Med Terms and Pharm 4: Review all information on chart.

Fluid & Electrolytes Study Topics

- Hyponatremia: symptoms, prevention, and nursing priorities
- Hyperkalemia: causes, risk factors, symptoms, and interventions
- Hypercalcemia: signs and symptoms
- Hypocalcemia: signs, assessment tests (Chvostek's, Trousseau's)
- Hypokalemia: causes, clinical manifestations, and interventions
- Hypomagnesemia: assessment findings and risks
- Hypernatremia: symptoms and expected findings
- Hormones regulating fluid and electrolytes (Aldosterone, ADH, BNP, ANP, PTH)
- Electrolyte functions (sodium, potassium, calcium, magnesium, bicarbonate)
- Electrolyte food sources (sodium, potassium, calcium, magnesium)
- Dehydration: signs, symptoms, and assessments
- Fluid volume excess (hypervolemia): signs and interventions
- Priority nursing actions in fluid overload
- IV complications (phlebitis, infection, infiltration, air embolism)
- Safe administration of IV potassium chloride (KCl)
- Clinical implications of diarrhea and vomiting on electrolytes
- Lab value interpretations (low sodium, high sodium, low potassium, high potassium, etc.)
- Key nursing assessments (neurological changes, cardiac monitoring, bowel sounds, skin turgor, urine output)

IV Therapy & IV Push Study Guide Topics

1. Clinical manifestations of ECV deficit (hypovolemia)
2. Clinical manifestations of ECV excess (hypervolemia)
3. IV fluids appropriate for hypovolemia and those to question
4. Nursing assessments after rapid isotonic fluid administration
5. Nursing interventions for IV site complications (infiltration, phlebitis, extravasation)
6. Best indicators of improvement with IV therapy in fluid volume deficit
7. Characteristics and examples of hypotonic, isotonic, and hypertonic solutions
8. Purpose of flushing an IV line before IV push medication
9. Complications of IV therapy
10. Use of isotonic fluids in extracellular fluid (ECV) deficit
11. Nursing priorities for patients with fluid volume excess
12. Assessment of skin turgor, mucous membranes, urine output, and blood pressure
13. Concepts of osmosis and fluid movement across compartments
14. Patients at highest risk for ECV excess
15. Fluid compartments: intracellular, extracellular, intravascular, interstitial, transcellular
16. Signs and treatment considerations for fluid deficit caused by diarrhea
17. Forces affecting fluid balance: hydrostatic pressure vs. colloid osmotic pressure
18. Nursing actions for unexpected weight gain in heart failure patients
19. Potential complications of administering 3% sodium chloride IV
20. Indicators of effective treatment for fluid volume deficit

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Acid-Base Balance Study Topics

1. Lab Values and Interpretation
    - pH, $PaCO_2$, HCO_3, PaO_2, SaO_2, Base Excess
    - What each lab value indicates about body function
2. Risk Factors for Imbalance
    - Older adults (chronic conditions, medications)
    - Environmental factors (heat exposure, dehydration)
    - Age-specific risks (infants, children, adolescents, older adults)
3. Pathophysiology of Imbalances
    - Respiratory alkalosis (hyperventilation, CO_2 loss)
    - Respiratory acidosis (hypoventilation, CO_2 retention)
    - Metabolic alkalosis (vomiting, suctioning, antacids)
    - Metabolic acidosis (DKA, diarrhea, kidney failure, shock)
4. Compensatory Mechanisms
    - Kussmaul respirations in metabolic acidosis
    - Respiratory changes for compensation (hyperventilation vs hypoventilation)
    - Renal compensation (excreting hydrogen ions, reabsorbing bicarbonate)
5. Clinical Manifestations
    - Signs of respiratory alkalosis
    - Signs of respiratory acidosis
    - Signs of metabolic alkalosis
    - Signs of metabolic acidosis
6. Nursing Assessments
    - Monitoring respiratory rate and breathing pattern
    - Identifying mental status changes
    - Recognizing trends in lab values (pH, $PaCO_2$, HCO_3)