

Drug Class/Use	Who needs to be treated with the Medication	Common Reactions	Serious Reactions	Nursing Interventions	Patient Teaching	Caution
<b>Anticoagulants</b> Low-molecular-weight (LMW) heparin: <i>enoxaparin</i>	Prevent DVT: surgical patients, immobile patients, angina, STEMI, pulmonary embolus; Stroke prevention	Hemorrhage Fever Injection site reactions	Heparin induced thrombocytopenia (HIT) Major Hemorrhage	Administer deep subcutaneously, 90° angle, in the love handles. Maintain bunch throughout injection Monitor for bleeding Monitor platelet count	Report bleeding gums, nosebleeds, blood in urine or stool, easy bruising	Renal failure – decrease dose History of HIT Coagulation disorders GI bleed or history of ulcers
<b>Antidiabetics</b> Rapid Acting: <i>Regular Insulin</i> <i>Insulin Lispro</i> <i>Admelog</i>  Intermediate: <i>Humalin N</i> <i>Novalin N</i>  Long-Acting: <i>Insulin glargine</i> <i>Insulin detemir</i> <i>Insulin degludec</i>	Control of hyperglycemia	Injection Site Reaction: rash, pruritus	Hypoglycemia Insulin Resistance Insulin Allergy	Assess blood glucose before administration, administer Sub-Q, rotate sites Rapid acting insulin is the only insulin that can be administered intravenously The nurse should know when an Insulin will peak to teach a patient when to eat	Monitor blood glucose closely, eat within 15 min of administration          Same as Above          Inject daily at same time Do Not Mix in same syringe with other Insulins Multiple Drug Interactions Provides low, steady level of insulin Can be used with other	Rapid absorption       Intermediate Absorption       Long Acting

					<p>diabetic meds</p> <p><b>For all insulin:</b> Know s/s and treatment for Hypoglycemia; Do Not Shake; Take exactly as prescribed; Sub-Q administration; Only rapid acting agents can be administered intravenously. Rotate injection sites; Avoid areas of lipodystrophy; Store at room temp; Do not use after expiration; Do Not Reuse or Share Equipment/Meds Avoid OTC herbal products</p>	
<p><b>Diuretics</b> Loop diuretic: <i>furosemide</i></p>	Fluid retaining disorders: heart failure, renal impairment	Taken before bedtime can result in nocturia	Dehydration <b>Hypokalemia</b> Hypomagnesemia Ototoxicity	Monitor/assess blood pressure, electrolytes (KCl, Na, magnesium, chloride), BUN and creatinine, blood glucose in diabetic patient, intake and output Daily weight	Try to take the medication before 2-3 o'clock in the afternoon Increase dietary intake of potassium rich foods Caution when changing positions Report muscle cramps Report ringing in the ears	Diabetes Pregnant female Renal disease Liver disease Polypharmacy
Thiazide: <i>hydrochlorothiazide</i>	Hypertension Mild-moderate heart failure	<i>Can affect blood glucose levels in the diabetic patient</i>	<b>Hypokalemia</b> Hypernatremia Dehydration Hyperglycemia	Monitor/assess electrolytes (KCl, sodium, chloride, magnesium), Monitor blood glucose levels in diabetic patient	Report muscle cramps and weakness Report changes in mental status Diabetic patients need to monitor blood glucose levels	Diabetes
Potassium sparing	Hypertension		<b>Hyperkalemia</b>	Monitor potassium	Report muscle cramps,	Avoid in pregnancy

<i>spironolactone</i>	Edema Severe heart failure			and sodium	weakness Avoid potassium rich foods	but may be used when breast-feeding
<b>Antimicrobials</b> Cephalosporins (there are 4 generations): <i>ceftriaxone</i> (3 <sup>rd</sup> generation)	Respiratory infections Urinary tract infections Skin infections Sexually transmitted infections Acute Otitis media	GI upset	<i>C. difficile</i> associated diarrhea Bleeding Thrombophlebitis Hemolytic Anemia	Monitor for any bleeding; labs may be needed such as PT, INR, WBC; temperature Monitor/assess bowel movements for watery diarrhea	Report loose stools or diarrhea, abdominal cramping, vomiting Report bleeding gums or easy bruising	Penicillin hypersensitivity Seizure disorder Vitamin K deficiency Renal impairment Anti-coagulant therapy
Fluroquinolones: <i>levofloxacin</i>	Skin infections Anthrax Respiratory infections Urinary tract infections Prostatitis Epididymitis		<b><i>Achilles tendon rupture</i></b> Peripheral neuropathy Fetal harm Toxic psychosis <i>C. difficile</i> associated diarrhea Hypoglycemia	Monitor/assess tendon pain Assess for loose or watery stools Monitor mental status Monitor blood glucose levels in the diabetic patient	Report tendon pain Report numbness or tingling in hands and feet Report loose or watery stools	Renal insufficiency Peripheral neuropathy Geriatric persons Pregnancy Myasthenia Gravis Diabetes
<b>Analgesics</b> Opioid: <i>morphine sulfate</i>	Postoperative pain Pulmonary edema Acute myocardial infarction Labor and delivery	<b><i>Constipation</i></b> Urinary retention Dizziness Nausea Vomiting	<b><i>Respiratory depression/arrest</i></b> Severe hypotension Cardiac arrest Neurotoxicity Abuse and dependency	Assess rate and quality of respirations Monitor bowel and bladder habits Monitor level of consciousness	Call for help before getting out of bed Report urinary difficulty or constipation Report nausea/vomiting	Avoid before and during pregnancy Liver disease Head injury
Non-opioid - non-steroidal anti-inflammatory: <i>IV acetaminophen</i> <i>IV ibuprofen</i>	Under construction					

<i>ketorolac</i>						
<b>Drugs affecting the RAAS</b>	Hypertension Heart failure MI					
<b>ACE Inhibitors ("pril"):</b> <i>lisinopril</i>	Stroke Prevention Diabetic Nephropathy	<i>Cough</i>	<b>Angioedema</b> <i>Hyperkalemia</i> Hypoglycemia Fetal harm	<i>Monitor/assess potassium</i> Monitor/assess blood glucose in the diabetic patient	Caution with potassium rich foods Monitor blood glucose and report signs of hypoglycemia	Diabetic patient Pregnant female Renal failure Polypharmacy
<b>ARB ("sartan"):</b> <i>losartan</i>	Diabetic Retinopathy					
<b>Direct Renin Inhibitor:</b> <i>aliskiren</i>	Hypertension					
<b>Aldosterone Antagonist:</b> <i>eplerenone</i>	Hypertension Heart failure	Gynecomastia Hirsutism	Hyperkalemia Renal failure	Monitor KCL, sodium Daily weight, Intake and output	Report muscle cramps or weakness	
<b>Beta Adrenergic Antagonists</b> (Beta Blockers) <i>Non-selective: propranolol</i>	Hypertension, Angina, Cardiac Dysrhythmias, Myocardial Infarction, Migraine Prophylaxis, Stage fright (anxiety)	<b>Bradycardia, orthostatic hypotension</b>	<b>Bradycardia, AV heart block, heart failure, rebound cardiac excitation,</b> bronchoconstriction, inhibition of glycogenolysis, rebound cardiac excitation with abrupt withdrawal	<i>Assess / monitor blood pressure and apical pulse</i> Assess / monitor patient with diabetes Assess / monitor respiratory status in patient with asthma or COPD Assess for weakness / prevent fall injuries Do not administer when heart rate is less than 60 <i>*When a beta blocker is used to treat angina pectoris, the medication should not be withheld</i>	Never abruptly stop taking the medication Caution when changing positions Report dizziness or weakness  <i>*Diabetic patient - monitor blood glucose and have rapid acting sugar handy at all times</i>	Diabetic patient Asthma / COPD AV block Heart failure Caution when combined with a calcium channel blocker
<i>Cardioselective: metoprolol</i>	Same reasons as non-selective agents with the addition of heart failure					
<i>3<sup>rd</sup> Generation with vasodilation actions</i> <i>carvedilol (may produce non-selective or cardio-</i>	Hypertension, angina pectoris, myocardial infarction, heart failure					

selective beta blockade				when the heart rate is below 60. Goal rate for treatment is 50-60		
<b>Calcium Channel Blockers</b> <b>Vascular Smooth Muscle/Heart</b> <i>verapamil</i> <i>diltiazem</i>  <b>Dihydropyridines</b> <b>affect vascular smooth muscle</b> <i>amlodipine</i>	Angina pectoris, Essential hypertension, Cardiac dysrhythmias  Angina, Hypertension	Constipation, Pedal edema, Headache, Bradycardia	AV block	Assess and monitor blood pressure and heart rate Assess and monitor bowel habits Monitor for edema	Avoid grapefruit juice Report constipation Increase dietary intake of fiber, water (if not restricted), and consider stool softener Caution changing positions Report any difficulty breathing	AV block, Sick sinus syndrome, Heart failure Avoid grapefruit juice – can result in toxicity
<b>Gastrointestinal Drugs</b>  <b>Antiemetic-</b> <i>ondansetron</i>  <b>Prokinetic agent –</b> <i>metoclopramide</i>	Prevent/treat N/V associated with chemotherapy, radiation and surgery  Oral preparations treat diabetic gastroparesis and gastroesophageal reflux (GERD) IV preparations: Postoperative nausea and vomiting,	Headache Constipation Diarrhea Drowsiness  Sedation Diarrhea	Cardiac dysrhythmia Steven-Johnson Syndrome Serotonin Syndrome  Irreversible tardive dyskinesia (long-term high-dose therapy)	Monitor for cessation of nausea and vomiting Monitor for involuntary muscle movements Monitor for neurological changes Assess for a rash  Monitor for cessation of nausea and vomiting Monitor involuntary muscle movements	Call if experience irregular heartbeat or involuntary body movements occur  Caution when changing positions Do not operate heavy machinery Caution with alcohol use	Do not use with apomorphine. Caution: if used with drugs that impact the serotonin neurotransmitter system, there is increased risk of serotonin syndrome  Avoid use in GI obstruction, perforation or hemorrhage

<p><b>Proton Pump Inhibitors</b> pantoprazole</p>	<p>Chemotherapy induced nausea and vomiting (CINA)</p> <p>Peptic ulcers Gastroesophageal Reflux Disease (GERD)</p>	<p>Headache, Diarrhea</p>	<p>Pneumonia, Fractures, Rebound Acid Hypersecretion, Hypomagnesemia, Clostridium difficile, Thrombocytopenia</p>	<p>Monitor for diarrhea Although rare, thrombocytopenia can occur – monitor for bleeding, may require assessing platelet count</p>	<p>Report liquid stools/diarrhea, muscle cramps seizures, tremors. Long term use may warrant replacement of magnesium, calcium, and B vitamins</p>	<p>For patients taking medications that are dependent on gastric acidity for absorption, dosing between pantoprazole and other medications should be about 4 hours apart</p>
<p><b>Vaccines</b></p> <p>Tdap</p> <p>Influenza</p> <p>Pneumococcal Conjugate (PCV13, 15, 20)</p>	<p>Prevent tetanus, diphtheria, and pertussis</p> <p>Prevent spread of influenza</p> <p>Prevent pneumococcal disease</p>	<p>Pain, swelling at injection site; mild fever, headache, GI upset</p> <p>Same as above</p> <p>Same as above</p>	<p>Anaphylaxis, Guillain-Barré Syndrome (GBS)</p> <p>Anaphylaxis, Guillain-Barré Syndrome (GBS)</p> <p>Anaphylaxis</p>	<p>Assess for severe reactions; Should receive a booster every 10 yrs or after 5 yrs in the case of a severe wound or burn</p> <p>Assess for severe reactions; Seasonal 1x dose</p> <p>Assess for severe reactions; for high-risk groups (ages 19-64), PCV 15 + 23 or single dose of PCV 20. For all other adults 65+, PCV 15 + 23 or single dose of PCV 20.</p>	<p>Report severe reaction, coma, seizure post-injection; severe pain/swelling to site; postpone if moderately or severely ill</p> <p>Report severe reaction; postpone if moderately or severely ill</p> <p>Report severe reaction; postpone if moderately or severely ill</p>	<p>Avoid if hx of severe allergic reaction to this vaccine; hx of seizures or GBS</p> <p>Avoid if hx of severe allergic reaction to this vaccine; hx of GBS</p> <p>Anaphylaxis, severe reaction to previous dose of PCV13,15,20 or to TD vaccine</p>

Recombinant Zoster	Prevent shingles	Same as above	Anaphylaxis	Assess for severe reactions; 2 doses for ages $\geq 50$ ; if age 19+ with compromised immune system, 2 doses	Report severe reaction; postpone if moderately or severely ill; 2 doses provide best protection	Anaphylaxis, severe reaction to previous dose of vaccine, pregnant, breastfeeding or currently ill with disease
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\*Focus of medication administration is safety for both the nurse who administers the medications and the patient who receives the medications.

\*Because drugs are metabolized and or excreted by the portal (liver) and renal systems, liver and kidney function should be monitored.