

ACTIVE LEARNING TEMPLATE: Medication

STUDENT NAME _____

MEDICATION Metoprolol

REVIEW MODULE CHAPTER _____

CATEGORY CLASS _____

PURPOSE OF MEDICATION

Expected Pharmacological Action

Blocks stimulation of beta₁ adrenergic receptors.

Therapeutic Use

Hypertension
Angina Pectoris
Prevention of MI

Complications

Fatigue
Depression
Bradycardia
Bronchospasms
Constipation
Dry mouth
Pulmonary edema.

Medication Administration

PO (Adults)
Antihypertensive/
antianginal - 25-100
mg/day as a single
dose or 2 divided
doses.

Contraindications/Precautions

Uncomplicated heart failure
Cardiogenic shock
Bradycardia
Heart block

Nursing Interventions

- Monitor BP, ECG, ~~and~~ and pulse during dose adjustment.
- Monitor intake and output ratios and daily weights.

Interactions

- May cause increase in myocardial depression when used with verapamil.
- Increase risk of bradycardia when used with digoxin.

Evaluation of Medication Effectiveness

Decreased in BP
Reduction in frequency of
angina attacks.
Prevention of MI

Client Education

- Instruct patient to take medication as directed.
- May cause drowsiness hence avoid driving.
- Advise patient to change position slowly as it cause orthostatic hypotension.

ACTIVE LEARNING TEMPLATE: Medication

STUDENT NAME _____

MEDICATION Losartan

REVIEW MODULE CHAPTER _____

CATEGORY CLASS _____

PURPOSE OF MEDICATION

Expected Pharmacological Action

- Blocks vasoconstrictors and aldosterone-secreting effects of angiotensin II at various receptors.

Therapeutic Use

- Management of hypertension.
- Treatment of diabetic nephropathy of type II patients.

Complications

CHS: Dizziness, fatigue, headache.
CVS: chest pain, edema, hypotension.
GU: Impaired renal function.

Medication Administration

PO (Adults):
Hypertension 50mg once daily (range 50-100mg/day as a single dose or 2 divided doses).

Contraindications/Precautions

- Hypersensitivity
- Bilateral renal stenosis.
- Can cause injury or death of fetus.

Nursing Interventions

- Assess BP and pulse frequently.
- Monitor renal function.
- Assess signs of angioedema.

Interactions

- Additive hypotension with other antihypertensives like diuretics.
- Increase risk of hyperkalemia with potassium-sparing diuretics.

Client Education

- Emphasize on prescription compliance.
- Avoid driving as it can cause drowsiness.
- Avoid salt substitutes.

Evaluation of Medication Effectiveness

- Decrease BP without appearance of excessive side effects.
- Delayed progression of diabetic nephropathy in type II.

Medication

STUDENT NAME _____

MEDICATION

Enalapril

REVIEW MODULE CHAPTER _____

CATEGORY CLASS _____

PURPOSE OF MEDICATION

Expected Pharmacological Action

Angiotensin-Converting enzyme inhibitor block conversion of angiotensin I to the vasoconstrictor angiotensin II.

Therapeutic Use

- Hypertension management.
- Management of symptomatic heart failure.

Complications

CHS: Fatigue, dizziness, vertigo.
Resp: Cough.
CVS: Hypotension, chest pain.
GI: Abdominal pain, vomiting

Medication Administration

PO (Adults) 2.5-5mg once daily.
PO (children) 0.1mg/kg/day q 12-24hr.

Contraindications/Precautions,

- Hypersensitivity
- History of angioedema.
- Concurrent use with aliskiren in patients with diabetes.

Nursing Interventions

- Monitor BP and pulse frequently during initial dose.
- Assess for signs of angioedema.
- Monitor weight.

Interactions

- Excessive hypotension with concurrent use with diuretics.
- Increased risk of renal dysfunction when used with aliskiren.

Client Education

- Emphasize on drug compliance.
- Caution on position change due to orthostatic hypotension.
- Follow-up examination to evaluate effectiveness of the medication.

Evaluation of Medication Effectiveness

- Decreased BP without excessive appearance of side effects.
- Decrease in development of overt heart failure.

ACTIVE LEARNING TEMPLATE: **Medication**

STUDENT NAME _____

MEDICATION Ketorolac

REVIEW MODULE CHAPTER _____

CATEGORY CLASS _____

PURPOSE OF MEDICATION

Expected Pharmacological Action

- Inhibits prostaglandin synthesis, producing peripherally mediated analgesia.

Therapeutic Use

- Short-term management of pain.

Complications

- CTH: Drowsiness, stroke, euphoria
- EENT: Lacrimation
- Resp: Asthma.
- GI: GI bleeding, dry mouth.

Medication Administration

- PO (Adults < 60 yrs): 20mg initially followed by 10mg 2-4-6 hr.
- PO (Children): 1mg/kg as a single dose.

Contraindications/Precautions

- Hypersensitivity
- Active or history of peptic ulcer disease
- GI bleeding.

Nursing Interventions

- Assess patient for asthma, rhinitis and ~~an~~ urticaria.
- Assess for rash periodically during therapy.
- Assess pain ~~before~~ before and after therapy.

Interactions

- Probenecid increases level of the drug hence toxicity levels.
- Increased risk of bleeding when used with pentoxifylline.
- May increase lithium serum levels.

Client Education

- Instruct patient on how and when to ask for and take pain medication.
- Instruct patient to take medication as instructed.

Evaluation of Medication Effectiveness

- Decrease in severity of pain.

ACTIVE LEARNING TEMPLATE: Medication

STUDENT NAME _____

MEDICATION Naproxen

REVIEW MODULE CHAPTER _____

CATEGORY CLASS _____

PURPOSE OF MEDICATION

Expected Pharmacological Action

Inhibit prostaglandin synthesis.

Therapeutic Use

- Mild to moderate pain.
- Dysmenorrhea.
- Fever.
- Osteoarthritis.

Complications

CNS: Dizziness, headache.
CVS: Edema, palpitations.
GI: Drug-induced hepatitis.

Medication Administration

~~25-275mg~~
PO (Adults): 250-500mg
twice daily
PO (children): 5-7mg/kg
1 dose q 8-12 hr.

Contraindications/Precautions

- Hypersensitivity
- Cross-sensitivity with other NSAIDs.
- Lactation.

Nursing Interventions

- Assess pain prior and after administering.
- Monitor temperature in case of fever.
- Evaluate BUN, CBC and LFT periodically.

Interactions

- Concurrent use with aspirin decreases level hence decrease effectiveness.
- Probenecid increases blood level and may increase toxicity.

Client Education

- Advise patient to take medication as ~~red~~ instructed.
- Advise patient to avoid driving due to drowsiness caused.

Evaluation of Medication Effectiveness

- Relief pain.
- Reduction of fever.
- Improved joint mobility.

ACTIVE LEARNING TEMPLATE: Medication

STUDENT NAME _____

MEDICATION Baclofen

REVIEW MODULE CHAPTER _____

CATEGORY CLASS _____

PURPOSE OF MEDICATION

Expected Pharmacological Action

Inhibits reflexes at the spinal level.

Therapeutic Use

Treatment of reversible spasticity due to multiple sclerosis, or spinal origin.

Complications

CNS: Seizures, dizziness, fatigue
CVS: Edema, hypotension.
GIT: Nausea, constipation.
Neuro: Ataxia.

Medication Administration

PO (Adults): 5mg
3 times daily.
PO (children): 30-40mg
daily divided q 8hr.

Contraindications/Precautions

- Hypersensitivity

Nursing Interventions

- Assess muscle spasticity before and periodically during therapy.
- Observe patient for drowsiness, dizziness and ataxia.

Interactions

- Increases CNS depression with opioid analgesics and sedatives.

Client Education

- Patient to take medication as directed.
- Advise patient to avoid driving due to drowsiness.
- Report signs and symptoms of hyperactivity by patient.

Evaluation of Medication Effectiveness

- Decrease in muscle spasticity and associated musculoskeletal pain with an increased ability to perform activities of daily living.

ACTIVE LEARNING TEMPLATE: Medication

STUDENT NAME _____

MEDICATION Diazepam

REVIEW MODULE CHAPTER _____

CATEGORY CLASS _____

PURPOSE OF MEDICATION

Expected Pharmacological Action

Depresses the CNS,
probably by potentiating
GABA.

Therapeutic Use

- Adjunct in the management of anxiety disorder, stiffman ~~and~~ syndrome, preoperative sedation, treatment of status epilepticus.

Complications

CNS: Dizziness, lethargy, depression, drowsiness.
Resp: Respiration depression.
CVS: Hypotension.

Medication Administration

PO (Adults): 2-10mg
2-4 times daily
IM/IV (adults): 2-10mg
may be repeated in
3-4 hrs as needed.
PO (children): 1-2.5mg
3-4 times daily.

Contraindications/Precautions

- Hypersensitivity.
- Comatose patient
- ~~Ataxia~~ Myasthenia gravis
- Sleep apnea.

Nursing Interventions

- Patient should be kept bedrest and observed for 3 hrs after parenteral administration. Use lowest effective doses.

Interactions

- Barbiturates increase metabolism hence reduce effectiveness of diazepam.
- Valproic acid decrease metabolism hence increase effectiveness of diazepam.

Evaluation of Medication Effectiveness

- Control of seizures.
- Decrease in muscle spasms.
- Decrease in anxiety levels.
- Decreased recall of surgical or diagnostic procedures.

Client Education

- Patient to take medication as instructed.
- Avoid driving as the medication causes drowsiness.
- Caution patient to avoid taking alcohol when on diazepam.

ACTIVE LEARNING TEMPLATE: Medication

STUDENT NAME _____

MEDICATION

Cyclobenzaprine

REVIEW MODULE CHAPTER _____

CATEGORY CLASS _____

PURPOSE OF MEDICATION

Expected Pharmacological Action

Reduce tonic somatic muscle activity at the level of brain stem.

Therapeutic Use

Management of acute painful musculoskeletal conditions associated with muscle spasms.

Complications

CNS: Dizziness, drowsiness, confusion, fatigue.

CVS: Arrhythmias.

GI: Constipation, dyspepsia.

Medication Administration

PO (Adult): 10mg 3 times daily for immediate release; 15-30mg once daily for extended release.

Contraindications/Precautions

- Hypersensitivity.
- Hyperthyroidism.
- Immediate period after MI.
- Cardiac conduction disturbances.

Nursing Interventions

- Assess patient for pain, muscle stiffness and ROM before and during therapy.
- Assess for serotonin syndrome.

Interactions

- Additive CNS depression with other CNS depressants.
- Additive anticholinergic effects with atropine.

Client Education

- Instruct patient to take medication as directed.
- Advise to stop concurrent use of alcohol.
- Advise on good oral hygiene.

Evaluation of Medication Effectiveness

- Relief of muscular spasms in acute skeletal muscle conditions.

ACTIVE LEARNING TEMPLATE: Medication

STUDENT NAME _____

MEDICATION Digoxin

REVIEW MODULE CHAPTER _____

CATEGORY CLASS _____

PURPOSE OF MEDICATION

Expected Pharmacological Action

Increases the force of myocardial contraction.

Therapeutic Use

- Heart failure.
- Atrial fibrillation and atrial flutter.
- Paroxysmal atrial tachycardia.

Complications

CNS: fatigue, headache, weakness.
EENT: Blurred vision.
CVS: Arrhythmias, bradycardia
GIT: Anorexia.

Medication Administration

PO (Adult): 0.5-1mg given as 50% of the dose initially.
IV (children) 8-12mcg/kg given as 50% of the dose initially.

Contraindications/Precautions

- Hypersensitivity
- Uncontrolled ventricular arrhythmias.
- AV block.

Nursing Interventions

- Monitor apical pulse for 1min before administering.
- Monitor BP periodically.
- Monitor input and output ratios and daily weight.

Interactions

- Verapamil leads to increased levels hence toxicity.
- Thyroid hormones may decrease therapeutic levels.

Client Education

- Patient to take medication as directed.
- Teach patient to take pulse and act accordingly.
- Routine check-up to determine effectiveness.

Evaluation of Medication Effectiveness

- Decrease in severity of AF
- Decrease in ventricular response in atrial tachyarrhythmias.
- Increase in cardiac output.

ACTIVE LEARNING TEMPLATE: Medication

STUDENT NAME _____

MEDICATION Ezetimibe

REVIEW MODULE CHAPTER _____

CATEGORY CLASS _____

PURPOSE OF MEDICATION

Expected Pharmacological Action

Inhibit absorption of cholesterol in the small intestine.

Therapeutic Use

Management of dyslipidemias.

Complications

GI: Cholestitis, cholelithiasis
Increased liver enzymes.
Derm: Rash.
Angio edema.

Medication Administration

PO (Adults): 10mg
once daily.

Contraindications/Precautions

- Hypersensitivity.
- Acute liver disease
- Moderate or severe hepatic impairment.

Nursing Interventions

Obtain dietary history regarding fat consumption.
- Evaluate serum cholesterol and triglyceride levels.

Interactions

- Effects decreased by cholestyramine.
- Cyclosporine increases its level

Client Education

- Instruct patient to take medication as prescribed.
- Emphasize on the importance of follow-up exams to determine effectiveness and any side effects.

Evaluation of Medication Effectiveness

- Decrease in the level of serum LDL and total cholesterol levels.

Medication

STUDENT NAME _____

MEDICATION

Cholestyramine

REVIEW MODULE CHAPTER _____

CATEGORY CLASS _____

PURPOSE OF MEDICATION

Expected Pharmacological Action

Binds bile acids in the GI tract, forming an insoluble complex.

Therapeutic Use

Management of primary hypercholesterolemia.

Complications

GI: Abdominal discomfort, constipation, nausea, ~~steatorrhea~~ steatorrhea.
Derm: Irritation, rashes.

Medication Administration

PO (Adults): 4g
1-2 times daily.
PO (children): 240mg
1kg/daily in 2-3
divided doses.

Contraindications/Precautions

Hypersensitivity
Complete biliary obstruction.
History of constipation.

Interactions

- May decrease effects/absorption of orally administered amiodarone, acetaminophen, NSAIDs, niacin, warfarin.

Nursing Interventions

Obtain dietary history regarding fat consumption.
- Assess severity of itching and skin integrity.
- Serum cholesterol and triglyceride levels obtained.

Evaluation of Medication Effectiveness

- Decrease in serum low-density lipoprotein cholesterol levels.
- Decrease in frequency and severity of diarrhea.
- Decrease in severity of pruritus.

Client Education

- Patient should take medication as directed.
- Explain constipation may occur.
- Notify healthcare provider in case of bleeding or bruising.

ACTIVE LEARNING TEMPLATE: Medication

STUDENT NAME _____

MEDICATION Niacin/Nicotinic acid.

REVIEW MODULE CHAPTER _____

CATEGORY CLASS _____

PURPOSE OF MEDICATION

Expected Pharmacological Action

Required as coenzymes for lipid metabolism, glycogenolysis and tissue respiration.

Therapeutic Use

Treatment and prevention of niacin deficiency.

Complications

CHS: Dizziness, panic,
CVS: Orthostatic hypotension.
GI: Hepatotoxicity
Skin: Pruritus.

Medication Administration

PO (Adults and children): Dietary supplement 10-20mg/day.

Contraindications/Precautions

Hypersensitivity to niacin.
Alcohol intolerance

Nursing Interventions

- Assess for signs of niacin deficiency.
- Obtain dietary history.
- Monitor serum glucose and uric acid levels.

Interactions

- Increased risk of myopathy when used with HMG-CoA reductase inhibitors.
- Additive hypotension with anti-hypertensive agents.

Client Education

- Inform patient on cutaneous flushing and sensation of warmth.
- Change position slowly due to orthostatic hypotension.

Evaluation of Medication Effectiveness

- Prevention and treatment of niacin deficiency.
- Decrease in serum cholesterol and triglyceride levels.

ACTIVE LEARNING TEMPLATE: Medication

STUDENT NAME _____

MEDICATION Loxastatin.

REVIEW MODULE CHAPTER _____

CATEGORY CLASS _____

PURPOSE OF MEDICATION

Expected Pharmacological Action

Inhibits HMG-CoA reductase an enzyme responsible for catalyzing early step in synthesis of cholesterol.

Therapeutic Use

Adjunctive management of primary hypercholesterolemia and mixed dyslipidemias.

Complications

etls: Amnesia, confusion, dizziness.
GIT: Abdominal cramps, constipation
CV: Erectile dysfunction.
MS: Rhabdomyolysis.

Medication Administration

PO (Adult): 20mg once daily with evening meals.

Contraindications/Precautions

- Hypersensitivity
- Active liver disease.

Nursing Interventions

- Obtain dietary history especially of fat consumption.
- Evaluate cholesterol and triglyceride levels before initiation and monitor after 4-6 wks.

Interactions

- Strong CYP3A4 inhibitors like ketoconazole increases risk of myopathy.
- Grape juice increases blood levels and effectiveness.

Client Education

- Instruct patient to take medication as directed.
- Notify healthcare professional in case of unexplained muscle pain.

Evaluation of Medication Effectiveness

- Decrease in LDL and total cholesterol levels.
- Increase in HDL cholesterol levels.
- Decrease in triglyceride levels.

ACTIVE LEARNING TEMPLATE: Medication

STUDENT NAME _____

MEDICATION Gemfibrozil

REVIEW MODULE CHAPTER _____

CATEGORY CLASS _____

PURPOSE OF MEDICATION

Expected Pharmacological Action

- Inhibits peripheral lipolysis.
- Decreases triglyceride production in the liver.

Therapeutic Use

Management of type IIb hyperlipidemia in patients who are yet to show signs of clinical a coronary artery disease.

Complications

- CNS: Dizziness, headache.
- EENT: Blurred vision.
- GI: Abdominal pain, diarrhea, gallstones.
- Skin: Alopecia, rashes.

Medication Administration

PO (Adult): 600mg twice daily 30min before breakfast and dinner.

Contraindications/Precautions

- Hypersensitivity
- Primary biliary cirrhosis.
- Concurrent use ~~with~~ with HMG-CoA reductase inhibitors.

Nursing Interventions

- Obtain dietary history regarding alcohol and ~~fat~~ fat.
- Assess liver ~~fat~~ function tests before and during therapy.
- Evaluate CBC 3 monthly.

Interactions

- Concurrent use with repaglinide increase risk of severe hypoglycemia.
- May increase effects of Warfarin.

Client Education

- Take medication as directed.
- Observe dietary restrictions as advised.
- Inform the health care worker in case of side effects like diarrhea.

Evaluation of Medication Effectiveness

- Decrease in serum triglyceride and cholesterol levels and improved HDL to total cholesterol ratios.

ACTIVE LEARNING TEMPLATE: Medication

STUDENT NAME _____

MEDICATION Rivaroxaban

REVIEW MODULE CHAPTER _____

CATEGORY CLASS _____

PURPOSE OF MEDICATION

Expected Pharmacological Action

Acts as a selective factor X inhibitor that blocks the active site of factor Xa, inactivating the cascade of coagulation.

Therapeutic Use

Prevention of deep vein thrombosis that may lead to pulmonary embolism following ~~low~~ hip or knee replacement surgery.

Complications

CTIs: Syncope
Derm: Blister, pruritus.
Hemat: Bleeding
Local: Mound secretion.

Medication Administration

PO (Adults): 10mg once daily, initiated 6-10 hrs post-operation.

Contraindications/Precautions

Hypersensitivity.
Active major bleeding
Severe renal impairment.
Prosthetic heart valves.

Nursing Interventions

- Assess signs of bleeding and hemorrhage.
- Monitor for signs of neurological impairment.
- May increase levels of LFTs.

Interactions

- Concurrent use with aspirin and NSAIDs increase risk of bleeding.
- Act as a substrate of subsets of CYP450 enzyme system.

Client Education

- Take medication as directed always.
- Report symptoms of unusual bleeding or bruising.

Evaluation of Medication Effectiveness

- Prevention of blood clots and subsequent pulmonary emboli following knee/hip replacement surgeries.

Medication

STUDENT NAME _____

MEDICATION Dabigatran.

REVIEW MODULE CHAPTER _____

CATEGORY CLASS _____

PURPOSE OF MEDICATION

Expected Pharmacological Action

Act as a direct inhibitor of thrombin.

Therapeutic Use

To reduce the risk of stroke/systemic embolization associated with non-vascular atrial fibrillation.

Complications

GI: Abdominal pain, diarrhea, gastritis, nausea.
Hemat: Bleeding, thrombocytopenia.

Medication Administration

PO (Adult): 150mg twice daily.

Contraindications/Precautions

- Hypersensitivity
- Active pathological bleeding.
- Concurrent use of P-glycoprotein (P-gp) inducers.

Nursing Interventions

- Assess symptoms of stroke or peripheral vascular disease during therapy.
- Assess symptoms of bleeding.
- Monitor renal function.

Interactions

- Increased risk of bleeding when used with other anticoagulants, heparin and clopidogrel.

Client Education

- Take medication as directed strictly.
- Inform patient of possibility of bleeding more easily than usual.
- Advise to notify health care professional if pregnancy is planned or suspected.

Evaluation of Medication Effectiveness

- Reduction in the risk of stroke and systemic embolism.

Medication

STUDENT NAME _____

MEDICATION _____

CATEGORY CLASS _____

REVIEW MODULE CHAPTER _____

PURPOSE OF MEDICATION

Expected Pharmacological Action

Inhibit platelet aggregation by irreversibly inhibiting the binding of ATP to platelet receptors.

Therapeutic Use

Reduction of atherosclerotic events in patients ~~with~~ at risk for such like MI, acute coronary syndrome.

Complications

CNS: Depression, dizziness, fatigue
 Resp: Cough, dyspnea,
 CVS: Chest pain, edema
 Hemat: Bleeding, neutropenia.

Medication Administration

PO (Adults): 75mg once daily.

Contraindications/Precautions

- Hypersensitivity
- Pathologic bleeding
- Lactation.

Nursing Interventions

- Assess patient for symptoms of stroke, peripheral vascular disease or MI periodically during therapy
- Monitor bleeding time during therapy.

Interactions

- May increase risk of bleeding when used together with warfarin, aspirin, NSAIDs, LMWH.

Client Education

- Take medication exactly as directed.
- Patient to notify other healthcare providers in case of a surgery or other medication.

Evaluation of Medication Effectiveness

- Prevention of stroke, MI and vascular death in patients at risk.

ACTIVE LEARNING TEMPLATE: Medication

STUDENT NAME _____

MEDICATION Enoxaparin.

REVIEW MODULE CHAPTER _____

CATEGORY CLASS _____

PURPOSE OF MEDICATION

Expected Pharmacological Action

Potentiates the inhibitory effect of antithrombin on factor Xa and thrombin.

Therapeutic Use

- Prevention of Venous thromboembolism (VTE), deep venous thrombosis and pulmonary embolism.
- Treatment of DVT.

Complications

CTIS: dizziness, headache, insomnia.
CVS: Edema,
GIT: Constipation.
Derm: Alopecia, rash, pruritis.

Medication Administration

Subcut (Adults):
Knee replacement
30mg q 12hrs starting
12-24hr after surgery for
7-10 days.
Subcut (children): 0.5mg/kg
Bose every 12hr.

Contraindications/Precautions

- Hypersensitivity
- Active major bleeding.
- Severe hepatic and renal disease.

Nursing Interventions

- Assess for signs of bleeding and hematoma
- Assess for evidence of increased thrombosis.
- Observe injection sites for hematomas.

Interactions

- Risk of bleeding may increase by concurrent use with warfarin, aspirin, NSAIDs, and dextran.

Evaluation of Medication Effectiveness

- Prevention of deep vein thrombosis and pulmonary embolism.
- Resolution of acute deep vein thrombosis.

Client Education

- Report any signs of unusual bleeding or bruising.
- Not to take aspirin, naproxen without consulting healthcare provider.

Medication

STUDENT NAME _____

MEDICATION Heparin

REVIEW MODULE CHAPTER _____

CATEGORY CLASS _____

PURPOSE OF MEDICATION

Expected Pharmacological Action

Potentiates the inhibitory effects of antithrombin on factor Xa and thrombin.

Therapeutic Use

Prophylaxis and treatment of various thromboembolic disorders including venous thromboembolism, pulmonary embolism.

Complications

GI: Drug-induced hepatitis.
 Derm: Alopecia, rashes, urticaria
 Hemat: Bleeding, heparin-induced thrombocytopenia.

Medication Administration

IV (Adults) Intermittent bolus - 10,000 Units followed by 5000-10,000 units q 4-6 hrs.
 IV (children) Intermittent bolus 50-100 units/kg followed by 50-100 units/kg q 4 hrs.

Contraindications/Precautions

- ~~Hepato~~sensitivity
 - Hypersensitivity, uncontrolled bleeding, severe thrombocytopenia, open wounds.

Nursing Interventions

Assess for signs of bleeding and hemorrhage.
 - Monitor for signs of hypersensitivity reactions.
 - Monitor platelets every 2-3 days throughout therapy period.

Interactions

- Risk of bleeding increases when used with aspirin, NSAIDs, clopidogrel.

Client Education

- Report any signs of unusual bleeding or bruising.
 - Inform another doctor before surgery or other treatment.
 - Avoid IM injection.

Evaluation of Medication Effectiveness

Prolonged PTT of 1.5-2.5 times control without signs of hemorrhage.
 Prevention of deep vein thrombosis and pulmonary emboli.

ACTIVE LEARNING TEMPLATE: Medication

STUDENT NAME _____

MEDICATION Warfarin.

REVIEW MODULE CHAPTER _____

CATEGORY CLASS _____

PURPOSE OF MEDICATION

Expected Pharmacological Action

- Interferes with hepatic synthesis of vitamin K dependent clotting factors.

Therapeutic Use

prophylaxis and treatment of venous thrombosis, pulmonary embolism, atrial fibrillation.

Complications

GI: Cramps, nausea.
Derm: Thermal necrosis.
Hemat: Bleeding.
fever.

Contraindications/Precautions

- Uncontrolled bleeding
- Open wounds.
- Active ulcer disease.
- Recent brain surgery.

Interactions

- Valproates and aspirin may increase response of warfarin.
- A cetaminophen may increase risk of bleeding.

Evaluation of Medication Effectiveness

- Prolonged PT & INR (2-4s) without signs of hemorrhage.

Medication Administration

PO, IV (adults): 2-5mg/day for 2-4 days, then adjust dose with INR results.

PO, IV (children > 1 year): 0.2 mg/kg for 2-4 days then adjust based on INR.

Nursing Interventions

- Assess for signs of bleeding and hemorrhage
- Assess for evidence of increased thrombosis
- Monitor PT, INR & frequently during therapy.

Client Education

- Report symptoms of unusual bleeding or bruising.
- Instruct patient not to take alcohol.
- Frequent lab tests to monitor coagulation factors.

ACTIVE LEARNING TEMPLATE: Medication

STUDENT NAME _____

MEDICATION _____

Amlodipine

REVIEW MODULE CHAPTER _____

CATEGORY CLASS _____

PURPOSE OF MEDICATION

Expected Pharmacological Action

Inhibit the transport of calcium into myocardial and vascular smooth muscle cells, resulting in inhibition of excitation-contraction coupling and subsequent contraction.

Therapeutic Use

Management of hypertension, angina pectoris and vasospastic angina.

Complications

CTEs: Dizziness and fatigue.
CVS: Peripheral edema, angina, bradycardia, hypotension
GI: Gingival hyperplasia.

Medication Administration

PO (Adults): 5-10mg once daily.
PO (children): 2.5-5mg once daily.

Contraindications/Precautions

- Hypersensitivity.
- Systolic BP < 90 mmHg
- Aortic stenosis.
- History of HF.

Nursing Interventions

- Monitor BP before therapy.
- Monitor input and output ratios and weight daily.

Interactions

- Strong CYP3A4 inhibitors including ketoconazole may increase level.
- Increased risk of myopathy with simvastatin.

Client Education

- Advise on taking medication as directed.
- Instruct on maintaining good dental hygiene.
- Inform healthcare worker of medication before surgery or other treatment.

Evaluation of Medication Effectiveness

- Decrease in BP
- Decrease in frequency and severity of anginal attacks
- Decrease in need for nitrate therapy.

Medication

STUDENT NAME _____

MEDICATION Nitroglycerin.

REVIEW MODULE CHAPTER _____

CATEGORY CLASS _____

PURPOSE OF MEDICATION

Expected Pharmacological Action

- Increases coronary blood flow by dilating coronary arteries and improved ~~collateral~~ collateral flow to ischaemic regions.

Therapeutic Use

- Acute and long-term prophylactic management of angina pectoris.
- Adjunct treatment of HF.

Complications

- CFs: Dizziness, headache, weakness, restlessness.
- CV: Hypotension, tachycardia, syncope.
- Derm: Contact dermatitis.

Medication Administration

- SL (Adults): 0.3-0.6 mg, may repeat q 5min
- PO (Adults): 2.5-9 mg 2-8-12 hrs.

Contraindications/Precautions

- Hypersensitivity
- Severe anemia.
- Pericardial tamponade.
- Constrictive pericarditis.

Interactions

- Increased risk of serious and fatal hypotension when used with sildenafil.
- Additive hypotension with antihypertensives.

Nursing Interventions

- Assess location, duration, intensity and precipitating factors of patient's anginal pain.
- Monitor BP and pulse before and after administration.

Evaluation of Medication Effectiveness

- Decrease in frequency and severity of anginal attacks.
- Controlled hypotension during surgical procedures.
- Treatment of HF associated with acute MI.

Client Education

- Take medication as directed.
- Change position slowly due to orthostatic hypotension.
- Inform patient headache is a common side effect.

Medication

STUDENT NAME _____

MEDICATION

Diltiazem.

REVIEW MODULE CHAPTER _____

CATEGORY CLASS _____

PURPOSE OF MEDICATION

Expected Pharmacological Action

- Inhibit transport of calcium into myocardial and vascular smooth muscle cells, resulting in inhibition of excitation-contraction coupling and subsequent contraction.

Therapeutic Use

- Hypertension.
- Angina pectoris and vasospastic angina.
- Supraventricular tachycardias.

Complications

- CTEs: ~~at~~ abnormal dreams, anxiety, confusion.
- Resp: Cough, dyspnea.
- Cvs: Arrhythmias, heart failure

Medication Administration

- PO (Adults): 30-120mg 3-4 times daily.
- IV (adults): 0.25mg/kg may repeat in 15min with 0.35mg/kg.

Contraindications/Precautions

- Hypersensitivity.
- Sick sinus syndrome.
- 2nd or 3rd degree AV block.
- Systolic BP < 90 mmHg.

Nursing Interventions

- Monitor BP and pulse prior to therapy.
- Monitor input and output ratios and daily weight.

Interactions

- Increased hypotension when used with fentanyl.
- Anti-hypertensive effects decreased by HSAIDs.

Client Education

- Advise on taking medication as directed.
- Avoid large amounts of grapefruit juice during therapy.
- Notify health care provider in case of a rash, dyspnea.

Evaluation of Medication Effectiveness

- Decrease in BP.
- Decrease in frequency and severity of anginal attacks.
- Decrease in need for nitrate therapy.

ACTIVE LEARNING TEMPLATE: Medication

STUDENT NAME _____

MEDICATION _____

Hydralazine

REVIEW MODULE CHAPTER _____

CATEGORY CLASS _____

PURPOSE OF MEDICATION

Expected Pharmacological Action

- Direct-acting peripheral arteriolar vasodilator.

Therapeutic Use

- Moderate to severe hypertension.

Complications

- CHS: Dizziness, fatigue, drowsiness.
- CRSI: Tachycardia, angina, edema, orthostatic hypotension.

Medication Administration

- PO (Adults): Hypertension
10mg 4 times daily.
- PO (children): 0.7-1mg/kg/day in 2-4 divided doses.

Contraindications/Precautions

- Increased hypotension
- Hypersensitivity
- Severe renal and hepatic diseases.

Nursing Interventions

- Monitor BP and pulse frequently during initial dose.
- Monitor frequency of refilling prescription for adherence.
- Monitor CBC.

Interactions

- Increased hypotension with acute ingestion of alcohol or other antihypertensives.
- Beta-blockers decreases tachycardia from hydralazine.

Client Education

- Insist on importance of continuous taking of medication.
- Taking weight two times in a week.
- Follow-up emphasis to monitor effectiveness.

Evaluation of Medication Effectiveness

- Decreased BP with minimal side effects.
- Decreased after-load in patients with HF.