Covenant School of Nursing
Instructional Module 2 Learning Guide
Topic: Fluid and Electrolyte Balance

Learning Goals/Outcomes

Upon completion of this lesson, you will be able to:

- Teach about diffusion, osmosis, filtration, and active transport.
- Discuss hydrostatic and oncotic pressure in relation to edema.
- Compare and contrast clinical manifestations of hypervolemia and hypovolemia.
- Understand the importance of administering an isotonic, hypertonic, or hypotonic IV solution as deemed necessary
- Explain the role of ADH, aldosterone, Renin-Angiotensin-Aldosterone System to maintain fluid balance
- Compare and contrast clinical manifestations of potassium, sodium, calcium, and magnesium imbalances.
- Discuss laboratory tests determining fluid and electrolyte disorders.
- Assess patient response to treatment for patients with fluid and electrolyte imbalance.
- Recognize signs & symptoms of hypovolemic shock
- Understand the difference in SIADH and Diabetes Insipidus
- Compare and contrast signs & symptoms of hypo/hypernatremia, hypo/hyperkalemia, hypo/hypermagnesemia, and hypo/hypercalcemia.

Pre-Class Preparation

Recommended:

- Read Lewis Chapter on Fluid & Electrolytes

Required:

HESI: Pharmacology online, 1st addition

- Drugs that Affect Fluid and Electrolyte Imbalance
- Men's Health

Additional Resources:

- You Tube videos

https://www.youtube.com/watch?v=GhxQr6gMcrk	Hypokalemia	(13:41)
https://www.youtube.com/watch?v=-6b8svtDWys	Hyperkalemia	(13:40)
https://www.youtube.com/watch?v=cxVKcUiAUuE	Hyponatremia	(13:56)
https://www.youtube.com/watch?v=gHt3iwdpwQc	Hypernatremia	(9:49)
https://www.youtube.com/watch?v=lCOdq2RuMv0	Hypocalcemia	(13:00)
https://www.youtube.com/watch?v=-BO-AK4Z670	Hypercalcemia	(10:16)

- There are lots of youtube videos on electrolytes

Learning Activities

Classroom Activities:

- Scenarios

- Kahoots
- Case Studies

Laboratory/Clinical Activities:

- Apply fluid and electrolyte concepts and medication administration to Med/Surg Clinical
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Evaluation Methods

- Unit Exams
- CPE
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Texas DECs	***QSEN Competencies***
Knowledge II.A.1.a;II.A.1.b;II.A.2.a;II.A.2.b;II.B;II.B1;II.C; II.D;II.D.1.b;II.E;II.E.1.a;II.E.1b;II.E.6.a;II.F;II.F.1; II.G;II.G.1.a;II.G.2.a **Clinical Judgements & Behaviors** I.A.2; I.B. 2a, 3a,3b,3c,5a;II.A.2a;B.5;C.1,2,4,5, 6,7;II.D.1;2a,2b,2d,3b;II.E.1.,2a,2b,c,3b,4,5a,b,6a, b,c,d,7c,11,12a,B,13;II.F.1.c;2,a,3,4,5a,b,6;II.G. 1,2a,4,5a,b,6,7;III.A.2,3,4;B.1,3a,b,4,5,6,9;C.1,2a, b;D.1,2,3;F1;IV.A,1a,B,1a,2a,b,3c5aC.1a,b,c; 2a,b;D.1a,b,2,3b;E.b,2a,b.	Evidence Based Practice Patient Centered Care Quality Improvement Safety Teamwork and Collaboration
IM Student Learning Outcomes	***NCLEX Test Plan***
1/1,2/2,3/3,4/4,5/5,6/6,7/7, 8/8	Safe and Effective Care Managing and providing care for patients with fluid and electrolyte imbalances including IV fluids and medications Physiological Integrity-Physiological Adaptation (alterations in body systems, pathophysiology) Health Promotion and Maintenance Providing care across the life span
Concepts	***Faculty***
Fluid & Electrolytes	Marshall Rogers, MSN, RN
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