N322 Pharmacology
Proctored ATI Remediation Template

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Assessment Name: RN Pharmacology 2019
Semester: 2

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.

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.

Main Category: Management of Care

Subcategory: Information Technology

Topic: Safe Medication Administration and Error Reduction: Action to Take When Transcribing a New Prescription

- The nurse must verify the date, name of medication, how much to take, how to take it, how often, and the physician's or practitioner's signature.
- If the nurse is not sure or cannot read a written prescription, they should verify it with the prescriber.
- Nurses must be aware of the uses, effects, and administration of the drug and how to prevent or treat adverse reactions.

Main Category: Safety and Infection Control

Subcategory: Reporting of Incident/Event/Irregular Occurrence/Variance

Topic: Antilipemic Agents: Clarifying a Prescription for Lovastatin

- An antilipemic agent helps to control cholesterol by lowering LDL and raising HDL.
- Antilipemic agents have the following categories: HMG-COA Reductase inhibitors (statins), cholesterol absorption inhibitors (prototype: Ezetimibe), bile-acid sequestrants (prototype: colesevelam), fibrates (Gemfibrozil), and monoclonal antibodies (prototype: Alirocumab).
- Common complications of antilipemic agents are hepatotoxicity and myopathy (muscle aches, pain, and tenderness).

Topic: Safe Medication Administration and Error Reduction: Priority Action to Take for Missed Medication Administration

- Evaluate client response to the medication, and document and report appropriately.
- Recognize side/adverse effects, and document and report appropriately.
- File and incident report.

Main Category: Psychosocial Integrity

Subcategory: Substance Use and Other Disorders and Dependencies

Topic: Substance Use Disorders: Teaching a Client about Nicotine Cessation with a Transdermal Patch

- Patch can be worn all day and removed at night.
- Alternate patch site.
- Remove the patch before the MRI and put it back on after.

Main Category: Pharmacological and Parenteral Therapies

Subcategory: Adverse Effects/Contraindications/Side Effects/Interactions

Topic: Airflow Disorders: Teaching About Theophylline

- Periodic monitoring of blood levels is needed. Report nausea, diarrhea, or restlessness, which are indicative of toxicity.
- Caffeine increases CNS and cardiac adverse effects of theophylline.
- More severe reactions can occur with higher therapeutic levels and can include dysrhythmias and seizures.

Topic: Antibiotics Affecting the Bacterial Cell Wall: Administering Clindamycin to a Client Who Has a Penicillin Allergy

- Complications of penicillin include hyperkalemia, dysrhythmias due to high doses of penicillin G potassium, and hypernatremia caused by IV ticarcillin-clavulanate.
- Complications of cephalosporins (similar to penicillin in destroying cell walls) include bleeding tendencies, thrombophlebitis with IV infusion, renal insufficiency (prevented by giving smaller doses), and antibiotic-associated pseudomembranous colitis (seen as diarrhea → C. difficile).
- Carbapenem complications include GI upset (nausea, vomiting, diarrhea) and superinfection which

can be manifested as diarrhea, oral thrush, black furry overgrowth of the tongue and vaginal infection (yeast).

Topic: Medical Conditions: Monitoring a Client Receiving Magnesium Sulfate for Preterm Labor

- Magnesium sulfate is used to depress the CNS, prevent seizures, slow contractions in preterm labor, and control hypertension in pre/eclampsia patients.
- Possible complications of magnesium sulfate are absent deep tendon reflexes, decreased urine output (less than 30 ml/hr.), decreased respirations, low level of consciousness, and cardiac dysrhythmias.
- If magnesium sulfate toxicity occurs then discontinue the medication first, then administer the antidote, calcium gluconate.

Topic: Medications Affecting the Reproductive Tract: Contraindications for Use of Oral Contraceptives

- Estrogen contraindications include pregnancy, history of heart disease, atypical vaginal bleeding, breast or estrogen-dependent cancer, history/risk of thromboembolic disease, and children that have not reached puberty.
- Progesterone contraindications include all the contraindications of estrogen use with the addition of being contraindicated in cardiovascular or cerebrovascular disease, and genital cancers. In addition, it needs to be administered cautiously to patients who have diabetes, a seizure disorder, or history of migraine headaches.
- Hormonal contraceptives contraindications are similar to estrogen and progesterone. Pregnancy will always be contraindicated; however, hormonal contraceptives cannot be given to patients who are smokers and older than 35.

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

- Sildenafil is the prototype medication for phosphodiesterase type 5 inhibitors which is mainly used to help treat erectile dysfunctions by enhancing the blood flow to the corpus cavernosum and penile erection.
- Contraindications for sildenafil are the patient taking medications in the nitrate family. In addition it must be monitored closely when given to patients who have a cardiovascular disease.
- Sildenafil interactions with nitroglycerin can lead to fatal hypotension.

Topic: Medications Affecting Urinary Output: Effects of Diuretics

- High ceiling loop diuretics effects sodium and chloride reabsorption are blocked, and water reabsorption is prevented even in the presence of significant renal failure, it causes substantial diuresis.
- Thiazide diuretics function in the early distal convoluted tubule, where they function similarly to high ceiling loop diuretics. In addition, when renal function is not affected, it promotes diuresis.
- Potassium-sparing diuretics limit aldosterone's activity, resulting in potassium retention and sodium and water excretion.

Topic: Medications Affecting Urinary Output: Notifying Provider of Adverse Effects of Mannitol

- If manifestations of heart failure develop (dyspnea, weakness, fatigue, distended neck veins, and/or weight gain), stop the medication immediately, and notify the provider.
- Pulmonary edema is another adverse effect of Mannitol that needs to be noted.
- Rebound increased intracranial pressure is also an adverse effect of Mannitol that needs to be noted.

Subcategory: Dosage Calculation

Topic: Dosage Calculation: Calculating IV Rate of Cimetidine

- Find out what the unit of measurement the nurse should calculate. Place the unit of measure being calculated on the left side of the equation. X mL/hr =
- Determine the ratio that contains the same unit as the unit being calculated. Place the ratio on the right side of the equation ensuring that the unit in the numerator matches the unit being calculated. X mL/hr = 500 mL/4 hr
- Place any remaining ratios that are relevant to the item on the right side of the equation along with any needed conversion factors to cancel out unwanted units of measurements. X mL/hr = 500 mL/4 hr. Solve for X. X mL/hr – 125 mL/hr. The nurse should set the IV pump to deliver 125 mL/hr.

Subcategory: Expected Actions/Outcomes

Topic: Connective Tissue Disorders: Long-Term Adverse Effects of Glucocorticoids

- Osteoporosis can be caused by a long-term use of glucocorticoids.
- Atrophy of the muscle (loss of muscle tissue) can result from long-term use of glucocorticoids too.
- Cushing's syndrome, which can lead to a fatty hump between a person's shoulders can also result from long-term use of glucocorticoids.

Topic: Endocrine Disorders: Evaluating Therapeutic Response of Desmopressin

- ADH uses vasoconstriction to reabsorb water into the kidney.
- The enormous amounts of urine flow associated with diabetes insipidus are reduced to normal levels (1.5 to 2 L every 24 hrs.). Since ADH can be used in the treatment of diabetes when they are excreting too much urine since the water will be reabsorbed back into the kidneys.
- Survival after a cardiac arrest is another way to monitor its effectiveness.

Topic: Growth Factors: Evaluating Therapeutic Effect of Filgrastim

- Leukopoietic growth factors stimulate bone marrow to increase production of neutrophils.
- Decreases the risk of infection in clients who have neutropenia, from cancer and other conditions.
- To build up numbers of hematopoietic stem cells prior to harvesting for autologous transplant.

Subcategory: Medication Administration

Topic: Complications of Diabetes Mellitus: Priority Intervention for Diabetic Ketoacidosis

- Nursing interventions include checking vitals every 15 minutes then every 4 hours. Looking for signs of dehydration, such as weight loss, diminished skin turgor, oliguria, and a quick, weak pulse.
- Main intervention would include replenishing the patient with fluid therapy.
- Steps for fluid therapy are as follows, first 1 to 3 hours, start with a fast infusion of 0.9% NaCl. Then a hypotonic fluid (0.45% NaCl). To replace total body fluid losses. Later when blood glucose levels fall below 250 mg/dL, we switch to a 5% dextrose IV solution to reduce the risk of cerebral edema. Finally we give regular insulin as an IV bolus followed by continuous IV infusion of regular insulin.

Topic: Diabetes Mellitus: First Action When Mixing Insulins in One Syringe

- When you are mixing two types of insulin, you need to inject air into 2 vials instead of one. Always inject air into the vial of the slower-acting insulin first.
- Pull the plunger of the syringe back to the number of units of slower acting insulin needed and then the draw the longer-acting insulin.
- NPH and premixed insulins should appear cloudy. Do not administer other insulins if they are cloudy or any insulins that are discolored, or if a precipitate is present.

Topic: Diabetes Mellitus: Priority Teaching About Medication for Type 2 Diabetes Mellitus

- Wear a medical alert bracelet and always have a snack with glucose available in cases of hypoglycemia.
- It is important for patients with Type 2 Diabetes Mellitus to systematically rotate insulin injection sites and allow one inch between sites.
- Adhere to a healthy diet and increase physical activity.

Topic: Medications Affecting Blood Pressure: Titrating Continuous Nitroprusside Infusion

- Administer nitroprusside at a very slow rate, with upward titration every few minutes because rapid administration will cause blood pressure to drop rapidly causing excessive hypotension.
- Monitor plasma levels, they should be maintained at 10 mg/dL or less.
- This prodrug reacts with physiologic sulfhydryl groups to release nitric oxide, causing rapid vasodilation, and acutely lowering blood pressure.

Topic: Medications Affecting Coagulation: Interpreting a Client's INR

- Therapeutic levels for an INR are between 2 and 3. If INR levels exceed those numbers than hold the dose and notify the provider.
- INR of 2 to 3 is for treatment of an acute myocardial infarction, atrial firbrillation, venous thrombosis, or tissue heart valves.
- INR of 2.5 to 2.5 is for treatment of a pulmonary embolism. INR of 3 to 4.5 is for mechanical heart

valve or recurrent systemic embolism.

Topic: Opioid Agonists and Antagonists: Evaluating Medication Prescriptions

- Relief of moderate to severe pain (postoperative pain, cancer pain, or myocardial pain).
- Cough suppression
- Resolves diarrhea

Topic: Pharmacokinetics and Routes of Administration: Teaching About Administering Otic Medications

- Have clients sit upright or lie on their side.
- Straighten the ear canal by pulling the auricle upward and outward for adults or down and back for children less than 3 years of age. Hold the dropper 1 cm above the ear canal, instill the medication, and then gently apply pressure with your finger to the tragus of the ear unless it is too painful.
- Do not press a cotton ball deep into the ear canal. If necessary, gently place it into the outermost part of the ear canal. Have clients remain in the side-lying position for 2 – 3 minutes after instilling ear drops.

Topic: Vitamins and Minerals: Teaching About Ferrous Sulfate Elixir

- Liquid preparations of ferrous sulfate may stain teeth. Instruct the patient to dilute liquid iron preparations with juice or water. Take liquid iron through a straw. Rince the mouth after taking the medication.
- Take iron on an empty stomach (1 hr before meals) as stomach acid increases absorption.
- Stools can become black or dark green when taking an iron preparation. This usually resolves with continued use.

Subcategory: Parenteral/Intravenous Therapies

Topic: Fluid Imbalances: Evaluating Effective Treatment for Dehydration

- Monitor vital signs (orthostatic blood pressure and heart rate).
- Monitor for changes in mentation and confusion (an indication of worsening fluid imbalance).
- Monitor weight every 8 hours while fluid replacement is in progress.

Topic: Intravenous Therapy: Expected Finding Following Albumin Administration

- Reactions to Albumin are typically mild and transient.
- Mild hypotension, flushing, and urticaria are expected findings of Albumin administration.
- Fever and nausea are also expected findings of Albumin administration.

Subcategory: Pharmacological Pain Management

Topic: Safe Medication Administration and Error Reduction: Priority Action When Administering a Controlled Substance

- Avoid distractions during medication preparation (poor lighting, rignging phones). Interruption can increase the risk of error.
- Follow all laws and regulations for preparing and administering controlled substances. Keep them in a secure area. Have another nurse witness the discarding or wasting of controlled substances.
- Do not leave medications at the bedside. Some facilities' policies allow exceptions (for topical medications).

Main Category: Reduction of Risk Potential

Subcategory: Laboratory Values

Topic: Depressive Disorder: Laboratory Values to Report

- Fluoxetine can displace warfarin from bound protein and result in increased warfarin levels. Monitor PT and INR levels. Assess for indications of bleeding and the need for dosage adjustment.
- Fluoxetine suppresses platelet aggregation and thus increases the risk of bleeding when used concurrently with NSAIDs and anticoagulants. Monitor for indications of bleeding or bruising. If present, a CBC must be ordered to verify the patient's platelet count.
- Fluoxetine can increase the levels of tricyclic antidepressants and lithium. An increase in lithium

levels can cause sodium loss. The patient will need to be monitored for hyponatremia.

Main Category: Physiological Adaptation
Subcategory: Fluid and Electrolyte Imbalances
Topic: Medications Affecting Urinary Output: Monitoring for Fluid Volume Deficit After Administering Furosemide • Monitor input and output, electrolytes, and blood pressure. • Obtain daily weights of client at the same time each day. • Administer medication in the morning to avoid nocturia and falls at night when it is dark due to the potential risk of orthostatic hypotension.