chapter 53

Drugs Acting on the Uterus

Key Terms

ergotism
oxytocic
oxytocin
uterine atony
uterine relaxants
water intoxication

Chapter Objectives

On completion of this chapter, the student will:

- Discuss the actions, uses, adverse reactions, contraindications, precautions, and interactions of drugs acting on the uterus.
- Discuss important preadministration and ongoing assessment activities the nurse should perform on the patient taking an oxytocic drug or uterine relaxant.
- List some nursing diagnoses particular to a patient taking an oxytocic drug or uterine relaxant.
- Discuss ways to promote an optimal response to therapy, how to manage adverse reactions, and important points to keep in mind when educating patients about the use of an oxytocic drug or uterine relaxant.

Drug therapy is beneficial for use in labor and delivery to promote the well-being of the woman and fetus. Depending on the patient's need, drugs may be used to stimulate, intensify, or inhibit uterine contractions. The two types of drugs discussed in this chapter for their effect on the uterus are the oxytocics and the uterine relaxants. Drugs acting on the uterus are listed in the Summary Drug Table: Drugs Acting on the Uterus.

OXYTOCIC DRUGS

Oxytocic drugs are drugs that are used in antepartum (before birth of the neonate) to induce uterine contractions similar to those of normal labor. These drugs are desirable when early vaginal delivery is in the best interest of the woman and the fetus.

An oxytocic drug is one that stimulates the uterus. Included in this group of drugs are ergonovine (Ergotrate), methylergonovine (Methergine), and oxytocin (Pitocin).

ACTION AND USES

Ergonovine and Methylergonovine

Ergonovine and methylergonovine both increase the strength, duration, and frequency of uterine contractions and decrease the incidence of uterine bleeding. They are given after the delivery of the placenta and are used to prevent postpartum and postabortal hemorrhage caused by **uterine atony** (marked relaxation of the uterine muscle).

Oxytocin

Oxytocin is an endogenous hormone produced by the posterior pituitary gland (see Chap. 50). This hormone has uterine-stimulating properties, especially on the pregnant uterus. As pregnancy progresses, the sensitivity of the uterus to oxytocin increases, reaching peak sensitivity immediately before the birth of the infant. This sensitivity enables oxytocic drugs to exert their full therapeutic effect on the uterus and produce the desired results. Oxytocin also has antidiuretic and vasopressor effects. The exact role of oxytocin in normal labor and medically induced labor is not well understood.

SUMMARY DRUG TABLE DRUGS ACTING ON THE UTERUS

GENERIC NAME	TRADE NAME*	USES	ADVERSE REACTIONS	DOSAGE RANGES
Oxytocics				
ergonovine maleate *er-goe-noe'-veen*	Ergotrate, *generic*	Uterine atony and hemorrhage	Nausea, vomiting, elevated blood pressure, temporary chest pain, dizziness, headache	0.2 mg IM, IV q2–4h
methylergonovine maleate *meth-ill-er-goe-noe'-veen*	Methergine	Routine management after delivery of the placenta, uterine atony, and hemorrhage	Nausea, vomiting, elevated blood pressure, transient chest pain, dizziness, headache	0.2 mg IM, IV after delivery of the placenta; 0.2 mg PO TID, QID
oxytocin (parenteral) *ox-i-toe'-sin*	Pitocin, Syntocinon, *generic*	Antepartum: to initiate or improve uterine contractions; postpartum: to produce uterine contractions in third stage of labor, control of postpartum bleeding and hemorrhage	Nausea, vomiting, uterine hypertonicity or rupture, fetal bradycardia, water intoxication, cardiac arrhythmias, anaphylactic reactions	Induction of labor: 1–2 mU/min IV infusion, gradually increase dosage by 1–2 mU/min with maximum dosage 20 mU/min; postpartum bleeding: IV infusion of 10–40 U in 1000 mL; 10 U IM
Uterine Relaxants				
ritodrine hydrochloride *ri'-toe-dreen*	Yutopar, *generic*	Preterm labor	Alterations in fetal and maternal heart rates and maternal blood pressure, palpitations, headache, nausea, vomiting	IV: 0.05–0.35 mg/min depending on patient response
terbutaline *ter-byoo'-ta-leen*	Brethaire, Brethine, *generic*	Preterm labor	Nervousness, restlessness, tremor, headache, anxiety, hypertension, palpitations, arrhythmias, hypokalemia, pulmonary edema	Preterm labor: IV 10 mcg/min q10 min up to 80 mcg/min; SQ: 250 mcg qh until contractions stop; PO: 2.5 mg q4–6h until delivery

*The term *generic* indicates the drug is available in generic form.

Oxytocin is administered intravenously (IV) for starting or improving labor contractions to obtain an early vaginal delivery of the fetus. An early vaginal delivery may be indicated when there are fetal or maternal problems, for example, a woman with diabetes and a large fetus, Rh problems, premature rupture of the membranes, uterine inertia, and eclampsia or preeclampsia (also called pregnancy-induced hypertension). Preeclampsia is a condition of pregnancy characterized by hypertension, headaches, albuminuria, and edema of the lower extremities occurring at or near term. The condition may progressively worsen until eclampsia (a serious condition occurring between the 20th week of pregnancy and the end of the first week postpartum and characterized by convulsive seizures and coma) occurs. Oxytocin may also be used in the management of inevitable or incomplete abortion. Oxytocin is given intramuscularly (IM) during the third stage of labor (period from the time the neonate is expelled until the placenta is expelled) to produce uterine contractions and control postpartum bleeding and hemorrhage. It may also be used intranasally to stimulate the milk ejection (milk letdown) reflex.

ADVERSE REACTIONS

Ergonovine and Methylergonovine

The adverse reactions associated with ergonovine and methylergonovine include nausea, vomiting, elevated blood pressure, temporary chest pain, dizziness, water intoxication, and headache. Allergic reactions may also be seen. In some instances hypertension associated with seizure or headache may occur. **Ergotism** (overdosage of ergonovine) is manifested by nausea, vomiting, abdominal pain, numbness, tingling of the extremities, and an increase in blood pressure. In severe cases, these symptoms are followed by hypotension, respiratory depression, hypothermia, gangrene of the fingers and toes, convulsions, hallucinations, and coma.

Oxytocin

Administration of oxytocin may result in fetal bradycardia, uterine rupture, uterine hypertonicity, nausea, vomiting, cardiac arrhythmias, and anaphylactic reactions. Serious **water intoxication** (fluid overload, fluid volume excess) may occur, particularly when the drug is administered by continuous infusion and the patient is receiving fluids by mouth. When used as a nasal spray, adverse reactions are rare.

CONTRAINDICATIONS, PRECAUTIONS, AND INTERACTIONS

Ergonovine and Methylergonovine

Ergonovine is contraindicated in those with known hypersensitivity to the drug, hypertension, and before the delivery of the placenta. Ergonovine is used cautiously in patients with heart disease, obliterative vascular disease, renal or hepatic disease, and during lactation.

Methylergonovine is contraindicated in patients with a known hypersensitivity to the drug, hypertension, and preeclampsia and should not be used to induce labor (Pregnancy Category C). Methylergonovine is used cautiously in patients with renal or hepatic impairment. When methylergonovine is administered concurrently with vasopressors or to patients who are heavy cigarette smokers, excessive vasoconstriction may occur.

Oxytocin

Oxytocin is contraindicated in patients with known hypersensitivity to the drug, cephalopelvic disproportion, unfavorable fetal position or presentation, in obstetric emergencies, situations of fetal distress when delivery is not imminent, severe toxemia (preeclampsia, eclampsia), hypertonic uterus, during pregnancy (intranasal administration), when there is total placenta previa, or to induce labor when vaginal delivery is contraindicated. Oxytocin is not expected to be a risk to the fetus when administered as indicated. When oxytocin is administered with vasopressors, severe hypertension may occur.

NURSING PROCESS

The Patient Receiving an Oxytocic Drug

ASSESSMENT

Preadministration Assessment

Before starting an IV infusion of oxytocin for the induction of labor, the nurse obtains an obstetric history (parity, gravidity, previous obstetric problems, type of labor, stillbirths, abortions, live birth infant abnormalities) and a general health history. Immediately before starting the IV infusion of oxytocin, the nurse assesses the fetal heart rate (FHR) and the patient's blood pressure, pulse, and respiratory rate.

In addition, the nurse assesses and records the activity of the uterus (strength, duration, and frequency of contractions, if any). Monitoring of the uterine contractions for strength and length of the contractions can be done with the use of an external monitor or by an internal uterine catheter with an electronic monitor. A fetal monitor is placed to assess the FHR.

Ergonovine and methylergonovine may be given orally during the postpartum period to reduce the possibility of postpartum hemorrhage and to prevent relaxation of the uterus. When the patient is to receive either of these drugs after delivery, it is important to take the blood pressure, pulse, and respiratory rate before administration.

Ongoing Assessment

After injection of an oxytocic drug, the nurse monitors the blood pressure, pulse, and respiratory rate at the intervals ordered by the primary health care provider.

Nursing Alert

All patients receiving IV oxytocin must be under constant observation to identify complications. A one-to-one nurse–patient ratio is recommended when monitoring a patient receiving an oxytocin infusion. In addition, the primary health care provider should be immediately available at all times.

The nurse assesses the patient's blood pressure, pulse, and respiratory rate every 30 minutes. The FHR and uterine contractions are assessed every 15 minutes or as ordered by the primary health care provider. Three to four firm uterine contractions should occur every 10 minutes, followed by a palpable relaxation of the uterus.

Nursing Alert

Hyperstimulation of the uterus during labor may lead to uterine tetany with marked impairment of the uteroplacental blood flow, uterine rupture, cervical rupture, amniotic fluid embolism, and trauma to the infant. Overstimulation of the uterus is dangerous to both the fetus and the mother and may occur even when the drug is administered properly in a uterus that is hypersensitive to oxytocin.

When monitoring uterine contractions, the nurse notifies the primary health care provider immediately if any of the following occurs:

- Any significant change in the FHR or rhythm
- Any marked change in the frequency, rate, or rhythm of uterine contractions: uterine contractions

lasting more than 60 seconds or contractions occurring more frequently than every 2 to 3 minutes or there is no palpable relaxation of the uterus
- A marked increase or decrease in the patient's blood pressure or pulse or any significant change in the patient's general condition

If any of these are noted, the nurse should immediately discontinue the oxytocin infusion and run the primary IV line at the rate prescribed by the primary health care provider until the primary health care provider examines the patient.

The nurse immediately reports any signs of water intoxication or fluid overload (eg, drowsiness, confusion, headache, listlessness, and wheezing, coughing, rapid breathing) to the primary health care provider.

Oxytocin may be given IM after delivery of the placenta. The nurse obtains the blood pressure, pulse, and respiratory rate every 5 to 10 minutes after the drug is administered. The nurse palpates the patient's uterine fundus for firmness and position. The nurse immediately reports any excess bleeding to the primary health care provider.

When administering ergonovine and methylergonovine after delivery, the nurse monitors vital signs every 4 hours. In addition, the nurse notes the character and amount of vaginal bleeding. The patient may report abdominal cramping with the administration of these drugs. If cramping is moderately severe to severe, the nurse notifies the primary health care provider because it may be necessary to discontinue use of the drug.

NURSING DIAGNOSES

Drug-specific nursing diagnoses are highlighted in the Nursing Diagnoses Checklist. Other nursing diagnoses applicable to these drugs are discussed in depth in Chapter 4.

PLANNING

The expected outcomes of the patient may include an optimal response to drug therapy (ie, initiation of the normal labor process), adverse reactions identified and reported to the primary health care provider (eg, absence of a fluid volume excess [oxytocin administration]), and an understanding of the treatment regimen.

Nursing Diagnoses Checklist

- ✓ **Anxiety** related to labor and delivery
- ✓ **Excess Fluid Volume** related to administration of IV fluids containing oxytocin
- ✓ **Risk for Injury** (fetal) related to adverse drug effects of oxytocin (fetal bradycardia)
- ✓ **Pain** related to adverse reactions (abdominal cramping, nausea, headache)

IMPLEMENTATION

Promoting an Optimal Response to Therapy

OXYTOCIN. The patient receiving oxytocin to induce labor may have concern over the use of the drug to produce contractions. When given to induce or stimulate contractions, oxytocin may only be given intravenously (IV). The nurse explains the purpose of the IV infusion and the expected results to the patient. Because the patient receiving oxytocin must be closely supervised, the nurse spends time with the patient and offers encouragement and reassurance to help reduce anxiety.

When oxytocin is prescribed, the primary health care provider orders the type and amount of IV fluid, the number of units of oxytocin added to the IV solution, and the IV infusion rate. An electronic infusion device is used to control the infusion rate. The primary health care provider establishes guidelines for the administration of the oxytocin solution and for increasing or decreasing the flow rate or discontinuing the administration of oxytocin based on standards established by the Association of Women's Health, Obstetric, and Neonatal Nurses (AWHONN). Usually, the flow rate is increased every 20 to 30 minutes, but this may vary according to the patient's response. The strength, frequency, and duration of contractions and the FHR are monitored closely.

When administering oxytocin intranasally to facilitate the letdown of milk, the nurse places the patient in an upright position, and with the squeeze bottle held upright, administers the prescribed number of sprays to one or both nostrils. The patient then waits 2 to 3 minutes before breastfeeding the infant or pumping the breasts. If a breast pump is being used, the nurse records the amount of milk pumped from the breasts.

The nurse notifies the primary health care provider if milk drips from the breast before or after breastfeeding or if milk drips from the opposite breast during breastfeeding because there would be no need to continue drug therapy. The primary health care provider is notified if nasal irritation, palpations, or uterine cramping occurs.

ERGONOVINE AND METHYLERGONOVINE. The nurse administers ergonovine and methylergonovine at the direction of the primary health care provider. Ergonovine is usually given during the third stage of labor after the placenta has been delivered. Ergonovine is primarily administered IM, but in emergencies when quicker response is needed, the drug may be administered IV.

Methylergonovine is usually given IM at the time of the delivery of the anterior shoulder or after the delivery

of the placenta. The drug is not given routinely IV because it may produce sudden hypertension and stroke. If the drug is given IV, the nurse administers the drug slowly during a period of 1 minute or more with close monitoring of the patient's blood pressure.

When ergonovine or methylergonovine is administered in the delivery room, the nurse briefly explains the purpose of the injection to the patient. If either of these drugs is given after delivery of the infant, the nurse explains the purpose of the drug (eg, to improve the tone of the uterus and to help the uterus to return to its [near] normal size).

Monitoring and Managing Adverse Reactions

OXYTOCIN. When oxytocin is administered, some adverse reactions must be tolerated or treated symptomatically until therapy is discontinued. For example, if the patient is nauseated, the nurse provides an emesis basin and perhaps a cool towel for the forehead. If vomiting occurs, the nurse notifies the primary health care provider.

If contractions are frequent, prolonged, or excessive, the infusion is stopped to prevent fetal anoxia or trauma to the uterus. Excessive stimulation of the uterus can cause uterine hypertonicity and possible uterine rupture. The nurse places the patient on her side and provides supplemental oxygen. The effects of the drug diminish rapidly because oxytocin is short acting.

When oxytocin is administered IV, there is a danger of a fluid volume excess (water intoxication) because oxytocin has an antidiuretic effect. The nurse measures the fluid intake and output. In some instances, hourly measurements of the output are necessary. The nurse observes the patient for signs of fluid overload (see Chap. 58). If any of these signs or symptoms is noted, the nurse should immediately discontinue the oxytocin infusion and run the primary IV line at the rate prescribed by the primary health care provider until the primary health care provider examines the patient.

ERGONOVINE AND METHYLERGONOVINE. When ergonovine or methylergonovine is administered for uterine atony and hemorrhage, abdominal cramping can occur and is usually an indication of drug effectiveness. The uterus is palpated in the lower abdomen as small, firm, and round. However, the nurse should report persistent or severe cramping to the primary health care provider.

Nursing Alert

In some patients who are calcium deficient, the uterus may not respond to ergonovine. The nurse immediately reports a lack of response to ergonovine. Administration of calcium by IV injection usually restores response to the drug.

Although rare, ergotism or ergot poisoning can occur with the administration of excessive amounts of ergonovine or methylergonovine.

Nursing Alert

Symptoms of ergotism that must be reported immediately include coolness, numbness and tingling of extremities, dyspnea, nausea, confusion, tachycardia or bradycardia, chest pain, hallucinations, and convulsions. If these reactions occur, the nurse immediately reports them to the primary health care provider because use of the drug must be discontinued.

Educating the Patient and Family

The treatment regimen is explained to the patient and family (when appropriate). The nurse answers any questions the patient may have regarding treatment. The patient is instructed to report any adverse reactions. The patient and family are informed of therapeutic response during administration of the drug. If nasal spray is to be used, the patient is taught proper use.

EVALUATION

- The therapeutic effect is achieved, and normal labor is initiated.
- Adverse reactions are managed effectively.
- No evidence of a fluid volume excess (oxytocin administration) is seen.
- The patient is knowledgeable of the therapeutic regimen.

UTERINE RELAXANTS

Uterine relaxants are useful in the management of preterm labor. These drugs will decrease uterine activity and prolong the pregnancy to allow the fetus to develop more fully, thereby increasing the chance of neonatal survival. Ritodrine (Yutopar) and terbutaline (Brethine) are two drugs currently used as uterine relaxants in the management of preterm (or premature) labor.

ACTIONS AND USES

Ritodrine

Ritodrine has an effect on beta $(\beta)_2$-adrenergic receptors, principally those that innervate the uterus. Stimulation of these β_2-adrenergic receptors inhibits uterine smooth muscle contractions. The β_1-adrenergic receptors are located in the heart and are not stimulated by ritodrine when administered as prescribed. Ritodrine is used to

manage preterm labor in pregnancies of greater than 20 weeks' gestation. Ritodrine administration requires hospitalization.

Terbutaline

Terbutaline (Brethine) is also classified as a β_2-adrenergic agonist (see Chap. 22) and is used primarily as a bronchodilator for patients with asthma and chronic obstructive pulmonary disease. Terbutaline is not approved by the Food and Drug Administration for treatment of preterm labor. Its use in the management of premature labor is investigational. However, many primary health care providers prefer terbutaline for the management of preterm labor, and it has proven to be highly effective for this purpose. When terbutaline is prescribed for the management of preterm labor, most agencies have the patient sign an informed consent before therapy is initiated.

ADVERSE REACTIONS

Ritodrine

Alterations in fetal and maternal heart rates and maternal blood pressure frequently occur when ritodrine is administered IV. Additional frequent adverse reactions associated with IV administration include nausea, vomiting, headache, palpitations, nervousness, restlessness, and emotional upset. A rare, but serious, adverse reaction is pulmonary edema.

Terbutaline

Adverse reactions observed with the administration of terbutaline include nervousness, restlessness, tremor, headache, anxiety, hypertension, hypokalemia (low serum potassium), arrhythmias, and palpitations. A serious, but rare, adverse reaction is pulmonary edema.

CONTRAINDICATIONS, PRECAUTIONS, AND INTERACTIONS

Ritodrine

Ritodrine is contraindicated in patients with known hypersensitivity to the drug, antepartum hemorrhage, eclampsia or severe preeclampsia, cardiac disease, pulmonary hypertension, uncontrolled diabetes mellitus, or bronchial asthma (patients treated with betamimetics or steroids), in pregnancies of less than 20 weeks' gestation, and in the event of intrauterine fetal death. Ritodrine is classified as a Pregnancy Category B drug and is given cautiously during pregnancy. Because no adequate studies have been done in pregnant women before the 20th week of pregnancy, do not use this drug before the 20th week. Ritodrine is administered cautiously in patients with cardiac disease, migraine headaches, history of stroke, hyperthyroidism, and seizure disorders.

There is a decreased effectiveness of ritodrine when the drug is administered with a β-adrenergic blocking agent such as propranolol and an increased risk of pulmonary edema when administered with the corticosteroids. Co-administration of ritodrine with the sympathomimetics potentiates the effect of ritodrine. Cardiovascular effects (eg, arrhythmias or hypotension) of ritodrine may increase when the drug is administered with diazoxide, general anesthetics, magnesium sulfate, or meperidine.

Terbutaline

Terbutaline is contraindicated in patients with known hypersensitivity to the drug, severe cardiac problems (tachyarrhythmias), digitalis toxicity, or hypertension. Terbutaline is classified as a Pregnancy Category B drug and is given cautiously during pregnancy (after the 20th week of pregnancy only). Terbutaline is administered cautiously in patients with cardiac disease, history of stroke, hyperthyroidism, and seizure disorders. When terbutaline is administered with the anesthetic halothane, there is an increased risk of cardiac arrhythmias. Additional information about terbutaline can be found in Chapter 37.

NURSING PROCESS

The Patient Receiving a Uterine Relaxant

ASSESSMENT

Preadministration Assessment

Before starting an IV infusion containing ritodrine or terbutaline, the nurse obtains the patient's vital signs. The nurse auscultates lung sounds to provide a baseline assessment. The nurse places the patient on a monitoring device to determine uterine contractions and the FHR before and during administration.

Ongoing Assessment

During the ongoing assessment of a patient receiving a uterine relaxant, the nurse performs the following tasks at 15- to 30-minute intervals:

- Obtains blood pressure, pulse, and respiratory rate.
- Monitors FHR.
- Checks the IV infusion rate.

Nursing Diagnoses Checklist

- ✓ **Nausea** related to adverse reactions
- ✓ **Risk for Impaired Gas Exchange** related to adverse reactions (eg, pulmonary edema)
- ✓ **Anxiety** related to preterm labor

- Examines the area around the IV needle insertion for signs of extravasation.
- Monitors uterine contractions (frequency, intensity, length).

NURSING DIAGNOSES

Drug-specific nursing diagnoses are highlighted in the Nursing Diagnoses Checklist. Other nursing diagnoses applicable to these drugs are discussed in depth in Chapter 4.

PLANNING

The expected outcomes of the patient may include an optimal response to therapy, a reduction in anxiety, and an understanding of the treatment of preterm labor.

IMPLEMENTATION

Promoting an Optimal Response to Therapy

Nursing management for ritodrine and terbutaline is similar. For IV administration, the nurse prepares the solution according to the primary health care provider's instructions. An infusion pump is used to control the rate of flow. Ritodrine or terbutaline may be piggybacked to the primary line, allowing the primary line to maintain the patency of the IV should it be necessary to temporarily discontinue infusion of the drug. The primary health care provider may prescribe terbutaline for administration by the oral or the subcutaneous route throughout the treatment, rather than via the IV route. The nurse places a cardiac monitor on the patient. To minimize hypotension, the nurse positions the patient in a left lateral position unless the primary health care provider orders a different position.

The primary health care provider is kept informed of the patient's response to the drug because a dosage change may be necessary. The primary health care provider establishes guidelines for the regulation of the IV infusion rate, as well as the blood pressure and pulse ranges that require stopping the IV infusion.

Monitoring and Managing Adverse Reactions

The nurse monitors the maternal and fetal vital signs every 15 minutes during administrations of the drug. The nurse monitors uterine contractions frequently throughout infusion.

Nursing Alert

The nurse reports to the primary care provider a pulse rate of 140 bpm, persistent elevation of pulse rate, irregular pulse, or increase in respiratory rate of more than 20/min. The nurse assesses the respiratory status for symptoms of pulmonary edema (eg, dyspnea, tachycardia, increased respiratory rate, rales, and frothy sputum). If these reactions occur, the end result could mean pulmonary edema. The primary health care provider may decrease the dosage or discontinue the drug. The primary health care provider is notified immediately if any of these symptoms occur because use of the drug may be discontinued. After contractions cease, the nurse tapers the dosage to the lowest effective dose by decreasing the infusion rate of the drug at regular intervals prescribed by the primary health care provider. Continue the IV infusion for at least 12 hours after uterine contractions have ceased. Because the duration of treatment is short, mild adverse reactions must be tolerated. If adverse reactions are severe, use of the drug is discontinued or the dosage decreased.

Managing Anxiety

The patient in preterm labor may have many concerns about her pregnancy, as well as the effectiveness of drug therapy. The woman is encouraged to verbalize any fears or concerns. The nurse listens to the patient's concerns and carefully and accurately answers any questions she may have concerning drug therapy. In addition, the nurse offers emotional support and encouragement during the time the drug is being administered. If allowed by the institution, the presence of family members may decrease anxiety in the woman experiencing preterm labor.

Educating the Patient and Family

The nurse carefully explains the treatment regimen to the patient. The primary health care provider usually discusses the expected outcome of treatment with the patient and answers any questions regarding therapy. Although the patient is monitored closely during therapy, the patient is instructed to notify the nurse immediately if any of the following occur: nausea, vomiting, palpitations, or shortness of breath. If a patient is taking ritodrine, the nurse discusses the importance of lying on the left side during IV administration.

If oral terbutaline is prescribed for preterm labor, the patient is instructed on use of the drug and adverse reactions to report (excessive tremor, nervousness, drowsiness, headache, nausea, dizziness). If contractions resume during oral therapy, the patient is instructed to notify the primary health care provider if four to six contractions per hour occur.

EVALUATION

- The therapeutic drug effect is achieved.
- Adverse reactions are identified and reported to the primary health care provider.
- Anxiety is reduced.
- The patient demonstrates an understanding of in-hospital treatment.

● Critical Thinking Exercises

1. *Develop a nursing care plan for Ms. Morris, a 28-year-old woman who is admitted to the obstetric unit with premature labor during her third trimester. This is her second child, and she has had two miscarriages. She is prescribed ritodrine for preterm labor. Analyze what nursing diagnoses would have the highest priority. Discuss how you would explore and plan to meet her emotional needs.*
2. *Judith Watson, aged 28 years, is admitted to the obstetric unit and is to receive oxytocin to induce labor. This is her first child, and she is extremely anxious. Analyze what information would be necessary for her to receive from the nurse before the administration of oxytocin. What assessments would be important for the nurse to make during treatment with oxytocin?*

● Review Questions

1. When oxytocin is administered over a prolonged time, which of the following adverse reactions would be most likely to occur?
   - **A.** Hyperglycemia
   - **B.** Renal impairment
   - **C.** Increased intracranial pressure
   - **D.** Water intoxication
2. When the patient is receiving oxytocin, the nurse would notify the primary health care provider in which of the following conditions?
   - **A.** Uterine contractions occur every 5 to 10 minutes.
   - **B.** Uterine contractions last more than 60 seconds or contractions occur more frequently than every 2 to 3 minutes.
   - **C.** Patient experiences pain during a uterine contraction.
   - **D.** Patient experiences increased thirst.
3. Which of the following adverse reactions is most indicative of ergotism?
   - **A.** Numbness, tingling of the extremities
   - **B.** Headache, blurred vision
   - **C.** Tachycardia and cardiac arrhythmias
   - **D.** Diaphoresis, increased respirations
4. During administration of ritodrine, in what position would the nurse most probably place the patient?
   - **A.** Supine
   - **B.** Prone
   - **C.** On the left side
   - **D.** On the right side

● Medication Dosage Problems

1. Terbutaline 2.5 mg is prescribed. The drug is available in 5-mg tablets. The nurse administers _____.
2. Methylergonovine 0.2 mg IM is prescribed. The drug is available as 0.2 mg/mL. The nurse administers _____.