

ACTIVE LEARNING TEMPLATE: *Medication*

STUDENT NAME _____

MEDICATION **Vitamins, Minerals and Supplements**

REVIEW MODULE CHAPTER **30**

CATEGORY CLASS _____

PURPOSE OF MEDICATION

Expected Pharmacological Action

- Iron preparations provide iron essential for the RBC development and oxygen transport to cells
- Vitamin B12 is essential for activating folic acid necessary for the DNA production.
- Potassium is crucial for conducting nerve impulses,

Therapeutic Use

- Iron preparations are used to treat and prevent iron-deficiency anemia,
- Treatment of vitamin B12 deficiency
- Treatment of hypokalemia
- Magnesium supplements are used to treat hypomagnesemia

Complications

- GI distress, teeth staining, Staining of skin and other tissues, Anaphylaxis, Hypotension and Fatal iron toxicity in children
- Hypokalemia
- Local GI ulceration and GI distress
- Muscle weakness, flaccid paralysis, painful muscle contractions, suppression of AV conduction through the heart, respiratory depression

Medication Administration

- Oral which include Ferrous gluconate, ferrous fumarate and Parenteral which include Ferumoxytol, iron sucrose, sodium-ferric gluconate complex (SFGC)
- IV administration and oral formulations

Contraindications/Precautions

- Contraindicated for clients who have previous hypersensitivity to iron
- Oral preparations should be used with caution in clients who have peptic ulcer disease, regional enteritis, ulcerative colitis, and severe liver disease
- Vitamin B12 deficiency should not be treated only with folic acid
- Oral and intranasal cyanocobalamin are Pregnancy Risk Category A.
- Avoid use of folic acid to reduce the risk of masking manifestations of vitamin B12 deficiency

Nursing Interventions

- Monitor potassium levels during the start of treatment
- Monitor vital signs when administering parenteral iron.
- Avoid using oral and parenteral iron concurrently

Interactions

- Masks manifestations of vitamin B12 deficiency with concurrent administration of folic acid
- Folic acid levels are decreased by methotrexate and sulfonamides
- Folic acid can decrease phenytoin serum levels because of increased metabolism
- Magnesium sulfate decrease the absorption of tetracyclines and digoxin
- Monitor the therapeutic effect to determine if absorption has been affected

Client Education

- clients to take the medication with meals and a lot of water to minimize GI discomfort and prevent ulceration
- clients not to dissolve tablets in the mouth to avoid oral ulceration

Evaluation of Medication Effectiveness

- Increased reticulocyte count and increase in hemoglobin
- Disappearance of megaloblast and increase in hematocrit
- Folate level within expected reference range and return of RBC, reticulocyte count, and Hgb and Hct to levels within expected reference range
- serum potassium level within the expected reference range
- serum magnesium levels within expected reference range