

Justin Munoz  
Lakeview College of Nursing  
OB - Maternity Newborn Care  
June 1st, 2023

<u>Medication</u>	<u>Mechanism of Action/Use</u>	<u>Nursing Considerations</u>
<b>Methotrexate</b>	<ul style="list-style-type: none"> <li>● <b>MOA:</b> inhibits dihydrofolate reductase, preventing the reduction of dihydrobiopterin (BH<sub>2</sub>) to tetrahydrobiopterin (BH<sub>4</sub>), leading to nitric oxide synthase uncoupling and increased sensitivity of T cells to apoptosis, thereby diminishing immune responses.</li> <li>● <b>OB Use:</b> a treatment option for ectopic pregnancy (EP) and gestational trophoblastic disease (GTD), with the large added benefit of fertility preservation.</li> </ul>	<ul style="list-style-type: none"> <li>● Drug can cause fetal harm (embryotoxicity)</li> <li>● Drug may be present in milk.</li> </ul>
<b>Mifepristone</b>	<ul style="list-style-type: none"> <li>● <b>MOA:</b> an antagonist of glucocorticoid and progesterone receptors.</li> <li>● <b>OB Use:</b> use for induction agent in the second trimester for termination of pregnancy or fetal death.</li> <li>●</li> </ul>	<ul style="list-style-type: none"> <li>● It is contraindicated if the patient has a fever of 100.4°F or has ectopic pregnancy.</li> </ul>
<b>Rhogam</b>	<ul style="list-style-type: none"> <li>● <b>MOA:</b> act by suppressing the immune response of Rh-negative individuals to Rh-positive red blood cells.</li> <li>● <b>OB Use:</b> used to prevent an immune response to Rh positive blood in people with an Rh negative blood type.</li> </ul>	<ul style="list-style-type: none"> <li>● Contraindicated if the patient has a history of anemia, hemophilia, kidney disease, or diabetes.</li> <li>● It is not known if medication can pass through breastfeeding.</li> </ul>
<b>Betamethasone</b>	<ul style="list-style-type: none"> <li>● <b>MOA:</b> binds to serum albumin and corticosteroid-binding globulin. The metabolism of betamethasone yields 6 metabolites. The metabolic processes include 6β hydroxylation, 11β-hydroxyl oxidation, and reduction of the C-20 carbonyl group followed by removal of the side chain.</li> <li>● <b>OB Use:</b> can help speed up lung development in preterm babies. Betamethasone causes the release of surfactant, a substance that</li> </ul>	<ul style="list-style-type: none"> <li>● Medication can cause teratogenic effects.</li> </ul>

	lubricates the lungs so that they do not stick together when the infant breathes.	
<b>Indomethacin</b>	<ul style="list-style-type: none"> <li>● <b>MOA:</b> it inhibits the synthesis of prostaglandins. Prostaglandins are produced primarily by cyclooxygenase (COX) enzymes, and prostaglandins are critical mediators of inflammation, fever, and pain.</li> <li>● <b>OB Use:</b> most frequently used NSAID for preterm labor. It can be taken by mouth or given through a vein (intravenously). It may be used alone or in combination with other tocolytics, such as magnesium sulfate. Indomethacin is particularly effective in the second and early third trimesters.</li> </ul>	<ul style="list-style-type: none"> <li>● Drug increases risk of premature closure of fetal ductus arterisus if given during the 3rd trimester.</li> </ul>
<b>Magnesium Sulfate</b>	<ul style="list-style-type: none"> <li>● <b>MOA:</b> act as a vasodilator, with actions in the peripheral vasculature or the cerebrovasculature, to decrease peripheral vascular resistance and/or relieve vasoconstriction.</li> <li>● <b>OB Use:</b> Prevention and treatment of seizures in women with preeclampsia or eclampsia.</li> </ul>	<ul style="list-style-type: none"> <li>● Drug may be administered 2 hours prior to delivery but may run a risk of hypermagnesemia and stimulate respiratory depression.</li> <li>● Drug can pass through breastmilk.</li> </ul>
<b>Terbutaline Sulfate</b>	<ul style="list-style-type: none"> <li>● <b>MOA:</b> produces relaxation of smooth muscle found principally in bronchial, vascular and uterine tissues.</li> <li>● <b>OB Use:</b> help prevent and slow contractions of the uterus. It may help delay birth for several hours or days. During that period, doctors can administer other drugs to help ensure the baby is born as healthy as possible.</li> </ul>	<ul style="list-style-type: none"> <li>● Drug does cause an increase in respiratory rate and heart rate</li> </ul>
<b>Hydralazine hydrochloride</b>	<ul style="list-style-type: none"> <li>● <b>MOA:</b> It works by relaxing the blood vessels so that blood can flow more easily through the body. High blood pressure is a common condition and when not treated, can cause damage to the brain, heart, blood vessels, kidneys and other parts of the body.</li> <li>● <b>OB Use:</b> it is used to treat high blood pressure (hypertension). It is also used to control high blood pressure in a mother during pregnancy</li> </ul>	<ul style="list-style-type: none"> <li>● Nurse should watch closely to maternal vital signs and fetal heart due to drug cause hypotension</li> </ul>

	(pre-eclampsia or eclampsia) or in emergency situations when blood pressure is extremely high (hypertensive crisis).	
<b>Labetalol</b>	<ul style="list-style-type: none"> <li>● <b>MOA:</b> It works by relaxing blood vessels and slowing heart rate to improve blood flow and decrease blood pressure.</li> <li>● <b>OB Use:</b> helps to control high blood pressure and therefore reduces the risk of pregnancy complications.</li> </ul>	<ul style="list-style-type: none"> <li>● Drug may cause bradycardia, hypoglycemia, and hypotension</li> <li>● Drug can cross into breastmilk</li> </ul>
<b>Nifedipine</b>	<ul style="list-style-type: none"> <li>● <b>MOA:</b> Nifedipine inhibits the entry of calcium ions by blocking these voltage-dependent L-type calcium channels in vascular smooth muscle and myocardial cells.</li> <li>● <b>OB Use:</b> to treat high blood pressure (hypertension) and chest pain (angina).</li> </ul>	<ul style="list-style-type: none"> <li>● Drug can cross the placent causing fetal harm.</li> <li>● Drug can also be pass into breastmilk</li> </ul>
<b>Calcium gluconate</b>	<ul style="list-style-type: none"> <li>● <b>MOA:</b> increasing the level of calcium in the blood or by binding to excess potassium or magnesium in the blood.</li> <li>● <b>OB Use:</b> to treat conditions arising from calcium deficiencies such as hypocalcemic tetany, hypocalcemia related to hypoparathyroidism and hypocalcemia due to rapid growth or pregnancy.</li> </ul>	<ul style="list-style-type: none"> <li>● Drug can also be pass into breast milk</li> </ul>
<b>Misoprostol</b>	<ul style="list-style-type: none"> <li>● <b>MOA:</b> binds to smooth muscle cells in the uterine lining to increase the strength and frequency of contractions as well as degrade collagen and reduce cervical tone.</li> <li>● <b>OB Use:</b> stimulate uterine contraction for the induction of labor, prevention and treatment of postpartum hemorrhage, and treatment of miscarriage and fetal demise.</li> </ul>	<ul style="list-style-type: none"> <li>● Drugs may cause a torn uterus and may result in severe bleeding.</li> </ul>
<b>Cervidil</b>	<ul style="list-style-type: none"> <li>● <b>MOA:</b> used by women who are having a normal pregnancy and who are at or near their delivery due date. Dinoprostone is a natural substance that your body makes in preparation for labor. It relaxes and softens your cervix (cervical ripening) to allow the</li> </ul>	<ul style="list-style-type: none"> <li>● Drugs may cause the baby's heartbeat to slow down.</li> <li>● Monitor if the patient has excessive vaginal bleeding.</li> </ul>

	<p>baby to pass through the birth canal during delivery.</p> <ul style="list-style-type: none"> <li>● <b>OB Use:</b> is used to help prepare your cervix (the lower opening of the womb) for labor and delivery.</li> </ul>	
<b>Methylergonovine</b>	<ul style="list-style-type: none"> <li>● <b>MOA:</b> acts directly on the smooth muscle of the uterus and increases the tone, rate, and amplitude of rhythmic contractions. Thus, it induces a rapid and sustained tetanic uterotonic effect which shortens the third stage of labor and reduces blood loss.</li> <li>● <b>OB Use:</b> used to prevent or treat bleeding from the uterus that can happen after childbirth or an abortion.</li> </ul>	<ul style="list-style-type: none"> <li>● Do not breast-feed while on this medication.</li> </ul>
<b>Hepatitis B vaccine</b>	<ul style="list-style-type: none"> <li>● <b>MOA:</b> stimulates the immune system to produce anti-HBs without exposing the patient to the risks of active infection.</li> <li>● <b>OB Use:</b> vaccine carries no known risks to the developing fetus. The hepatitis B vaccine is recommended for pregnant people who are at risk for acquiring hepatitis B during pregnancy and for people who started the vaccine series before getting pregnant.</li> </ul>	<ul style="list-style-type: none"> <li>● It is safe to give in pregnancy.</li> </ul>
<b>Erythromycin eye ointment</b>	<ul style="list-style-type: none"> <li>● <b>MOA:</b> acts by inhibition of protein synthesis by binding to the 23S ribosomal RNA molecule in the 50S subunit of ribosomes in susceptible bacterial organisms.</li> <li>● <b>OB Use:</b> to treat bacterial infections of the eye. This medication is also used to prevent bacterial infections of the eye in newborn babies.</li> </ul>	<ul style="list-style-type: none"> <li>● It is given within 1 - 4 hours after delivery.</li> </ul>
<b>Phytonadione</b>	<ul style="list-style-type: none"> <li>● <b>MOA:</b> acts as a cofactor to an enzyme found in the liver called gamma glutamyl-carboxylase, which converts the inactive forms of coagulation factors II, VII, IX, and X into their active forms.</li> <li>● <b>OB Use:</b> prophylaxis and treatment of vitamin K-deficiency bleeding in neonates.</li> </ul>	<ul style="list-style-type: none"> <li>● Newborns are unable to produce the vitamin K needed for certain coagulation factors making them at risk for bleeding</li> <li>● Provide comfort during and after administration</li> </ul>

	Phytonadione is used off-label for intracranial hemorrhage associated with vitamin K antagonist anticoagulants	
<b>Prenatal vitamins</b>	<ul style="list-style-type: none"> <li>● <b>MOA:</b> treat or prevent vitamin deficiency due to poor diet, certain illnesses, or during pregnancy.</li> <li>● <b>OB Use:</b> lowers your baby's risk of complications like preterm birth and low birth weight, as well as congenital disorders, like spina bifida.</li> </ul>	<ul style="list-style-type: none"> <li>● Patient education should be taught to the patient that it lowers the baby's risk of complications like preterm birth and low birth weight, as well as congenital disorders, like spina bifida.</li> </ul>
<b>MMR vaccine</b>	<ul style="list-style-type: none"> <li>● <b>MOA:</b> uses a protein on its surface called hemagglutinin (H protein), to bind to a target receptor on the host cell, which could be CD46, which is expressed on all nucleated human cells, CD150, aka signaling lymphocyte activation molecule or SLAM, which is found on immune cells like B or T cells.</li> <li>● <b>OB Use:</b> It is important to get MMR before becoming pregnant to reduce the risk of becoming infected with rubella which can pass on to the unborn child, causing Congenital Rubella Syndrome (CRS).</li> </ul>	<ul style="list-style-type: none"> <li>● Drug is contraindicated for use during pregnancy stages.</li> </ul>

X 