Medications Commonly used in Maternal Newborn

Medication	Mechanism of Action/Use	Nursing considerations
Methotrexate	May exert immunosuppressive effects by inhibiting replication and function of T and possibly B lymphocytes. Methotrexate also slows rapidly growing cell, such as epithelial skin cells in psoriasis.	Monitor results of CBC, chest x-ray, liver and renal function tests, and urinalysis before and during treatment. Increase patient's fluid intake to 2 to 3 L daily, unless contraindicated, to reduce the risk of adverse GU reactions.
Mifepristone	Mifepristone is a synthetic steroid. It is a medication most used for medically induced abortions. Mifepristone can also be used in the management and treatment of Cushing's syndrome and uterine leiomyomas. At low doses, mifepristone blocks progesterone by competitively binding its intracellular receptor.	Instruct patient to notify healthcare provider immediately if she develops weakness, nausea, vomiting, diarrhea with or without abdominal pain or fever more than 24 hours after taking Mifepristone. Inform patient that vaginal bleeding and uterine cramping will probably occur.
Rhogam	Is a sterilized solution made from human blood used to prevent an immune response to Rh positive blood in people with a Rh-negative blood type	Type and antibody screening of the mother's blood and cord blood type of the newborn must be performed to determine the need for the medication. The mother must be Rh-negative and negative for Rh antibodies. The newborn must be Rh-positive. If the fetal blood type after termination of pregnancy is uncertain, the medication should be administered.
Promethazine	Promethazine prevents motion sickness, nausea, and vertigo by acting centrally on medullary chemoreceptive stimulation and labyrinthine function in the inner ear.	Use promethazine cautiously in children and elderly patients because they may be more sensitive to its effects, patients with cardiovascular disease or hepatic dysfunction because of potential adverse effects, patients with asthma because of anticholinergic effects, and patients with seizer disorders or those who take drugs that may affect seizure threshold because drug may lower seizure

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Medication	Mechanism of Action/Use	Nursing considerations
		threshold.
Pyridoxine and Doxylamine	Doxylamine is an antihistamine that reduces the effects of natural chemical histamine in the body. Pyridoxine is a form of vitamin B (B6). These two medications combined is used to treat nausea and vomiting during pregnancy, sometimes called morning sickness.	Do not breastfeed while taking this medication. Do not drive or operate machinery until you know how his medication affects you.
Ondansetron	Blocks serotonin receptors centrally in the chemoreceptor trigger zone and peripherally at vagal nerve terminals in the intestine. This action reduces nausea and vomiting by preventing serotonin release in the small intestine and by blocking signals to the CNS.	Monitor patient's electrocardiogram, as ordered, and especially in patients with bradyarrhythmia's, congestive heart failure, hypokalemia, or hypomagnesemia or in patients taking other medications known to prolong the QT interval because ondansetron therapy can prolong the QT interval resulting in life-threatening arrhythmias such as torsade's de pointes.
Betamethasone	is a steroid that prevents the release of substances in the body that cause inflammation.	Give daily dose before 9 am mimic normal peak corticosteroid blood levels. Do not give live virus vaccines with immunosuppressive doses of corticosteroids. Increase dosage when patient is subject to stress. Taper doses when discontinuing high-dose or long-term therapy.
Indomethacin	Blocks the activity of cyclooxygenase, the enzyme needed to synthesize prostaglandins, which mediate inflammatory response and cause local pain, swelling, and vasodilation. By blocking cyclooxygenase and	Be aware that NSAIDs like indomethacin should be avoided in patients with a recent MI because risk of reinfarction increases with NSAID therapy. If therapy is unavoidable, monitor the patient closely for signs of cardiac ischemia.

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	inhibiting prostaglandins, this NSAID reduces inflammatory symptoms and helps relieve pain.	Be aware that serious GI tract, bleeding, perforation, and ulceration may occur without warning symptoms. Elderly patients are at greater risk. To minimize risk, give oral indomethacin with a antacid, food, or a full glass of water, to reduce GI distress.
Magnesium Sulfate	Assists all enzymes involved in phosphate transfer reactions that use adenosine triphosphate (ATP). Magnesium is required for normal function of the ATP-dependent sodium-potassium pump in muscle membranes.	Be aware that drug isn't metabolized. Drug remaining in the GI tract produces watery stool within 30 minutes to 3 hours. Frequently assess cardiac status of patient taking drugs that lower heart rate, such as beta blockers because magnesium may aggravate symptoms of heart block.
Terbutaline Sulfate	Stimulates beta2-adrenergic receptors in the lungs, which is believed to increase production of cAMP. The increased cAMP level relaxes bronchial smooth muscles, thereby increasing bronchial airflow and relieving bronchospasm.	Assess patient's respiratory rate, depth, and quality; oxygen saturation; and activity tolerance at regular intervals because continuous use of beta2-agonists for 12 months or longer accelerates the decline in pulmonary function.
Glyburide	Stimulates insulin release from beta cells in the pancreas. Glyburide also increases peripheral tissue sensitivity to insulin either by enhancing insulin binding to cellular receptors or by increasing the number of insulin receptors.	Use cautiously in patients with glucose 6-phosphate dehydrogenase deficiency because hemolytic anemia may develop. Monitor patient's CBC closely. Monitor fasting blood glucose level to determine patient's response to glyburide. Expect to check glycosylated hemoglobin every 3 to 6 months or as ordered to evaluate long-term blood glucose control.
Insulin	Lowes blood glucose levels by stimulating peripheral glucose uptake by fat and skeletal muscle, and by inhibiting hepatic glucose production. Also enhances protein synthesis, inhibits	Be aware that inhaled insulin is not a substitute for long-acting insulin and must be used in combination with long-acting insulin in patients with type 1 diabetes mellitus.

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	lipolysis in adipocytes, and inhibits proteolysis.	Monitor patient's blood glucose level closely to detect need for dosage adjustment, as ordered. Expect dosage adjustments with changes in patient's hepatic or renal function, meal patterns, and physical activity, or during acute illness.
Hydralazine hydrochloride	May act in a manner that resembles organic nitrates and sodium nitroprusside, except that hydralazine is selective for arteries. It exerts a direct vasodilating effect on vascular smooth muscle. It interferes with calcium movement in vascular smooth muscle by altering cellular calcium metabolism. Dilates arteries, not veins, minimizes orthostatic hypotension and increases cardiac output and cerebral blood flow. It causes reflex autonomic response that increases cardiac output, heart rate, and left ventricular ejection fraction. Has a positive inotropic effect on the heart.	Monitor ANA titer, CBC, and lupus erythematosus cell preparation before therapy and periodically as ordered during long-term treatment. Monitor blood pressure and pulse rate regularly and weigh patients daily during therapy. Check blood pressure with patient in lying, sitting, and standing positions, and watch for signs of orthostatic hypotension. Expect orthostatic hypotension to be most common in the morning, during hot weather, and with exercise.
Labetalol	Selectively blocks alpha1 and beta2 receptors in vascular smooth muscle and beta1 receptors in the heart to reduce blood pressure and peripheral vascular resistance. Potent beta blocker prevents reflex tachycardia, which commonly occurs when alpha blockers reduce cardiac output, resting heart rate, or stroke volume.	Monitor blood glucose level in diabetic patients because labetalol may conceal symptoms of hypoglycemia. Be aware that stopping labetalol tablets abruptly after long-term therapy could result in angina, MI, or ventricular arrhythmias. Expect to taper dosage over 2 weeks while monitoring response.
Nifedipine	May slow movement of calcium into myocardial and vascular smooth-muscle cells by deforming calcium	Be aware that patients with galactose intolerance should not take nifedipine because the drug contains lactose. The

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Medication	Mechanism of Action/Use	Nursing considerations
	channels in cell membranes, inhibiting ion-controlled gating mechanisms, and disrupting calcium release from sarcoplasmic reticulum. Decreasing intracellular calcium level inhibits smooth-muscle cell contraction and dilates arteries, which decreases myocardial oxygen demand, peripheral resistance, blood pressure, and afterload.	capsule form of nifedipine should not be used to treat hypertension because its effects on blood pressure are not known. Use cautiously in patients with cirrhosis because it is unknown how nifedipine exposure may be altered in these patients. Know that when starting and stopping nifedipine therapy, taper it, as prescribed, over 7 to 14 days. Monitor fluid intake/output and daily weight; fluid retention may lead to heart failure. Also assess for signs of heart failure, such as crackles, dyspnea, jugular vein distention, peripheral edema, and weight gain.
Calcium gluconate	Increases levels of intracellular and extracellular calcium, which is needed to maintain homeostasis, especially in the nervous and musculoskeletal systems. Also plays a role in normal cardiac and renal function, respiration, coagulation, and cell-membrane and capillary permeability. Helps regulate the release and storage of neurotransmitters and hormones. Oral forms also neutralize or buffer stomach acid to relieve discomfort caused by hyperacidity	Check intravenous sites regularly for infiltration because calcium causes necrosis. If infiltration occurs, stop infusion, and tell prescriber immediately. Monitor serum calcium level in all patients, as ordered, and evaluate therapeutic response by assessing for Chvostek's and Trousseau's signs, which shouldn't appear. Be aware that patients with kidney failure on dialysis may develop hypercalcemia when treated with calcium. Monitor patients closely. Know that these patients should not take calcium supplements, including antacids containing calcium.
Misoprostol	Misoprostol is a synthetic prostaglandin E_1 analogue that is used off-label for a variety of indications in the practice of obstetrics and	Misoprostol can cause birth defect. Advise patients to avoid alcohol and foods that may cause an

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Medication	Mechanism of Action/Use	Nursing considerations
	gynecology, including medication abortion, medical management of miscarriage, induction of labor, cervical ripening before surgical procedures, and the treatment of postpartum hemorrhage.	increase in GI irritation. Inform patients that misoprostol will cause spontaneous abortion. Instruct patient to report bothersome side effects including severe or prolonged headache, menstrual irregularities, or GI issues (nausea, vomiting, constipation etc.)
Cervidil	Is used in a pregnant woman to relax the muscles of the cervix (opening of the uterus) in preparation for inducing labor at the end of a pregnancy.	Monitor for postpartum disseminated intravascular coagulation, fibrinolysis, anaphylactoid syndrome of pregnancy, uterine hyperstimulation, commencement of labor, sustained uterine contractions, fetal distress, and for other fetal or maternal adverse reactions. Monitor for progression of cervical dilation and effacement. Monitor maternal vital signs.
Penicillin G	Inhibits final stage of bacterial cell wall synthesis by competitively binding to penicillin-binding proteins inside the cell wall. Penicillin-binding proteins are responsible for various steps in bacterial cell wall synthesis. By binding to these proteins, penicillin leads to cell wall lysis.	Obtain body tissue and fluid samples for culture and sensitivity tests as ordered before giving first dose. Expect to begin drug therapy before test results are known. Montor serum sodium level and assess for early signs of heart failure in patients receiving high doses of penicillin G sodium. When giving penicillin G potassium to patients at risk for fluid overload or hypertension, be aware that each gram pf penicillin G potassium also contains 1.02 mEq of sodium. Tell patient to notify prescriber of any persistent, severe, or

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Medication	Mechanism of Action/Use	Nursing considerations
		unusual adverse effects.
Methylergonovine	Is used just after a baby is born, to help deliver the placenta (also called the "afterbirth"). It is also used to help control bleeding and to improve muscle tone in the uterus after childbirth.	Before administering the medication, assess the blood pressure. Caution the mother to avoid smoking because nicotine constricts blood vessels. Remind her to report any adverse reactions.
Nalbuphine (Nubain)	Bind with and stimulates kappa and mu opiate receptors in the spinal cord and higher levels in the CNS. In this way, nalbuphine alters the perception of and emotional response to pain.	Be aware that excessive use of opioids like nalbuphine may lead to abuse, addiction, misuse, overdose, and possibly death. Monitor patient's intake or drug closely and for evidence of physical dependence. Know that chronic maternal use of nalbuphine during pregnancy can result in NOWS, which may be life-threatening if not recognized and treated appropriately. NOWS occurs when a newborn has been exposed to opioid drugs like nalbuphine for a prolonged period while in utero.
Naloxone--	Briefly and competitively antagonizes mu, kappa, and sigma receptors in the CNS, thus reversing analgesia, hypotension, respiratory depression, and sedation caused by most opioids. Mu receptors are responsible for analgesia, euphoria, miosis, and respiratory depression. Kappa receptors are responsible for analgesia and sedation. Sigma receptors control dysphoria and other delusional states.	Anticipate that rapid reversal of opioid effects can cause diaphoresis, nausea, and vomiting in addition to serious adverse effects such as hypotension, pulmonary edema, seizures, and ventricular arrhythmias. Monitor patient closely, especially patients at risk because of the presence of preexisting cardiovascular disorders or who are receiving drugs that cause similar adverse cardiovascular effects. Monitor patients in postoperative setting who have

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Medication	Mechanism of Action/Use	Nursing considerations
		received naloxone because abrupt postoperative reversal of opioid depression after using naloxone may cause serious adverse effects. Excessive doses of naloxone in the postoperative setting have also caused significant reversal of analgesia and have caused patient to become agitated. Expect patient with hepatic or renal dysfunction to have increased circulating blood naloxone level.
Fentanyl	Binds to opioid receptor sites in the CNS, altering perception of and emotional response to pain by inhibiting ascending pain pathways. Fentanyl may alter neurotransmitter release from afferent nerves responsive to painful stimuli, and it causes respiratory depression by acting directly on respiratory centers in the brain stem.	Use with extreme caution in patients with significant chronic obstructive pulmonary disease or cor pulmonale, and in patients having a substantially decreased respiratory reserve, hypoxia, hypercapnia, or preexisting respiratory depression, because even therapeutic doses of fentanyl may decrease respiratory drive in the patients to the point of apnea. Use with extreme caution in patients who may be susceptible to the intracranial effects of carbon dioxide retention such as those with brain tumors, head injury, increased intracranial pressure, or impaired consciousness. Monitor these patients closely for signs of sedation and respiratory depression.
Ibuprofen	Blocks the activity of cyclooxygenase, the enzyme needed to synthesize prostaglandins, which mediate inflammatory response and cause local pain, swelling, and	Be aware that ibuprofen should not be used in pregnant women starting at 30 weeks gestation because premature closure of the ductus arteriosus may occur in the fetus.

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Medication	Mechanism of Action/Use	Nursing considerations
	vasodilation. By inhibiting prostaglandins, this NSAID reduces inflammatory symptoms and relieves pain. Ibuprofen's antipyretic action probably stems from its effect on the hypothalamus, which increases peripheral blood flow, causing vasodilation and encouraging heat dissipation.	Be aware that NSAIDs like ibuprofen should be avoided in patients with a recent MI because risk of reinfarction increases with NSAID therapy. If therapy is unavoidable, monitor patient closely for signs of cardiac ischemia.
acetaminophen	Inhibits the enzyme cyclooxygenase, blocking prostaglandin production and interfering with pain impulse generation in the peripheral nervous system. Acetaminophen also acts directly on the temperature-regulating center in the hypothalamus by inhibiting synthesis pf prostaglandin E2.	Use acetaminophen cautiously in patients with hepatic impairment or active hepatic disease, alcoholism, chronic malnutrition, severe hypovolemia, or severe renal impairment. Monitor renal function in patient on long-term therapy. Keep in mind that blood or albumin in urine may indicate nephritis; decreased urine output may indicate renal failure; and dark brown urine may indicate presence of the metabolite phenacetin.
oxycodone	Alters perception of and emotional response to pain at spinal cord and higher levels of CNS by blocking release of inhibitory neurotransmitters, such as acetylcholine and gamma-aminobutyric acid.	Be aware that excessive use of opioids like oxycodone may lead to abuse, addiction, misuse, overdose, and possible death. For this reason, a risk evaluation and mitigation strategy (REMS) is required for oxycodone to be prescribed. Monitor patient's intake of drug closely and for evidence of physical dependence.
hydrocodone	Binds to and activates opioid receptors at sites in the periaqueductal and periventricular gray matter, the ventromedial medulla,	Be aware that hydrocodone increases the risk of abuse, addiction, and misuse. Knowing that to ensure that the benefits of hydrocodone therapy

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Medication	Mechanism of Action/Use	Nursing considerations
	and the spinal cord to produce pain relief.	outweigh the risks, a Risk Evaluation and Mitigation Strategy (REMS) is required. Know that hydrocodone should not be given to a patient with impaired consciousness, nor should the drug be administered on an as-needed basis.
ketorolac	Blocks cyclooxygenase, an enzyme needed to synthesize prostaglandins. Prostaglandins mediate inflammatory response and cause local vasodilation, pain, and swelling. They also promote pain transmission from periphery to spinal cord. By blocking cyclooxygenase and inhibiting prostaglandin, this NSAID reduces inflammation and relieves pain.	Know that the risk of heart failure Increases with ketorolac use because drug is a NSAID. This class of drugs should not be used in patients with severe heart failure but, if unavoidable, monitor patient for worsening of heart failure. Notify prescriber if pain relief is inadequate or if breakthrough pain occurs between doses because supplemental doses of an opioid analgesic may be required.
Hepatitis B vaccine	To prevent severe liver disease that can develop when children or adults are infected with hepatis B virus. It's the prevention of hepatitis B.	Give vaccine within 12 hours of birth to infants of infected mothers. Do not inject IV or intradermally. Obtain parental consent.
Erythromycin eye ointment	To treat infections of the eye. They also may be used to prevent certain eye infections in newborn babies, such as neonatal conjunctivitis and ophthalmia neonatorum.	Do not rinse. Ointment may be wiped from the outer eye after 1 minute. Observe for irritation.
Phytonadione	Is used to treat vitamin-k deficiency, and to treat certain bleeding or blood-clotting problems caused by other medicines or medica conditions.	Monitor the patient constantly. Severe reactions, including fatalities, have occurred during and immediately after IV injection. Monitor therapeutic effectiveness which indicated by shortened PT, INR, bleeding, and

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Medication	Mechanism of Action/Use	Nursing considerations
		clotting times, as well as decreased hemorrhagic tendencies.
Prenatal vitamins	Used to provide additional vitamins during pregnancy.	Teach patients to avoid taking other over the counter vitamins because it can cause toxicity or encourage her to check with her healthcare provider before doing so. New mothers may need to continue taking prenatal multivitamins if breast feeding the baby.
MMR vaccine	To protect against measles, mumps, and rubella	Ask about immunosuppression. Women should avoid becoming pregnancy for 3 months after receiving the vaccine.
Tetanus & reduced diptheria toxoids/acellular pertussis vaccine	Protect against infections caused by diphtheria, tetanus (lockjaw), and pertussis (whooping cough).	No known information whether Tdap vaccine passes into breast milk or if it could harm a nursing baby. Tell your provider if you are breast-feeding a baby.
Lidocaine mucosal gel	To prevent and relieve pain during certain medical procedures. To relieve pain and discomfort caused by certain mouth, nose, and throat problems.	Advise females of reproductive potential to notify healthcare providers if pregnancy is planned or suspected, or if breast feeding. Caution women to consult healthcare provider before using a topical anesthetic for a mammogram or other procedures. Caution parents to administer as directed, not to use more or more often than directed, and to use measuring device for accurate dose in children younger than 3 years.

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