N322 Pharmacology
Proctored ATI Remediation Template

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Assessment Name: Pharmacology Remediation
Semester: 2nd

Instructions:

1. Download the report from your ATI product for the assessment you are completing this remediation template for
2. The report will be broken down into three (3) aspects:
    a. Categories
        i. These categories mimic the NCLEX-RN categories and include the following:
            1. Management of Care
            2. Safety and Infection Control
            3. Health Promotion and Maintenance
            4. Psychosocial Integrity
            5. Basic Care and Comfort
            6. Pharmacological and Parenteral Therapies
            7. Reduction of Risk Potential
            8. Physiological Adaptation
    b. Subcategories
    c. Topics
3. Complete the template on the following page by doing the following:
    a. Main Category
        i. Subcategories for each main category
            1. Topics for each subcategory → these will be the content areas you will be remediating on
                a. Provide three (3) critical points to remember for each topic → these will come from the Focused Review module(s) within your ATI product
    b. NOTE: You must remediate on all subcategories AND topics within the main categories listed under the "Topics to Review" section of the ATI report for this assessment.
4. In the event you need additional space within the table, please add rows into the table to accommodate this
    a. In the event, you need less space within the table than what is provided, you may delete those rows from the table to accommodate this OR put "N/A" → There may be main categories that you don't have to remediate on and that is OK – you can either delete the table OR put "N/A"
5. An example is provided below:

SAMPLE Main Category: Management of Care
SAMPLE Subcategory: Case Management
SAMPLE Topic: Anemias: Discharge Teaching for a Client Who is Recovering from Sickle Cell Crisis • SAMPLE Critical Point #1: Anemia is the abnormally low amount of circulation RB, Hgb concentration, or both. • SAMPLE Critical Point #2: When a patient is going through sickle crisis, the nurse should monitor oxygen saturation to determine a need for oxygen therapy. • SAMPLE Critical Point #3: A patient should have their hemoglobin checking in 4 to 6 weeks to determine efficacy.
Proctored ATI Grading Scale – **RN Pediatric Health 2023**

Level 3= 90 points

- ***Remediation = 10 points:***
- *Minimum 1-hour Focused Review*
- *For each topic missed, complete an active learning template and/ or identify three critical points to remember.* ***Must be a full sentence, not just bullet points.***

Level 2 = 80 points

- **Remediation = 10 points:**
- *Minimum 2-hour Focused Review*
- *For each topic missed, complete an active learning template and/ or identify three critical points to remember.* ***Must be a full sentence, not just bullet points.***

Level 1 = 70 points

- **Remediation = 10 points:**
- *Minimum 3-hour Focused Review*
- *For each topic missed, complete an active learning template and/ or identify three critical points to remember.* ***Must be a full sentence, not just bullet points.***

Below Level 1 = 60 points

- **Remediation = 10 points:**
- *Minimum 4-hour Focused Review*
- *For each topic missed, complete an active learning template and/ or identify three critical points to remember.* ***Must be a full sentence, not just bullet points.***

6. Once the template is completed ***and*** at least the minimum remediation time has been completed within the Focused Review module(s) in ATI, upload the template to the corresponding dropbox in E360.
7.

Main Category: Psychosocial Integrity

Subcategory: Chemical and Other Dependencies/Substance Use Disorder

Topic: Withdrawal from Alcohol

- In this category I learned that withdrawal from alcohol can occur within four to twelve hours after the last intake of alcohol.
- I also read that the withdrawal can last up to 5-7 days.
- There are many signs and symptoms that come with alcohol withdrawal. These can include nausea, vomiting, tremors, insomnia, elevated blood pressure and heart rate, and even so serious that it can lead to death.

Topic: Benzodiazepines

- This is a type of medication that is a first line use to help with alcohol withdrawal symptoms.
- As a nurse it is important to make sure that you are monitoring the side effects of this medication, the patient's vital signs, and the patient's neuro status.
- The antidote for this medication is flumazenil. This will help reverse sedative effects, and it is used if there is toxicity from the benzodiazepine.

Topic: Nicotine Patch

- This is used to help with withdrawal symptoms from nicotine.
- When applying the patch on the patient, it is important that it is applied on clean, dry skin.
- It is also important to inform the patient that they should not be using nicotine when they have the patch on.

Main Category: Clinical Judgement

Subcategory: Medications Affecting Urinary Output: Caring for the Client with Heart Failure

Topic: Furosemide

- This medication is a part of the high-ceiling loop diuretics.
- This medication is used in patients who have pulmonary edema caused by heart failure, conditions that do not respond to any other type of diuretic, and patients with hypertension.
- It is important to monitor the patient's electrolytes and their dehydration status.

Topic: Chlorothiazide

- **T**his medication is a part of the thiazide diuretics class.
- The mode of action for this medication is to block the reabsorption of sodium and chloride to prevent the reabsorption of water.
- This medication is administered orally and IV.

Topic: Spironolactone

- This medication is a prototype for the potassium-sparing diuretics class.
- The mode of action for this medication is to block the action of aldosterone, which results in potassium retention and the excretion of sodium and water.
- As a nurse it is important to be aware of the hyperkalemia.

Subcategory: Vitamins and Minerals: Caring for a Client Who Has Iron Deficiency Anemia

Topic: Ferrous sulfate

- This is an oral iron supplement.
- A therapeutic use for this medication is to help a patient with iron-deficiency anemia.
- The patient should take this medication with food to help prevent any GI distress or complications.

Topic: Vitamin B12

- This medication is used to help treat a patient with vitamin B12 deficiency.
- The patient could develop hypokalemia or GI distress with this medication.
- As a nurse the patient should be monitored for manifestations of vitamin B12 deficiency.

Topic: Folic Acid

- Folic acid is very important to produce DNA and erythropoiesis.
- The patients are allowed to take folic acid when they are pregnant.
- As a nurse it is important to monitor the patient's blood phenytoin levels.

Subcategory: Chronic Neurologic Disorders: Teaching About Levodopa/Carbidopa

Topic: Neostigmine

- This medication is the prototype for the cholinesterase inhibitors class.
- This specific cholinesterase inhibitor is used for the treatment of myasthenia gravis.
- As a nurse I would need to be aware of the cholinergic crisis that can occur when the patient is taking this medication.

Topic: Levodopa/carbidopa

- This medication is very effective treatment for Parkinson's Disease treatment.
- The medication can wear off at the end of the dosing interval, but this means the medication levels are still subtherapeutic.
- The medication can wear on and off throughout the whole dosage interval.

Topic: MAO-B inhibitors

- The patient could be taking these medications to help with insomnia.
- The medication that helps treat insomnia is called selegiline. This medication should not be administered no later than noon.
- Another type of MAO-B inhibitor could also be used to help treat nausea and diarrhea.

Subcategory: Chemotherapy Agents: Educating on Adverse Effects of Medication

Topic: Folic acid analog

- The prototype for this class of medications is methotrexate.
- This medication can be administered oral, IV, IM, or intrathecal.

- This medication will stop cell reproduction needed for the making of DNA by inhibiting folic acid.

Topic: Cytarabine

- As a nurse if the patient is taking this medication, it is important to monitor their liver enzymes and any signs of jaundice.
- This medication can also be used for pulmonary edema. It is important to monitor the breath sounds of the patient.
- It is important to tell the patient to contact their provider of any signs of shortness of breath.

Topic: Mercaptopurine

- When a client is taking this medication, it is important to encourage 2-3 L of daily fluid intake.
- As a patient it is important to prevent pregnancy due to this medication causing teratogenic effects to the fetus.
- It is important to monitor the patient for bleeding and infection.

Main Category: Pharmacological and Parenteral Therapies

Subcategory: Antibiotics Affecting Protein Synthesis: Recognizing Adverse Effects of Clindamycin

Topic: Tetracyclines

- This is an antibiotic that inhibits microorganism growth by stopping protein synthesis from occurring.
- The main complications of this medication include GI upset. This medication can cause nausea, vomiting, diarrhea, etc.
- As a nurse it is important to monitor the side effects of the medication, the intake and output from the patient, and educate the patient to take this medication at bedtime with meals.

Topic: Macrolides

- The prototype of this pharmacologic class is erythromycin.
- This medication helps treat clients with infections who have a penicillin allergy. It also will help treat chlamydia infections.
- This medication can cause ototoxicity with high dosage therapy, so it is important to monitor for this as a nurse.

Topic: Aminoglycosides

- The main prototype of this pharmacologic class is gentamicin.
- These are bactericidal antibiotics that will kill microorganisms by inhibiting protein synthesis.
- This medication can also cause ototoxicity. It is important to tell the patient to contact their provider if they experience any hearing loss or loss of balance.

Subcategory: Medications Affecting Coagulation: Teaching About Adverse Effects of Clopidogrel

Topic: Anticoagulants

- There are many different types of anticoagulants that can be used. The prototype of this class is heparin.
- This is used to prevent clots. This is especially used for patient's after surgery to help prevent PE and DVT.
- As a nurse it is important to monitor themselves for bleeding.

Topic: Vitamin K inhibitors

- The prototype for this class is warfarin.
- As a nurse it ins important to monitor baseline labs and vital signs. It is especially important to monitor the patient's INR and PT time when they are taking warfarin.
- The antidote for this medication is Vitamin K.

Topic: Direct Thrombin Inhibitors

- This medication will help bind and inhibit a thrombin to help prevent a thrombus from forming in a patient.
- It is important to monitor the patient for bleeding when they are taking this medication.
- As a nurse, it is important to know to give this medication cautiously in patients with liver

impairment and who have a high risk of bleeding.

Subcategory: Opioid Agonists and Antagonists: Documenting Adverse Effects of a Transdermal Fentanyl Patch

Topic: Opioid Agonists

- The prototype of the medication class is morphine.
- Morphine can be given countless ways including PO, IV, subQ, IM, etc.
- It is important to monitor a patient who is receiving an opioid agonist for respiratory depression.

Topic: Agonists-Antagonists opioid

- The prototype for this class is butorphanol.
- The main therapeutic effect of this medication is to help with mild to moderate pain. It also will help treat opioid dependence.
- There are many different complications that can come with taking this medication such as, dizziness, respiratory depression, headache, constipation, etc.

Topic: Opioid antagonists

- The prototype for this class is naloxone.
- This medication is to help reverse any symptoms or toxicity of opioid agonists.
- This medication is not useful at all if there is no presence of any opioid agonists inside of the patient's body.

Subcategory: Medications Affecting the Reproductive Tract: Identifying a Contraindication for Receiving Sildenafil

Topic: Estrogens

- The therapeutic use for this medication includes contraception, acne, prevention of postmenopausal manifestations, etc.
- If this medication is used alone for postmenopausal therapy, there is a risk for ovarian cancer.
- It is important to give this medication in adjunct with progestins if possible.

Topic: Progesterone

- This medication is used greatly with estrogen to help with therapeutic effects and lower the risk of complications.
- This medication has many therapeutic uses such as treatment of amenorrhea, contraception, prevention of preterm birth, endometriosis, etc.
- When taking this medication it is important to be cautious of an thrombolytic complications such as PE, stroke, DVT, etc.

Topic: Emergency Oral Contraceptives

- The prototype for this class is progestin in adjunct with levonorgestrel.
- This medication inhibits ovulation and the transportation of sperm if it is taken within 72 hours after unprotected sex.
- Therapeutic use is to prevent fertilization between sperm and ovum.

Subcategory: Antibiotics Affecting the Bacterial Cell Wall: Recognizing Manifestations of an Allergic Reaction

Topic: Penicillin

- Penicillin will help destroy bacteria by weakening the cell wall.
- It is important as a nurse to know if the patient has an allergy to penicillin before administering the medication.
- After administering the medication, it is important to keep an eye on the patient up to 30 minutes after administration to look for any allergic reactions.

Topic: Cephalosporins

- **There are five different generations of cephalosporins.**
- **These are very similar to penicillin, but it doesn't weaken the cell wall, it destroys the cell wall of the bacteria.**
- **If this is given as an IM injection, notify the patient that they may experience some pain.**

Topic: Carbapenems

- **The prototype for this class is imipenem-cilastatin. This is given either IM or IV.**
- **These medications can cause GI upset such as nausea, vomiting, and diarrhea.**

- **It is important to use this medication cautiously in patients who have any renal impairment.**

Subcategory: Medications Affecting Coagulation: Monitoring a Client Following Alteplase Administration

Topic: Low Molecular weight heparins

- The prototype for this class is the medication: enoxaparin.
- These are used to help prevent and DVT in patients who are right out of surgery.
- Enoxaparin can also help treat a PE or DVT.

Topic: Fondaparinux

- As a nurse, if a patient is taking this medication, it is important to monitor their vital signs and their platelet count.
- It is also important to inform them to avoid the intake of aspirin.
- Notify the provider of any abnormal findings such as a loss or tingling sensation in the lower extremities.

Topic: Direct inhibitor of factor Xa

- The prototype for this medication is rivaroxaban.
- This class of medications inhibits factor Xa to prevent the formation of a thrombus.
- It is important to monitor the patient's liver enzymes because this medication can elevate them.

Subcategory: Airflow Disorders: Contraindications for a Client Who is Taking Albuterol for Asthma

Topic: Beta2 adrenergic agonists

- The prototype for this class is albuterol as an inhaled short-acting and salmeterol as an inhaled long-acting.
- This medication is given to help with bronchodilation. This helps by opening those airways to make it easier to breathe.
- Some complications of this medication include tachycardia, angina, and tremors.

Topic: Methylxanthines

- The prototype for this medication is theophylline.
- This medication is used for control of chronic asthma or COPD.
- The patient should avoid the intake of any caffeinated beverages because it can affect the medication.

Topic: Inhaled Anticholinergics

- The purpose of this class of medications is also to cause bronchodilation.
- Some complications of this medication include dry mouth and a hoarse voice.
- The client needs to be educated on rinsing their mouth after inhaling this medication and to wait at least five minutes after two inhalations because any other medication is administered.

Subcategory: Antibiotics Affecting the Bacterial Cell Wall: Adverse Reactions

Topic: Vancomycin

- This antibiotic is an inhibitor of cell wall synthesis.
- Vancomycin can be given PO, IV, or rectally.
- This medication can cause ototoxicity in patients, but it can be reversed.

Topic: Aztreonam

- This antibiotic can be given by IM or IV route.
- This is mainly used to treat C. difficile infections.
- Diarrhea is a common side effect to this medication.

Topic: Fosfomycin

- This antibiotic is only given orally.
- This medication is mainly used for single dose UTI's.
- This can cause many side effects such as diarrhea, vaginitis, drowsiness, abdominal pain, and headaches.

Subcategory: Connective Tissue Disorders: Contraindications to Prednisone Therapy

Topic: NSAIDS

- Some medications under this class include aspirin, ibuprofen, diclofenac, indomethacin, etc.
- These help a patient who has inflammation and pain, it can help relieve these factors.
- It is important to educate the patient on contacting their provider if they receive a fever or sore throat after starting this medication.

Topic: auranofin

- When a patient is taking this, it is important to be aware of toxic symptoms such as pruritus, rashes, and stomatitis.
- As a nurse I would want to monitor their BUN, creatinine, I and O and get a urinalysis if my patient is on this medication.
- The patient may feel GI discomfort such as nausea, abdominal pain, and vomiting.

Topic: Glucocorticoids: prednisone

- Taking this medication can cause a risk of infection such as a fever or a sore throat.
- It is important to have the patient take calcium supplements with this medication as well.
- It is also important to tell the client that if they stop the medication abruptly that they can have side effects such as vomiting, hypotension, confusion, and nausea.

Subcategory: Mycobacterial, Fungal, and Parasitic Infections: Indications for Administration of Metronidazole

Topic: Antimycobacterial (selective antituberculosis)

- **The prototype for this class of medications is Isoniazid.**
- This medication is used to treat patients with active or latent tuberculosis.
- Some complications this medication can cause are peripheral neuropathy and hepatotoxicity.

Topic: Broad-spectrum antimycobacterial (antituberculosis)

- The prototype for this medication is rifampin.
- The mode of action for this medication is to kill bacteria by inhibiting protein synthesis.
- This medication can cause the patient's body fluids to turn an orange color.

Topic: Antiprotozoals

- The prototype for this class is metronidazole.
- This medication is used for the treatment of protozoal infections, prophylaxis for clients who have an upcoming procedure, and to help treat H. pylori.
- This medication can also cause darkening of urine. It is important to educate the patient that this is a harmless effect of the medication.

Subcategory: Medications Affecting Cardiac Rhythm: Ventricular Dysrhythmia

Topic: Sodium channel blockers- IA

- Quinidine is the prototype for this class.
- This medication is used for SVT, ventricular tachycardia, atrial flutter, and atrial fibrillation.
- This medication can help delay repolarization.

Topic: Sodium channel blockers- IB

- Lidocaine is the prototype for this class.
- This medication is only used for ventricular dysrhythmias.
- This medication is only used for short-term.

Topic: Sodium channel blockers- IC

- Propafenone is the prototype of this class.
- This medication is used for SVT only.
- This medication delays the ventricular repolarization.

Subcategory: Airflow Disorders: Evaluating Understanding of Theophylline

Topic: Theophylline

- This medication helps relax the smooth muscle in the bronchial that eventually leads to bronchodilation.

- This medication is not used as much as it was prior due to their being new medications made that are safer and more effective.
- This medication is mainly given orally but can be given IV in emergencies.

Topic: Leukotriene modifiers

- The prototype for this class of medications is zafirlukast.
- The purpose of this medication is to reduce inflammation, bronchoconstriction, airway edema, and mucus production.
- This medication is administrated orally.

Topic: Leukotriene modifiers complications

- One complication is depression and suicidal ideation and as a nurse, they need to monitor for these behavior changes.
- Another complication is liver injury. It is important to monitor baseline liver function tests.
- It is important to use this medication cautiously in patients with liver dysfunction.

Subcategory: Medications Affecting Blood Pressure: Hypertensive Crisis

Topic: Angiotensin-converting enzyme inhibitors

- The prototype of this class is captopril.
- These medications are used to help with hypertension, heart failure, myocardial infarction, and diabetic and nondiabetic nephropathy.
- A cough is a common adverse effect of this medication.

Topic: Angiotensin 11 receptor blockers

- The prototype of this medication class is losartan.
- This medication will block the angiotensin 11 in the body which causes vasodilation and excretion of sodium and water.
- A complication of these medications can be angioedema.

Topic: Aldosterone antagonists

- The prototype of this medication class is eplerenone.
- This medication's therapeutic uses include hypertension, heart failure, premenstrual syndrome, acne in young females, etc.
- The nurse needs to be aware that this can cause the patient to haver hyperkalemia or hyponatremia.

Subcategory: Bone Disorders: Factors Affecting Client Safety While Taking Alendronate

Topic: Calcium nitrate

- This medication can be used for patients who have hypocalcemia.
- Most of these are given orally, but with people whose calcium level is super low they could have it administered by IV.
- It is important for the nurse to get the client's calcium level before administering the medication, so they do not cause hypercalcemia.

Topic: Raloxifene

- This medication is under the class of selective estrogen receptor modulator.
- This is used to help prevent and treat osteoporosis in postmenopausal patients.
- When a patient is taking this medication, it can cause an increased risk for a DVT or PE.

Topic: Bisphosphonates

- The prototype of this class is Alendronate.
- This patient is used to help treat osteoporosis, hypercalcemia due to malignancy, and Paget's disease of the bone.
- The client should take this medication in the morning, on an empty stomach with at least 240 ml of water.

Subcategory: Depressive Disorders: Dietary Teaching about Phenelzine

Topic: Fluoxetine

- This medication is the prototype for the class called selective serotonin reuptake inhibitors (SSRI's).
- This medication is used for major depression, obsessive-compulsive disorders, bulimia nervosa, premenstrual dysphoric disorders, panic disorders, etc.
- This medication could cause sexual dysfunction such as anorgasmia, impotence, decreased libido.

Topic: Venlafaxine

- This medication is a part of the serotonin-norepinephrine reuptake inhibitors.
- This medication could cause multiple complications such as nausea, headache, hypertension, weight loss, insomnia, suicidal thoughts.
- It is important that the client stops this medication gradually and not abruptly to avoid withdrawal symptoms.

Topic: Bupropion

- This medication is a part of the atypical antidepressants class and is the prototype.
- This medication has many therapeutic uses including treatment of depression, major depressive disorder, seasonal affective disorder, aid for smoking cessation, etc.
- This medication can cause headaches, dry mouth, GI distress, constipation, increased heart rate, hypertension, restlessness, and insomnia.

Subcategory: Growth Factors: Administering Epoetin Alfa

Topic: Epoetin alfa: erythropoietin

- This medication is used as a growth factor for the bone marrow to produce more red blood cells.
- This can be used for anemia related to CKD, anemia from chemotherapy, anemia caused by medication for HIV or AIDS, etc.
- This medication increases the chance of the patient receiving a thrombus, hypertension, headache, and body aches.

Topic: Filgrastim

- This medication is a leukopoietic growth factor.
- This medication can decrease the risk of infection in patients who have neutropenia.
- The patient should have their WBC checked at least twice a week when taking this medication.

Topic: Sargramostim

- This medication also works and stimulates the bone marrow to produce more WBC's.
- This medication can cause diarrhea, weakness, rash, malaise, and bone pain.
- It is important to make sure that the client is no allergic to yeast and other certain products.

Subcategory: Mycobacterial, Fungal, and Parasitic Infections: Evaluating Use of Anti-Infective Medications

Topic: Amphotericin B

- This antibiotic is in the antifungal class.
- This is used to help treat systemic fungal infections and non-opportunistic mycoses.
- The patient could experience fever, chills, rigor, and headache after administration.

Topic: Client education for metronidazole

- It is important to educate the client to take the full course of antibiotics even if the patient feels better and all the symptoms subside.
- If the patient is being treated for trichomoniasis with this medication they should be educated to use condoms.
- If this is used to treat an STD, the patient should not have sexual intercourse until the medication is complete.

Topic: Antifungal nursing actions

- The nurse should observe the infusion sites for any redness, pain, or swelling.
- The nurse needs to make sure that they are rotating injection sites.
- The nurse should monitor liver function studies and monitor I and O.

Subcategory: Medications Affecting Urinary Output: Administering Mannitol

Topic: Furosemide

- This is a loop diuretic.
- This medication is used in patients with pulmonary edema caused by heart failure and hypertension.
- This can be given orally, IV, or IM.

Topic: Mannitol

- This is an osmotic diuretic.
- This helps by reducing intracranial pressure and intraocular pressure by raising serum osmolarity.
- The nurse should monitor the patient's daily weight and I & O to see if the medication is working.

Topic: Hydrochlorothiazide

- This medication is a thiazide diuretic.
- This medication is pretty much always the first choice to use for a patient with hypertension.
- This medication can cause an electrolyte imbalance, dehydrations, etc.

Main Category: Reduction of Risk Potential

Subcategory: Sedative-Hypnotics: Monitoring for Adverse Reaction to Midazolam

Topic: Benzodiazepines

- The prototype of this class of medication is diazepam.
- There are many therapeutic uses for this medication class. The main ones include anxiety disorders, seizures disorders, insomnia, muscle spasm, alcohol withdrawal, panic disorder, etc.
- This is a CNS depressant; the patient and the nurse need to be aware of the side effects.

Topic: Nonbenzodiazepines

- The prototype for this class of medication is zolpidem.
- This medication is used to help treat insomnia. This medication is for short use only.
- This medication should be administered at bedtime.

Topic: Melatonin agonist

- The prototype for this medication class is ramelteon.
- This is to help manage chronic insomnia.
- This medication can cause complications such as sleepiness, dizziness, and fatigue.

Main Category: Physiological Adaptation

Subcategory: Cardiac Glycosides and Heart Failure: Reporting Adverse Effects of Epinephrine

Topic: Cardiac glycosides

- The prototype for this medication class is digoxin.
- This medication is used to help treat heart failure and dysrhythmias.
- This medication does not make a patient's life longer, but it can help reduce the symptoms.

Topic: Adrenergic agonists

- Epinephrine is a type of medication within this class.
- Epinephrine is used to cause vasoconstriction and help with anaphylactic shock, increase blood pressure, etc.
- The prototype of this drug class is catecholamines.

Topic: Valsartan

- This medication is used for patients who have heart failure and reduced ejection fraction.
- This medication can cause angioedema, hyperkalemia, hypotension, etc.
- A person should avoid this medication if they are pregnant because it can cause harm to the fetus.