

Assess availability and nature of support systems, role models, and cultural beliefs.

Availability of sufficient supports can foster positive adjustment to pregnancy and parenting.

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**NURSING DIAGNOSIS:****Risk Factors May Include:****Possibly Evidenced By:****DESIRED OUTCOMES/EVALUATION  
CRITERIA—CLIENT/COUPLE WILL:****Coping, Individual/Family, risk for ineffective**

Situational/maturational crises, personal vulnerability, unrealistic perceptions, inadequate coping methods, absent/insufficient support systems

[Not applicable; presence of signs/symptoms establishes an *actual* diagnosis]

Discuss emotional reaction to third trimester.

Prepare for birth of baby, in accordance with cultural beliefs, through education/acquisition of furniture and supplies.

Identify with appropriate role models.

Ascribe personality characteristics to fetus.

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**ACTIONS/INTERVENTIONS****RATIONALE**

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**Independent**

Assess preparation for labor, delivery, and arrival of newborn.

Enrollment in childbirth classes and acquisition of nursery equipment and supplies may indicate psychological preparedness. Lack of preparation may be based on cultural beliefs or may indicate financial or psychological problems.

Determine client's/couple's perception of fetus as a separate entity.

Activities such as choosing a name or nicknaming the baby in utero and home preparations indicate completion of psychological tasks of pregnancy.

Determine how the man is handling the pregnancy.

As labor and delivery approach, the man who has his own strong dependency needs may have difficulty meeting the client's increasing need for dependence, which may create conflict. In addition, negative coping may be manifested in lack of preparation for labor and/or for the newborn. If he is not accomplishing the tasks of pregnancy, the man may resort to work, hobbies, or an affair.

Note any previous pregnancy loss, genetic factors, or history of stillbirth, and discuss meaning of the incident to the client/couple. (Refer to CPs: Genetic Counseling; Perinatal Loss.)

As a means of protecting themselves from possible loss/injury in the event that the fetus does not survive, the high-risk couple may choose not to undergo appropriate preparation.

Discuss individual concerns, e.g., financial/lack of or inadequate insurance, need to continue employment and/or return to work early, child care, home assistance.

Imminence of delivery makes problem solving a priority that can no longer be postponed. Provides opportunity to identify options.

Evaluate support systems available to client/couple.

Availability of family and friends can help client/couple to manage tasks of upcoming labor/delivery and postpartum period.

## Collaborative

Refer to community resources/counseling as indicated.

May require additional support and/or professional counseling to facilitate coping with serious concerns.

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### NURSING DIAGNOSIS:

#### Risk Factors May Include:

#### Possibly Evidenced By:

#### DESIRED OUTCOMES/EVALUATION CRITERIA—CLIENT WILL:

### Injury, risk for maternal

Presence of hypertension, infection, substance use/abuse, altered immune system, abnormal blood profile, tissue hypoxia, PROM

[Not applicable; presence of signs/symptoms establishes an *actual* diagnosis]

Verbalize understanding of potential individual risk factors.

Be free of complications.

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## ACTIONS/INTERVENTIONS

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## RATIONALE

### Independent

Screen for and evaluate preexisting/newly developed high-risk factors (e.g., heart, kidney, or lung conditions; genetic disorders). Monitor BP, pulse, and heart sounds. Screen for signs of PIH, such as edema, albuminuria, and hypertension.

Obtain vaginal culture. Assess for infections and STDs (including *Candida*, *Trichomonas*, gonorrhea, herpes simplex virus type 2, *Chlamydia*, group B streptococcus, pruritus, and visible warts/lesions). If present, refer for appropriate treatment.

Review need for cesarean birth and schedule the procedure, if within 4 days of delivery and vaginal culture is positive for herpes simplex virus. (Refer to CP: Prenatal Infection.)

Obtain results of Hb and Hct at 28 weeks' gestation. Determine dietary intake. Verify that client is following prescribed daily iron and prenatal vitamins intake. Screen for genetic problems (e.g., sickle cell anemia, thalassemia) if not previously done. (Refer to CP: The High-Risk Pregnancy.)

Provide close, ongoing supervision of diabetic client. At 28 weeks' gestation, obtain results of glucose tolerance test. (Refer to CP: Diabetes Mellitus; Prepregnancy/Gestational.)

Provide information about signs of labor onset; review history for PROM or preterm labor.

Potential high-risk situations often become problematic and necessitate intervention at this time, when circulatory and metabolic demands are greatest. Varying degrees of cardiovascular involvement (vasoconstriction, vasospasm) occur, with sodium/water retention negatively affecting kidney, uterine circulation, and CNS functioning.

Untreated vaginal infections or STDs create intense discomfort for the client and pose risk for the fetus, either through placental transmission or at the time of delivery.

Prevents infection of neonate during birth process.

Detects anemia with potential problems of hypoxemia/anoxia for client and fetus.

Diabetic women are most prone to third-trimester problems related to abruptio placentae, UTI, PIH, stillbirths, placental aging, and ketoacidosis.

Positive history increases likelihood of similar problems in subsequent pregnancies.

Determine use of alcohol/other drugs.

Substance use/abuse places client at increased risk for premature labor and the fetus at risk for difficulties following delivery.

## Collaborative

Assess for vaginal bleeding, presence of ecchymotic areas, and signs of disseminated intravascular coagulation; refer for appropriate treatment. (Refer to CP: Prenatal Hemorrhage.)

Presents an obstetric emergency, with reduction in fluid volume and decreased oxygen-carrying capacity posing a threat to maternal organs, placental circulation, and fetal systems.

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### NURSING DIAGNOSIS:

#### Risk Factors May Include:

#### Possibly Evidenced By:

#### DESIRED OUTCOMES/ EVALUATION—CLIENT WILL:

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### Cardiac Output, risk for [decompensation]

Increased fluid volume/altered venous return, changes in capillary permeability

[Not applicable; presence of signs/symptoms establishes an *actual* diagnosis]

Remain normotensive, free of pathological edema.

Display albuminuria not greater than 1+.

Identify abnormal signs requiring further evaluation.

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## ACTIONS/INTERVENTIONS

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## RATIONALE

### Independent

Review normal physiological changes. Identify signs/symptoms requiring medical evaluation or intervention.

Near term, fluid volume continues to increase by an additional 700 ml, necessitating an accompanying increase in cardiac output (normally 4–7+/min, raises to 5–10+/min during pregnancy). Increased capillary permeability and hydrostatic pressure favors filtration from the vascular bed. Excess fluid retention and initiation of the renin-angiotensin II/aldosterone stress response may cause fluid to leave the cardiovascular system. This may result in “circulatory dehydration,” which negatively affects cardiac output.

Monitor pulse/heart rate.

Resting heart rate increases normally at this time by as much as 15 bpm to facilitate circulation of the additional fluid volume.

Note signs of PIH; for example, generalized edema/weight gain, albuminuria 2+, and hypertension with systolic increases greater than 30 mm Hg or diastolic increases greater than 15 mm Hg above baseline.

Differentiates between physiologically normal edema and potential for developing problems. (Refer to CPs: Second Trimester, Pregnancy-Induced Hypertension; ND: Cardiac Output, risk for decompensation.)

Determine client's knowledge about the effect positioning has on cardiac functioning.

Recommend frequent position changes.

Supine/recumbent positions and prolonged upright positions severely reduce venous return and cardiac output in the third trimester, negatively affecting flow to the uterus and kidneys. A lateral Sims'/semi-Fowler's position optimizes placental and kidney perfusion.

Promotes venous return, thereby reducing edema.

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**NURSING DIAGNOSIS:****Risk Factors May Include:****Possibly Evidenced By:****DESIRED OUTCOMES/EVALUATION CRITERIA—CLIENT WILL:****Gas Exchange, risk for impaired fetal**

Altered blood flow within decidua, altered oxygen supply/altered oxygen-carrying capacity of blood (anemia, cigarette smoking)

[Not applicable; presence of signs/symptoms establishes an *actual* diagnosis]

Identify individual risk factors.

Demonstrate techniques to control/alleviate risk factors.

Display normal fetal heart rate (FHR), appropriate daily fetal movements, and progressive fundal growth.

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**ACTIONS/INTERVENTIONS**

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**RATIONALE****Independent**

Evaluate normal growth progression using fundal height measurement and fetal outline size. Investigate measurements greater than or less than expected levels.

Help client/couple assess fetal movement. Demonstrate method and review rationale for daily count. Instruct client/couple to notify healthcare provider if less than 10 fetal movements in 3-hr period are felt for 2 consecutive days.

Continue ongoing assessment, and encourage cessation of tobacco use (if applicable).

Approximate fundal height at 28 weeks' gestation is 28 cm, and it increases approximately 1 cm/wk until lightening occurs from 38 weeks' gestation on. At term, the fetus obtains oxygen from the maternal portion of the placenta at a rate of 20 to 30 L/min. Because the fetus has such critical needs at that time, any maternal condition that affects cardiac functioning within the decidua basalis, such as placental aging, diabetes, hypertension, or a kidney disorder, as well as high altitude, reduces fetal oxygen levels and nutrient transfers.

Placental insufficiency can be detected by a reduction in fetal movement, usually before any perceivable alteration in FHR occurs. The fetus with adequate placental perfusion demonstrates peak movement between 29 and 38 weeks' gestation.

Tobacco negatively affects placental circulation. Low Apgar scores as well as IUGR are associated with cigarette smoking.

Assess client's prenatal exercise program. Encourage client to engage in moderate, non-weight-bearing exercise (e.g., swimming, bicycling).

Evaluate for other risk factors (e.g., maternal anemia).

### Collaborative

Prepare for, and assist with, ultrasonography, if indicated.

Test serum for Rh incompatibility in Rh-negative client. Repeat test every 4 wk until term, or until high titer (greater than 1:8 or 1:16) indicates a need for further intervention, such as amniocentesis or intrauterine transfusion.

Administer Rh-immune globulin (RhIg) at 28 weeks' gestation. (Refer to CP: The High-Risk Pregnancy.)

Blood flow to the uterus can decrease by 70% with strenuous exercise, producing transient fetal bradycardia, possible fetal hyperthermia, and intrauterine growth retardation/restriction.

May indicate potential incompatibility problems and decreased placental perfusion.

Comparative biparietal diameter (BPD) measurements, estimated fetal weight, and femur length obtained by ultrasonography can accurately assess growth.

Determines level of anti-D antibodies in serum of Rh-negative client with an Rh-positive partner, permitting early intervention.

In the unsensitized client, may decrease possibility of transplacental bleeding.

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#### NURSING DIAGNOSIS:

**Risk Factors May Include:**

**Possibly Evidenced By:**

**DESIRED OUTCOMES/EVALUATION CRITERIA—CLIENT WILL:**

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#### Injury, risk for fetal

Maternal health problems, exposure to teratogens/infectious agents

[Not applicable; presence of signs/symptoms establishes an *actual* diagnosis]

Identify individual risk factors.

Alter lifestyle/behaviors to reduce risks.

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### ACTIONS/INTERVENTIONS

#### Independent

Continue ongoing assessment of maternal nutrition. (Refer to CP: First Trimester; ND: Nutrition: altered, risk for less than body requirements.)

Discourage use of tobacco (if applicable).

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### RATIONALE

Alterations in maternal nutrition can reduce fetal iron stores, limit fat reserves, delay neurological development in the neonate/child, and reduce protein available for brain growth, thereby reducing head circumference in offspring. In addition, elevation of serum glucose levels in gestational diabetes mellitus is associated with macrosomia of the fetus.

May limit maternal weight gain, reduce intrauterine/placental growth, and result in low Apgar scores at birth.

Provide information about risks of drug therapy (e.g., sulfonamide, tetracycline, streptomycin) in the event of maternal infection.

In the third trimester, sulfonamides increase the risk of hyperbilirubinemia by interfering with albumin-bilirubin bond. Tetracycline causes staining of deciduous teeth and inhibits bone growth in premature infants. Streptomycin may cause damage to the auditory nerve, resulting in possible hearing loss. (Note: Review drug literature for all medications prescribed because many agents have adverse effects.)

### **Collaborative**

Monitor fetal biophysical profile.

Helps determine uteroplacental/fetal well-being. (Refer to CP: The High-Risk Pregnancy; ND: Injury, risk for fetal.)

Note condition of membranes; hospitalize client if they are ruptured.

Rupture of membranes places fetus and client at risk for sepsis. Note: In the absence of frank rupture of membranes, client may be considered for monitoring on an outpatient basis.