RUTGERS–CAMDEN
School of Nursing

# Exam Blueprint for Aligned Systematic Evaluation (Exam-BASE) Tool

Fall 2024 57:705:310 Health and Illness in Adult Populations
Exam I
Dr. Kevin R. Emmons

| Question & Type | Scoring | Points | Mastery (Y/N) | Bloom's Taxonomy Level | NCLEX Test Plan Client Need | Integrated Processes | Nursing Process/CJMM | Course SLOs | Class SLOs | Question Use |
|---|---|---|---|---|---|---|---|---|---|---|
| **MC** = Multiple Choice<br>**MMC** = Matrix Multiple Choice<br>**MMR** = Matrix Multiple Response<br>**SATA** = Multiple Response Select All That Apply<br>**FITB** = Fill in the Blank<br>**MR-SN** = Multiple Response Select N Options<br>**DDE:** Drag-and-Drop Extended<br>**ClozeDpDn** = Drop-Down Cloze<br>**ClozeDgDp** = Drag-and-Drop Cloze<br>**DDTb** = Drop-Down Table<br>**BT** = Bow-Tie<br>**HTx** = Highlight Text<br>**HTb** = Highlight Table<br>**MRG** = Multiple Response Grouping<br>**ClzDpDnR** = Cloze Drop-Down Rationale<br>**ClzDgDpR** = Close Drag-and-drop Rationale | **0/1**<br><br>**+/-**<br><br>**PC** = Partial Credit<br><br>***When cause and effect are tightly coupled such as cloze questions, use Dyad or Triad Scoring<br><br>**Dyad** (Both XY need to be correct) *Max 1 pt<br><br>**Triad** (XYZ, X because YZ, 1 correct = no credit, 2 correct = partial credit 1 pt, all 3 correct = full credit 2 pts) *Max 2 pts | | | **K** = Knowledge/ Remember<br>**C** = Comprehension/ Understand<br>**AP** = Application<br>**AN** = Analysis<br>**S** = Synthesis<br>**E** = Evaluation | **Safe and Effective Care Environment**<br>**SECE/MOC** = Management of Care<br>**SECE/SIC** = Safety and Infection Control<br><br>**HPM** = Health Promotion & Maintenance<br><br>**PSY** = Psychosocial Integrity<br><br>**PHARM** = Pharmacological and Parenteral Therapies<br><br>**Physiological Integrity**<br>**PHYSIO/BCC** = Basic Care and Comfort<br>**PHYSIO/RISK** = Reduction of Risk Potential<br>**PHYSIO/ADAPT** = Physiological Adaptation | **CARE**= Caring<br>**CJ**= Clinical judgment<br>**CD**= Communication and Documentation<br>**CS**= Culture and spirituality<br>**NP**= Nursing process<br>**TL**= Teaching/ Learning | **Nursing Process**<br>**AS** = Assessment<br>**AN** = Analysis<br>**P** = Planning<br>**I** = Implementation<br>**E** = Evaluation<br><br>**CJMM**<br>**RC** = Recognize Cues<br>**AC** = Analyze Cues<br>**PH** = Priority Hypothesis<br>**GS** = Generate Solutions<br>**TA** = Take Actions<br>**EO** = Evaluate Outcomes | **Reference Listed After Table** | **Reference Listed After Table** | **Old, New, Revised** |

| Question & Type | Scoring | Points | Mastery (Y/N) | Bloom's Taxonomy Level | NCLEX Test Plan Client Need | Integrated Processes | Nursing Process/CJMM | Course SLOs | Class SLOs | Question Use & ID |
|---|---|---|---|---|---|---|---|---|---|---|
| **Week & Topic: Medication Calculation** | | | | | | | | | | |
| 1. FITB | 0/1 | 1 | N | AP | PHARM | NP | P, GS | 1 | - | Old 43663/1 |
| 2. FITB | 0/1 | 1 | N | AP | PHARM | NP | P, GS | 1 | - | Old 43664/1 |
| 3. FITB | 0/1 | 1 | N | AP | PHARM | NP | P, GS | 1 | - | Old 43665/1 |
| 4. FITB | 0/1 | 1 | N | AP | PHARM | NP | P, GS | 1 | - | Old 43666/1 |
| 5. FITB | 0/1 | 1 | N | AP | PHARM | NP | P, GS | 1 | - | Old 43667/1 |
| **Week & Topic: Week 1 Social Determinants of Health and Culture** | | | | | | | | | | |
| 6. MMC | 0/1, PC | 2 | N | AP | PSYCH | CS | I, GS, TA | 2.1 | 5 | New 43739/1 |
| 7. MC | 0/1 | 1 | N | AN | PSYCH | CS, CD | AS, AN, RC, AC | 1, 2.1, 2.2, 3, 4 | 5 | Old 43741/3 |
| 8. SATA | +/- | 1 | Y | C | HPM | CS | AS, RC, AC | 2.1, 3 | 4 | Revised 43742/1 |
| 9. SATA | +/- | 1 | Y | C | HPM | CS, CD | AS, RC, AC | 2.1, 4 | 5 | Revised 43753/1 |
| **Week & Topic: Week 2 Fluid and Electrolytes, and Acid-Base Balances** | | | | | | | | | | |
| 10. BT | 0/1, PC | 5 | N | E | PHYSIO/ADAPT | CJ | AS-E, RC, AC, PH, GS, TA, EO | 1, 4 | 1,3 | New 43749/2 |
| 11. MC | 0/1 | 1 | N | E | PHYSIO/RISK | NP | E, RC, AC, EO | 1,4 | 1,3 | New 43754/1 |
| 12. MC | 0/1 | 1 | N | AN | PHYSIO/RISK | NP | AS, RC, AC, PH | 1,4 | 1,4 | New 43756/2 |
| 13. MC | 0/1 | 1 | Y | AP | PHARM | CJ | I, RC, AC, PH, GS, TA | 1,4 | 1 | New 43759/1 |
| 14. MC | 0/1 | 1 | N | AN | PHYSIO/RISK | NP | AS, RC, AC, PH | 1,4 | 2,4,5 | New 43761/1 |
| 15. MC | 0/1 | 1 | N | AN | PHYSIO/RISK | CJ | AS, AN, RC, AC, PH, GS TA | 1,4 | 2,4,5 | New 43763/1 |
| 16. MC | 0/1 | 1 | N | AN | PHYSIO/RISK | CJ | I, RC, AC, PH, GS, TA | 1,4 | 2,4,5 | New 43771/1 |
| 17. MMR | 0/1 | 4 | N | AP | PHYSIO/RISK | CJ | AN, RC, AC, PH | 1, 4 | 1 | New 43772/4 |
| 18. MC | 0/1 | 1 | N | AP | PHYSIO/RISK | CJ | I, RC, AC, PH, GS, TA | 1,3,5 | 1 | New 43775/1 |
| 19. MMR | 0/1, PC | 3 | N | AN | PHARM | CJ | P, RC, AC, PH, GS, TA | 1,4 | 1 | New 43799/1 |

| Question & Type | Scoring | Points | Mastery (Y/N) | Bloom's Taxonomy Level | NCLEX Test Plan Client Need | Integrated Processes | Nursing Process/CJMM | Course SLOs | Class SLOs | Question Use & ID |
|---|---|---|---|---|---|---|---|---|---|---|
| 20. DDE, Case | 0/1, PC | 3 | N | AN | PHYSIO/RISK | CJ | AS, AN, RC, AC | 1,4 | 1 | New 43805/2 |
| 21. MC | 0/1 | 1 | N | AP | PHYSIO/RISK | NP | I, RC, AC, PH, GS, TA | 1,4 | 1 | New 43806/1 |
| 22. MC | 0/1 | 1 | N | AN | PHARM | NP | E, RC, AC, PH | 1,4 | 1 | New 43807/1 |
| 23. MC | 0/1 | 1 | N | AP | PHARM | TL | I, RC, AC, PH, GS, TA | 1,4 | 1 | Old 43808/1 |
| 24. SATA, Case | +/- | 3 | N | E | SECE/MOC | CJ | E, RC, AC, PH, GS, TA, EO | 1,4 | 1,3 | New 43810/1 |
| **Week & Topic: Week 3 Renal and Bladder** | | | | | | | | | | |
| 25. MC, Case | 0/1 | 1 | N | E | PHYSIO/ADAPT | CJ | I, RC, AC, PH, GS, TA | 1,4 | 1,3 | New 43811/1 |
| **Error! Reference source not found.**. MMC | 0/1, PC | 3 | N | AN | PHYSIO/ADAPT | CJ | I, RC, AC, PH, GS, TA | 1, 4 | 3,8 | New 43812/1 |
| 27. BT, Case | 0/1, PC | 5 | N | E | PHYSIO/RISK | CJ | AS-E, RC, AC, PH, GS, TA, EO | 1,4 | 3,8 | New 43813/2 |
| 28. SATA | +/- | 1 | N | AN | PHYSIO/ADAPT | NP | AS, AN, RC, AC | 1,4 | 2,3 | New 43814/1 |
| 29. MC | 0/1 | 1 | N | C | PHYSIO/ADAPT | NP | AS, AN, RC, AC, PH | 1 | 1,2,3 | New 43815/1 |
| 30. MC | 0/1 | 1 | N | AP | PHARM | CJ | P, RC, AC, PH, GS, TA | 1,4 | 2,3,7 | New 43816/1 |
| 31. ClzDpDnR | 0/1, PC | 2 | N | AN | SECE/SIC | CJ | AS, AN, I, P, RC, AC, PH, GS, TA | 1,4,5 | 7,8 | New 43817/1 |
| 32. SATA | +/- | 1 | N | AP | PHYSIO/RISK | NP | P, I, GS, TA | 1,4 | 7 | Old 43819/1 |
| 33. MC | 0/1 | 1 | N | AP | PHYSIO/RISK | NP | P, I, PH, GS, TA | 4 | 3 | Old 43820/1 |
| 34. MC | 0/1 | 1 | N | AP | PHYSIO/ADAP | TL | P, GS, TA | 2.1, 4 | 3 | Revised 43821/1 |
| 35. MC | 0/1 | 1 | N | AN | PHYSIO/RISK | NP | AS, E, RC, AN, PH | 1,4 | 3,8 | Old 43822/1 |
| 36. SATA | +/- | 1 | N | AP | PHYSIO/BCC | TL | P, RC, AC, PH, GS, TA | 1,2.2,4 | 4 | Revised 43823/2 |
| 37. SATA | +/- | 2 | N | AP | HPM | TL | I, RC, AC, PH, GS, TA | 1,4 | 4,5,8 | New 43824/1 |
| 38. SATA, Case | +/- | 2 | N | AP | PHYSIO/RISK | NP | I, RC, AC, PH, GS, TA | 1,2.2,4,5 | 4,8 | New 43825/2 |
| 39. MMR | +/- | 2 | N | AN | PHYSIO/ADAPT | NP | AS, RC, AC, PH | 1 | 2,4 | New |

| Question & Type | Scoring | Points | Mastery (Y/N) | Bloom's Taxonomy Level | NCLEX Test Plan Client Need | Integrated Processes | Nursing Process/CJMM | Course SLOs | Class SLOs | Question Use & ID |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | 43826/1 |
| 40. MC | 0/1 | 1 | N | AN | PHYSIO/RISK | NP | AS, RC, AC, PH | 1,4 | 2,3,4,8 | Revised 43827/1 |
| **Week & Topic: Week 4 Male Reproductive (BPH Prostate Cancer) and Skin Cancer** | | | | | | | | | | |
| 41. HTx, Case | +/- | 2 | N | AN | PHYSIO/ADAPT | CJ | AS, RC, AC | 1 | 1 | New 43828/1 |
| 42. MMC, Case | 0/1, PC | 3 | N | AN | PHYSIO/RISK | CJ | P, RC, AC, PH, GS | 1,4 | 1,2,6 | New 43830/1 |
| 43. MC | 0/1 | 1 | N | AP | PHYSIO/RISK | CD, TL | P, I, RC, AC, GS | 1,2.2,4 | 1,6 | Revised 43832/1 |
| 44. MC | 0/1 | 1 | N | AP | PHYSIO/RISK | CD, TL | E, RC, AC, EO | 1,2.2,4,5,6 | 1,6 | Revised 43833/1 |
| 45. MC | 0/1 | 1 | N | AN | HPM | TL | I, RC, AC, GS, TA | 1,2.2,4 | 1 | Old 43834/1 |
| 46. FITB | 0/1 | 1 | N | AP | PHYSIO/RISK | NP | E, RC, AN, GS, TA | 1,4 | 1,2 | Old 43835/1 |
| 47. DDTb | 0/1, PC | 4 | N | AP | PHARM | NP | I, RC, AC, PH, GS, TA, EO | 1,2.2,4 | 1,6 | New 43838/2 |
| 48. MMC, Case | 0/1, PC | 2 | Y | AP | PHYSIO/RISK | NP | AS, AN, RC, AC, PH | 1,4 | 1,5 | New 43839/1 |
| 49. HTx | +/- | 2 | N | AN | HPM | NP | AS, RC, AC, PH | 1,4 | 4 | New 43840/1 |
| 50. MC | 0/1 | 1 | N | AP | PHYSIO/RISK | NP | P, RC, AC, PH, GS | 1,2 | 5 | New 43841/2 |

## Mapped Learning Outcomes (SLOs) Legend

| **AACN Core Competency Domain** | **Program Student Learning Outcomes (2023)** | **Course Student Learning Outcome(s)** | **Concepts for Nursing Practice**<br>CJ = Clinical Judgment<br>COM = Communication<br>CC = Compassionate Care<br>DEI = Diversity, Equity, and Inclusion<br>ETH = Ethics<br>EBP = Evidence-Based Practice<br>HP = Health Policy<br>SDOH = Social Determinants of Health | **4 Spheres of Care**<br>WDP = Wellness, Disease Prevention<br>CDM = Chronic Disease Management<br>RRC = Regenerative/ Restorative Care<br>HPC = Hospice/ Palliative Care |
|---|---|---|---|---|
| I. Knowledge for Nursing Practice | 1. Apply knowledge from the arts, sciences, and nursing to inform nursing practice | 1. Demonstrate clinical reasoning and sound clinical judgment in the nursing care of adults | CJ, COM, CC, DEI, ETH, EBP, HP, SDOH | WDP, CDM, RRC, HPC |
| II. Person-Centered Care | 2. Deliver compassionate, person-centered nursing care that meets the unique needs of the individual, family, and community | 2.1. Practice person centered care with an emphasis on diversity, equity, and inclusion in the nursing care of adults | CJ, COM, CC, DEI, ETH,EBP, SDOH | WDP, CDM, RRC, HPC |
| | | 2.2. Educate individuals and families regarding self-care for health promotion, illness prevention and illness management in the nursing care of adults | CJ, COM, EBP, SDOH | WDP, CDM, RRC, HPC |
| III. Population Health | 3. Engage in initiatives that promote health, prevent disease, and foster collaborative partnerships to support equitable health outcomes for diverse populations | 3. Address the impact of health disparities, and social determinants of health on equitable health outcomes for adults | CJ, COM, DEI, ETH, HP, SDOH | WDP, CDM, RRC, HPC |
| IV. Scholarship for Nursing Practice | 4. Integrate evidence-based guidelines and nursing scholarship to improve nursing practice. | 4. Implement evidence-based practices that improve clinical decision-making and outcomes in the care of adults | CJ, COM, CC, DEI, ETH, EBP, SDOH | WDP, CDM, RRC, HPC |
| V. Quality and Safety | 5. Foster a culture of quality, safe nursing care through the application of national safety and quality standards and processes | 5. Discuss national safety and quality standards when providing nursing care to adults | CJ, COM, ETH, EBP, HP | WDP, CDM, RRC, HPC |
| VI. Interprofessional Partnerships | 6. Model effective communication, collaboration, advocacy, and mentoring behaviors in the delivery of team-based, interprofessional healthcare | 6. Collaborate within interdisciplinary teams to address the healthcare needs of adults | CJ, COM, CC, DEI, SDOH | WDP, CDM, RRC, HPC |

| | | | | |
|---|---|---|---|---|
| VII. Systems Based Practice | 7. Use clinical judgment to coordinate care and manage resources across the continuum of care in complex systems of healthcare | 7. Explain internal and external system processes that impact care coordination and transition of care. | CJ, COM, EBP, HP, SDOH | WDP, CDM, RRC, HPC |
| VIII. Informatics and Healthcare Technologies | 8. Use informatics and healthcare technologies to manage data, support documentation, and inform decision making in nursing care delivery | 8. Use informatics and healthcare technologies to analyze and direct clinical practice decisions for adults | CJ, COM, EBP | WDP, CDM, RRC, HPC |
| IX. Professionalism | 9. Model characteristics of the professional nurse through reflective practice, accountability, advocacy, and commitment to diversity, equity, and inclusion principles | 9.1. Demonstrate accountability for behaviors that promote professionalism and personal development when providing nursing care to adults | CC, COM, DEI, ETH | WDP, CDM, RRC, HPC |
| | | 9.2. Facilitate health and healing through compassionate caring | CC, COM, ETH | WDP, CDM, RRC, HPC |
| | | 9.3. Demonstrate adherence to a culture of civility | CC, COM, ETH, DEI | WDP, CDM, RRC, HPC |
| X. Personal, Professional, and Leadership Development | 10. Demonstrate behaviors that contribute to personal well-being, intellectual inquiry, professional growth and leadership capacity. | 10.1. Discuss behaviors that promote personal well-being, intellectual inquiry, and professional growth when providing nursing care to adults | CC, COM, EBP | WDP, CDM, RRC, HPC |
| | | 10.2. Integrate comprehensive feedback to improve performance | COM, ETH | |
| | | 10.3. Use reflection to evaluate one's own practice | COM, ETH | |

## Class Student Learning Outcomes (SLOs) Legend

| Class | Student Learning Outcome(s) |
|---|---|
| Week 1 | 1. Understand the course content and expectations to effectively navigate the curriculum, meet all requirements, and achieve academic success throughout the semester.<br>2. Understand the course methods for developing clinical judgment and reasoning skills.<br>3. Analyze critical thinking, clinical reasoning, and clinical judgment in nursing practice to enhance decision-making skills.<br>4. Identify social determinants of health and their impact on resident health outcomes.<br>5. Explore the relationship between culture and its influence on individuals, communities, and the provision of culturally appropriate health care. |
| Week 2 | 1. Analyze clinical scenarios using clinical reasoning and judgment to determine appropriate nursing assessments, diagnoses, and interventions for clients with fluid and electrolyte alterations.<br>2. Analyze clinical scenarios using clinical reasoning and judgment to determine appropriate nursing assessments, diagnoses, and interventions for clients with acid-base imbalances.<br>3. Evaluate nursing actions and client outcomes using clinical reasoning for fluid and electrolyte alterations and acid-base imbalances.<br>4. Compare and contrast metabolic and respiratory acidosis and alkalosis regarding causes, clinical manifestations, diagnosis, and management.<br>5. Analyze arterial blood gas results using clinical reasoning and judgment to develop appropriate nursing management strategies. |
| Week 3 | 1. Recognize the nurse's role in preventing acute kidney injury (AKI).<br>2. Explain the pathophysiology, risk factors, and clinical manifestations of kidney disorders.<br>3. Analyze clinical scenarios using clinical reasoning and judgment to determine appropriate nursing assessments, diagnoses, and interventions for clients with kidney disorders.<br>4. Analyze clinical scenarios using clinical reasoning and judgment to determine appropriate nursing assessments, diagnoses, and interventions for clients with bladder and urinary tract disorders.<br>5. Recognize the risk factors associated with upper and lower urinary tract infections and interventions to promote health.<br>6. Analyze clinical scenarios using clinical reasoning and judgment to determine appropriate nursing assessments, diagnoses, and interventions for clients requiring dialysis.<br>7. Evaluate nursing actions and client outcomes using clinical reasoning for clients with renal disorders. |
| Week 4 | 1. Analyze clinical scenarios using clinical reasoning and judgment to determine appropriate nursing assessments, diagnoses, and interventions for clients with Benign Prostatic Hyperplasia (BPH) and Prostate Cancer.<br>2. Analyze the client with continuous bladder irritation, using clinical reasoning and judgment to develop appropriate nursing management strategies.<br>3. Compare and contrast skin cancer types.<br>4. Identify risk factors for skin cancer and client education for prevention.<br>5. Analyze clinical scenarios using clinical reasoning and judgment to determine appropriate nursing assessments, diagnoses, and interventions for clients with skin cancer.<br>6. Evaluate nursing actions and client outcomes using clinical reasoning for clients with prostate disorders and skin cancers. |

**Detailed Questions**

**Dosage Calculation Questions Required Each Exam (5 Questions)**

1.

| Weekly Topic | Subtopic | Nursing Concepts |
|---|---|---|
| Dosage Calculation | Dosage by weight | • Care Competencies: Safety (accurate dosage administration) |

| Question Type | Scoring | Points | Mastery (Y/N) | Bloom's Taxonomy Level | NCLEX Test Plan Client Need | Integrated Processes | Nursing Process/CJMM | Course Objective(s) | Class Objective(s) | Question Use |
|---|---|---|---|---|---|---|---|---|---|---|
| FITB | 0/1 | 1 | N | AP | PHARM | NP | I, GS, TA | 1 | - | Old 43666/1 |
| Post Item Analysis Suggestions | | | | | | | | | | |
| | | | | | | | | | | |

A nurse is preparing to administer midazolam 0.2 mg/kg via IV bolus now. The client weighs 220 lb. How many milligrams should the nurse administer? (Round your answer to the nearest whole number. Only enter the number. Do not use a trailing zero.)

_____ mg

Answer: 20

**Rationale**

Step 1: What is the unit of measurement the nurse should calculate? kg
Step 2: Set up an equation and solve for X.

$$\frac{220\text{ lb}}{X\text{ kg}} = \frac{2.2\text{ lb}}{1\text{ kg}} \quad \Rightarrow \quad 220 = 2.2X \quad \Rightarrow \quad X = \frac{220}{2.2} = 100\text{ kg}$$

Step 3: Round if necessary.
Step 4: Reassess to determine whether the conversion to kg makes sense. If 1 kg = 2.2 lb, it makes sense that 220 lb = 100 kg.
Step 5: What is the unit of measurement the nurse should calculate? mg
Step 6: Set up an equation and solve for X.

$$\frac{\text{mg} \times \text{kg}}{\text{day}} = X \quad \Rightarrow \quad 0.2\,\text{mg} \times 100\,\text{kg} = 20\,\text{mg}$$

Step 7: Round if necessary.

Step 8: Reassess to determine whether the amount makes sense. If the prescription reads 0.2mg/kg/now and the client weighs 100 kg, it makes sense to give midazolam 20 mg IV bolus now.

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**Week 1 Social Determinants of Health and Culture (4 Questions)**

2.

| Weekly Topic | Subtopic | Nursing Concepts |
|---|---|---|
| Culture | Communication | • Attributes, Resources, and Preferences: Culture (language and cultural communication preferences), Holistic Care: Person-Centered Care (tailoring communication to the individual), Diversity, Equity, and Inclusion (appropriate language access) |

| Question Type | Scoring | Points | Mastery (Y/N) | Bloom's Taxonomy Level | NCLEX Test Plan Client Need | Integrated Processes | Nursing Process/CJMM | Course Objective(s) | Class Objective(s) | Question Use |
|---|---|---|---|---|---|---|---|---|---|---|
| MMC | 0/1, PC | 2 | N | AP | PSYCH | CS | I, GS, TA | 2.1 | 5 | New 43739/1 |
| Post Item Analysis Suggestions | | | | | | | | | | |
| | | | | | | | | | | |

The nurse is preparing a young adult client from Guatemala for urgent surgery. The client comes from a traditional Indigenous cultural background and only speaks Spanish. The client cannot speak or read in English and relies on a young school-age child for translation. For each nursing action, select an option in either column to specify whether it is an appropriate action or inappropriate action.

| Nursing Action | Appropriate Action | Inappropriate Action |
|---|---|---|
| Have the child assist with translation. | ☐ | ☑ |
| Provide written instructions in the client's preferred language. | ☑ | ☐ |
| Speak loudly and slowly when communicating. | ☐ | ☑ |
| Maintain respectful and culturally sensitive body language. | ☑ | ☐ |
| Use a professional medical interpreter. | ☑ | ☐ |

**Rationale:**
Inappropriate Actions
Avoid Using the Child as a Translator: The child may provide incorrect information or omit important details.
Verbal Communication: Speak slowly and clearly, but avoid raising your voice or exaggerating speech, which can be disrespectful or embarrassing.

Appropriation Actions
Written Instructions: Provide written instructions in the client's preferred language, considering their literacy level.
Non-Verbal Communication: Use respectful body language and gestures that are culturally appropriate to enhance communication.
Use of Professional Interpreters: Check the agency's policy for obtaining an approved professional medical interpreter to ensure accurate communication.

**Rationale:**
The nurse should avoid making assumptions regarding what is culturally normal for this client. Inappropriate laughter may signal a lack of understanding, which is a more likely option than the presence of culturally normal humor in this particular context. Given the context provided, laughing is unlikely to be related to pain, and it is unlikely to suggest that teaching and learning are unnecessary.

**Week 2 Foundational Concepts in Fluid & Electrolyte and Acid-Base Function and Alterations (14 Questions)**

3.

| Weekly Topic | Subtopic | Nursing Concepts |
|---|---|---|
| Fluids | Fluid Volume Deficit: Post-Transplant | • Homeostasis and Regulation:<br>• Fluid and Electrolytes (Post-transplant diuresis leads to significant electrolyte losses, necessitating close monitoring of fluid and electrolyte balance.), Perfusion: (Low blood pressure and high heart rate suggest hypovolemia, requiring interventions like IV fluids to restore adequate perfusion.)<br>• Protection and Movement: Immunity (The renal transplant puts the client at risk of immune rejection, which could exacerbate fluid and electrolyte imbalances.), Mobility (The client's lightheadedness affects their ability to move and change positions safely, necessitating care in preventing falls.)<br>• Personal Development: Clinical Judgment (The nurse must recognize the signs of hypovolemia and order appropriate interventions, such as fluid replacement and positioning adjustments.)<br>• Care Competencies: Care Coordination (Communicating with the healthcare team to monitor fluid output and adjust treatment plans as needed is essential.), Safety (Ensuring the client does not experience further drops in blood pressure or dehydration-related complications.) |

| Question Type | Scoring | Points | Mastery (Y/N) | Bloom's Taxonomy Level | NCLEX Test Plan Client Need | Integrated Processes | Nursing Process/CJMM | Course Objective(s) | Class Objective(s) | Question Use |
|---|---|---|---|---|---|---|---|---|---|---|
| BT, Case | 0/1, PC | 5 | N | E | PHYSIO/ADAPT | CJ | AS, AN, P, I, E, RC, AC, PH, GS, TA, EO | 1, 4 | 1,3 | New 43749/2 |

A nurse is caring for a 50-year-old client in a postsurgical unit.

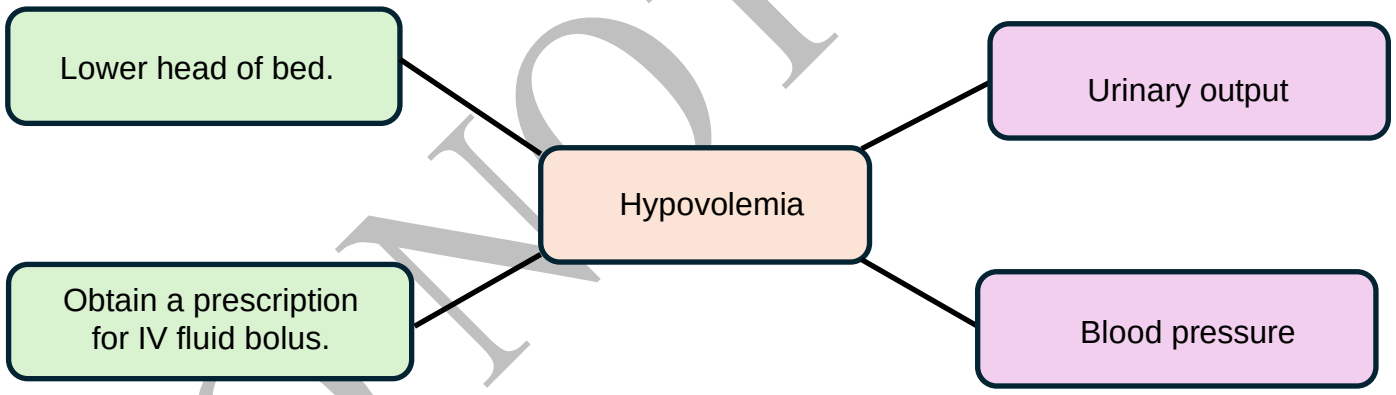
**Nurses' Notes** | **Vital Signs**

**0800:** 50-year-old client is 2 days post-op following a renal transplant. Client alert and oriented x3 but reports being lightheaded when moving and changing positions. Sitting in high Fowler's. Skin warm and dry. The client reports pain at the incision site as 2 on a scale of 0 to 10. Incision approximated, sutures intact and no erythema or drainage noted. Heart sounds regular. Lung sounds diminished throughout. Instructed to use incentive spirometer. Abdomen soft and non-distended. Bowel sounds hypoactive x4. No edema. Foley catheter patent, urine pink-tinged. Urine output in the last 1 hour is 1500mL.

Nurses' Notes | Vital Signs

| | 0800 |
|---|---|
| **Temperature** | 99.1° F (37.3° C) |
| **Pulse** | 110 |
| **Respiratory Rate** | 24 |
| **Blood Pressure** | 90/40 |
| **Pulse Oximetry Reading** | 96% on room air |

The nurse is reviewing the client's assessment to prepare the client's plan of care.
Complete the diagram by dragging from the choices below to specify what condition the client is most likely experiencing, 2 actions the nurse should take to address that condition, and 2 parameters the nurse should monitor to assess the client's progress.




**Bow Tie Contents:**

| Actions to Take | Potential Condition | Parameters to Monitor |
|---|---|---|
| Lower head of bed. | Constipation | Pain |
| Obtain order for antimicrobial. | Postoperative hemorrhage | Urinary output |
| Obtain a prescription for IV fluid bolus. | Infection | Bowel sounds |
| Prepare client for renal scan. | Hypovolemia | Blood pressure |

| | |
|---|---|
| Ambulate the client. | Blood glucose |

**Rationale:**
The nurse should lower the head of the bed and obtain an order for an IV bolus because the client is likely hypovolemic due to excessive urine output, which can occur after a renal transplant. Post-transplant diuresis is common, and signs of hypovolemia include increased heart rate, decreased blood pressure, weak peripheral pulses, increased respiratory rate, dry mucous membranes, and cognitive changes. It is important for the nurse to closely monitor the client's urinary output, blood pressure, and heart rate. Hypovolemia can lead to complications such as dysrhythmias and orthostatic hypotension. Monitoring urinary output is crucial because reduced fluid volume can decrease tissue perfusion and overall kidney function.

4.

| Weekly Topic | Subtopic | Nursing Concepts |
|---|---|---|
| Electrolytes | Recognizing Electrolyte Imbalances | • Homeostasis and Regulation: Fluid and Electrolytes (Hyperkalemia, hypokalemia, hypernatremia, and hypercalcemia all need to be identified and managed based on their clinical symptoms, as they can cause cardiac and muscular dysfunction.), Gas Exchange (Severe electrolyte imbalances can affect respiratory function and oxygen delivery.), Perfusion (Electrolyte imbalances can cause dysrhythmias, compromising perfusion.), Elimination (Kidney function plays a crucial role in managing electrolytes, so elimination must be assessed.)<br>• Protection and Movement: Mobility (Electrolyte imbalances like hypokalemia can cause muscle weakness, impairing mobility.), Pain (Bone pain, a symptom of hypercalcemia, can impact the client's comfort and movement.)<br>• Personal Development: Clinical Judgment (The nurse must identify clinical manifestations of electrolyte disturbances and intervene appropriately to prevent complications.)<br>• Care Competencies: Safety (Preventing injuries related to electrolyte imbalances, such as falls due to weakness or dysrhythmias.) |

| Question Type | Scoring | Points | Mastery (Y/N) | Bloom's Taxonomy Level | NCLEX Test Plan Client Need | Integrated Processes | Nursing Process/CJMM | Course Objective(s) | Class Objective(s) | Question Use |
|---|---|---|---|---|---|---|---|---|---|---|
| MMR | 0/1, PC | 4 | N | AP | PHYSIO/RISK | CJ | AN, RC, AC, PH | 1,4 | 1 | New 43772/4 |
| Post Item Analysis Suggestions | | | | | | | | | | |
| | | | | | | | | | | |

The nurse is reviewing laboratory results for four clients with electrolyte imbalances. For each client, select **two clinical manifestations** most likely associated with their specific electrolyte imbalance. **Each clinical manifestation may be selected more than once for different clients.**

| Laboratory Test and Reference Range |
|---|
| **Sodium** 135–145 mEq/L |
| **Potassium** 3.5–5.0 mEq/L |
| **Calcium** 8.2–10.2 mg/dL |
| **Magnesium** 1.8–2.6 mg/dL |
| **Phosphorus** 2.5–4.5 mg/dL |
| **Chloride** 98–106 mEq/L |

| Client with Lab Finding | Clinical manifestation | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Bone Pain and Constipation | Tachycardia and Orthostatic Hypotension | Hypoactive Reflexes and Bradycardia | Muscle Weakness and Constipation | Muscle Weakness and Diarrhea | Flattened or Inverted T Waves on ECG | Tall peaked T waves on ECG | Thirst and Elevated Temperature |
| Client A: A 60-year-old with chronic kidney disease Potassium 6.3 mEq/L | ☐ | ☐ | ☐ | ☐ | ☑ | ☐ | ☑ | ☐ |
| Client B: A 45-year-old with severe vomiting Potassium 3.2 mEq/L | ☐ | ☐ | ☐ | ☑ | ☐ | ☑ | ☐ | ☐ |
| Client C: A 30-year-old with heat stroke Sodium 156 mEq/L | ☐ | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☑ |
| Client D: A 50-year-old with hyperparathyroidism Calcium 12 mg/dL | ☑ | ☐ | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ |

**Rationale:**
Client A (Hyperkalemia): Hyperkalemia can cause muscle weakness and tall, peaked T waves on ECG due to altered cardiac conduction.
Client B (Hypokalemia): Hypokalemia may cause muscle weakness and constipation due to the low potassium affecting nerve muscle function. Cardiac dysrhythmias such as inverted or flattened T waves on the ECG. Hypokalemia can cause thirst but it is not commonly related to elevated temperatures with vomiting.
Client C (Hypernatremia): Heat stroke can lead to dehydration (loss of water, not electrolytes) hypernatremia, which can result in thirst, elevated temperatures, and orthostatic hypotension due to fluid loss from profuse heat-stroke-related sweating. It can cause twitching, not usually hypoactive reflexes.
Client D (Hypercalcemia): Hypercalcemia in hyperparathyroidism can cause constipation, bone pain, bradycardia, and hypoactive reflexes due to calcium imbalances affecting neuromuscular function.

5.

| Weekly Topic | Subtopic | Nursing Concepts |
|---|---|---|
| Fluids | Fluid Volume Excess Signs and Symptoms | • Homeostasis and Regulation: Fluid and Electrolytes (managing fluid overload), Perfusion (impact on cardiovascular function), Elimination (Diuretics are necessary to promote fluid removal through increased urination and balance electrolytes.)<br>• Personal Development: Clinical Judgment (The nurse must accurately identify the symptoms of fluid overload and intervene with diuretics and other treatments, including assessing the Client for complications like heart failure or renal dysfunction.)<br>• Care Competencies: Safety (Monitoring vital signs and symptoms such as shortness of breath is critical to preventing adverse outcomes related to fluid overload.) |

| Question Type | Scoring | Points | Mastery (Y/N) | Bloom's Taxonomy Level | NCLEX Test Plan Client Need | Integrated Processes | Nursing Process/CJMM | Course Objective(s) | Class Objective(s) | Question Use |
|---|---|---|---|---|---|---|---|---|---|---|
| DDE, Case | 0/1, PC | 3 | N | AN | PHYSIO/RISK | CJ | AS, AN, RC, AC | 1, 4 | 1 | New 43805/2 |
| Post Item Analysis Suggestions | | | | | | | | | | |
| | | | | | | | | | | |

Read the following case scenario and then refer to it to answer the question that follows.

**History and Physical** | **Vital Signs** | **Medications** | **Laboratory Results**

**History of Present Illness:** 75-year-old male who lives in a skilled nursing facility (SNF) for memory care and ADLs. He was sent to the emergency room from the SNF after 16-pound weight gain in 2 weeks.
**Social History**: Denies smoking, drinking, herbal use, or illicit drugs and confirmed by medical records. He engages in light exercise at the SNF but he and the staff report increased fatigue over the past few weeks.
**Past Medical/Surgical history**: Alzheimer's disease, hypertension, heart failure, chronic kidney disease, and type 2 diabetes
**Family History**: He has a limited family history as he was raised by distant relatives after the loss of both parents at a young age. He was widowed 10 years ago and has one adult daughter who is in good health.

**Physical Assessment**
**Subjective findings:** He reports shortness of breath, difficulty walking short distances, and swelling in his legs. He denies chest pain, fevers, chills, nausea, vomiting, or diarrhea.
**Objective findings:** Lungs with crackles bilaterally, 3+ pretibial pitting edema noted bilaterally pretibial, 3-cm jugular vein distention.

History and Physical | **Vital Signs** | Medications | Laboratory Results

| | 0800 |
|---|---|
| **Temperature** | 98.2° F (36.8° C) |
| **Pulse** | 114 |
| **Respiratory Rate** | 26 |
| **Blood Pressure** | 180/98 |
| **Pulse Oximetry Reading** | 90% on room air |

History and Physical | Vital Signs | **Medications** | Laboratory Results

Furosemide 20 mg daily
Potassium 10 mEq twice daily
Digoxin 0.25 mg daily
Lisinopril 10 mg twice daily
Spironolactone 25 mg twice daily
Metformin 1000mg twice daily

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History and Physical | Vital Signs | Medications | Laboratory Results

| Laboratory Test and Reference Range | |
|---|---|
| **Sodium**<br>135–145 mEq/L | 131 mEq/L |
| **Potassium**<br>3.5–5.0 mEq/L | 4.9 mEq/L |
| **Serum osmolality**<br>270-300 mOsm/kg | 265 mOsm/kg |
| **Blood Glucose**<br>70-99 mg/dL | 238 mg/dL |

The nurse reviews the client's chart. From the options below, drag and drop all the findings that indicate the client is experiencing fluid volume excess (hypervolemia).

Drag From Here Drop to Here

| Options | Findings for Fluid Volume Excess |
|---|---|
| 1. Family history | Weight change |
| 2. Weight change | Lung sounds |
| 3. Lung sounds | Sodium level |
| 4. Sodium level | Serum Osmolality Level |
| 5. Potassium level | Blood pressure |
| 6. Serum Osmolality Level | Heart Rate |
| 7. Blood pressure | SpO2 |
| 8. Heart Rate | |
| 9. Glucose level | |
| 10. SpO2 | |

**Rationale:**

| Option | Finding | Rationale |
|---|---|---|
| Option 1 | Family history | The history is unknown, so this is not helpful. |
| **Option 2** | **Weight change** | **Weight gain is a finding of fluid volume excess.** |
| **Option 3** | **Lung sounds** | **Crackles in the lung sounds indicate fluid volume excess. Crackles, heard during auscultation of the lungs are caused by fluid in the alveoli** |
| **Option 4** | **Sodium level** | **A low sodium level occurs with fluid volume excess. Hyponatremia can occur in fluid overload as the excess water dilutes the sodium concentration in the blood.** |
| Option 5 | Potassium level | The potassium is not affected with fluid volume. |
| **Option 6** | **Serum Osmolality Level** | **Low serum osmolality is associated with fluid volume overload due to an imbalance between the amount of water and solutes (such as sodium) in the blood. Low osmolality indicates diluted blood (excess water relative to solutes).** |
| **Option 7** | **Blood pressure** | **In fluid volume overload, the body retains more water and sodium, leading to an increase in the total volume of blood circulating through the vessels. More fluid in the vascular system exerts greater force on the blood vessel walls, increasing blood pressure.** |
| **Option 8** | **Heart Rate** | **With fluid volume overload, the heart has to work harder to pump the excess fluid throughout the body. This increased workload can lead to tachycardia as the heart tries to manage the larger volume of blood returning to it. As a compensatory mechanism for a decreased $SpO_2$., the heart is beating faster to perfuse vital organs.** |
| Option 9 | Glucose level | Glucose level is not impacted by fluid volume. |
| **Option 10** | **SpO2** | **Pulmonary edema impairs gas exchange. When fluid fills the alveoli, it prevents oxygen from effectively diffusing into the bloodstream, leading to lower oxygen levels and a decreased $SpO_2$.** |

6.

| Weekly Topic | Subtopic | Nursing Concepts |
|---|---|---|
| Electrolytes | Hyperkalemia EKG Assessment | • Homeostasis and Regulation: Fluid and Electrolytes (The elevated potassium level of 6.8 mEq/L places the client at risk for serious cardiac arrhythmias, and immediate intervention is necessary.), |

| | | |
|---|---|---|
| | | Perfusion (Cardiac output can be severely compromised by hyperkalemia, leading to life-threatening dysrhythmias.)<br>• Personal Development: Clinical Judgment (The nurse must prioritize obtaining a 12-lead ECG to monitor for cardiac changes, which are the primary concern in hyperkalemia.)<br>• Care Competencies: Safety (Monitoring for and preventing hyperkalemia-related complications is essential for the client's safety.) |

| Question Type | Scoring | Points | Mastery (Y/N) | Bloom's Taxonomy Level | NCLEX Test Plan Client Need | Integrated Processes | Nursing Process/CJMM | Course Objective(s) | Class Objective(s) | Question Use |
|---|---|---|---|---|---|---|---|---|---|---|
| MC | 0/1 | 1 | N | AP | PHYSIO/RISK | NP | I, RC, AC, PH, GS, TA | 1,4 | 1 | New 43806/1 |
| Post Item Analysis Suggestions | | | | | | | | | | |
| | | | | | | | | | | |

A nurse is caring for a client who has hypertension and has a potassium level of 6.8 mEq/L (Normal: 3.5 – 5.5 mEq/L). Which of the following actions should the nurse take first?
A. Suggest that the client use a salt substitute.
B. Advise the client to avoid citrus juices and bananas in her diet.
C. Obtain a blood sample for hemoglobin and hematocrit.
D. Obtain a 12-lead ECG.

**Rationale**
This client's potassium level is above the expected reference range of 3.5-5.0 mEq/L and is at risk for dysrhythmias as well as cardiac arrest. Therefore, the nurse should obtain a 12-lead ECG to monitor for cardiac changes. This client should avoid using salt substitutes as many contain potassium chloride. The hemoglobin and hematocrit lab values are not the priority at this time.

7.

| Weekly Topic | Subtopic | Nursing Concepts |
|---|---|---|
| Renal Disorders | Nephrolithiasis treatment | • Homeostasis and Regulation: Elimination (Hydration and increasing urinary output are critical in facilitating the passage of kidney stones.), Protection and Movement: Pain (Severe pain is a |

| | | |
|---|---|---|
| | | hallmark of nephrolithiasis, requiring appropriate pain management interventions to maintain the client's comfort.)<br>• Personal Development: Clinical Judgment (The nurse must administer medications, such as alpha-adrenergic blockers, to help the client pass the stone and ensure hydration is maintained.)<br>• Care Competencies: Collaboration (Managing nephrolithiasis requires close collaboration with urology and other healthcare providers for diagnostic and therapeutic interventions.), Patient Education (Educating the client about preventive measures, such as hydration and diet changes, can help prevent recurrence.) |

| Question Type | Scoring | Points | Mastery (Y/N) | Bloom's Taxonomy Level | NCLEX Test Plan Client Need | Integrated Processes | Nursing Process/CJMM | Course Objective(s) | Class Objective(s) | Question Use |
|---|---|---|---|---|---|---|---|---|---|---|
| MMC | 0/1, PC | 3 | N | AN | PHYSIO/ADAPT | CJ | I, RC, AC, PH, GS, TA | 1, 4 | 3,8 | New 43812/1 |
| Post Item Analysis Suggestions | | | | | | | | | | |
| | | | | | | | | | | |

A 45-year-old man is brought to the emergency department for colicky flank pain that came on suddenly about 2 hours ago. Urine is pink-tinged, and a stone is suspected. Select an option in either column to specify if each action is appropriate or not appropriate.

| Nursing Actions | Column A: Appropriate Action | Column B: Not Appropriate Action |
|---|---|---|
| Preparation for a renal biopsy | ☐ | ☑ |
| Administration of an alpha-adrenergic blocker | ☑ | ☐ |
| Administration of an opioid | ☑ | ☐ |
| Preparation for surgery | ☐ | ☑ |
| Collect urine | ☑ | ☐ |
| Treatment of nausea | ☑ | ☐ |
| Encourage oral and IV fluids | ☑ | ☐ |

**Rationale**
Appropriate
Alpha-adrenergic blockers such as tamsulosin (Flomax), doxazosin (Cardura), and terazosin (Hytrin) can be used to relax the musculature of the lower ureter to aid in stone passage.
Narcotics and/or nonsteroidal anti-inflammatory medicine along with antiemetics are used during this trial of passage.
Urine should be collected to monitor for bleeding and strained for stones.
Kidney obstruction can cause nausea and vomiting because of severe pain and irritation of the gastric nerve. The nurse should provide antiemetic medications for comfort.
Hydration will facilitate urine production and flow is paramount in kidney stone management. If the client is unable to stay hydrated despite antiemetics, hospitalization for IV fluids may be required.

Not Appropriate
A renal biopsy is not an appropriate diagnostic tool. This client is an adult male, so a CT is anticipated.
Surgical intervention is required if the stone does not pass after 4 to 6 weeks or when a stone is larger than 10 mm, causing severe obstruction and renal colic, nausea/vomiting, and/or signs of a UTI such as fever with infected urine.

| Question Type | Scoring | Points | Mastery (Y/N) | Bloom's Taxonomy Level | NCLEX Test Plan Client Need | Integrated Processes | Nursing Process/CJMM | Course Objective(s) | Class Objective(s) | Question Use |
|---|---|---|---|---|---|---|---|---|---|---|
| ClzDpDnR | 0/1, PC | 2 | N | AN | SECE/SIC | CJ | AS, AN, P, I, RC, AC, PH, GS, TA | 1,4,5 | 7,8 | New 43817/1 |
| Post Item Analysis Suggestions | | | | | | | | | | |
| | | | | | | | | | | |

A nurse is caring for a 66-year-old client with chronic kidney disease (CKD) undergoing peritoneal dialysis. The client reports increasing abdominal discomfort and fatigue over the past day. During the dialysate drainage, the nurse notes that the fluid in the drainage bag appears opaque with a yellow-pink hue. The skin around the catheter site is warm and dry with dry gauze dressing intact.

| Vital Signs | 0200 | 0800 |
|---|---|---|
| **Temperature** | 98.4°F (36.9°C) Oral | 99.0°F (37.3°C) Oral |
| **Pulse** | 92 | 88 |
| **Respiratory Rate** | 22 | 24 |
| **Blood Pressure** | 145/88 | 122/72 |
| **Pulse Oximetry Reading** | 94% on room air | 94% on room air |

Complete the following sentence by choosing from the lists of options.

The client receiving peritoneal dialysis has ____1____ as evidenced by ____2____ and ____3____. The nurse would prepare to _____4_____.

| 1<br>Condition | 2<br>Clinical Finding | 3<br>Clinical Finding | 4<br>Nursing Action |
|---|---|---|---|
| bleeding | catheter site | frothy dialysate | perform a routine catheter change |
| **peritonitis** | blood pressure | heart rate | **administer ordered intravenous antibiotics** |
| a dislodged catheter | **drained dialysate** | **abdominal pain** | administer ordered intravenous heparin infusion |
| | dyspnea | drainage around the catheter | clamp the dialysis drainage tubing |

**Rationale**

Signs include cloudy dialysate and abdominal pain, requiring prompt antibiotic administration. Although there is a pink hue to the drainage, there are no signs of significant bleeding. Blood pressure and heart rate are normal, with a slight decrease likely due to effective fluid removal by the dialysate.

Respiratory difficulty (dyspnea) suggests excess fluid in the abdominal cavity pressing against the diaphragm. Respirations improved as the dialysate drained. A heparin infusion is unnecessary and could increase the risk of bleeding. While a peritoneal catheter may be flushed with heparin to prevent clotting, a clotted catheter is not the issue here, so a heparin is not indicated.

The dialysate is actively draining and there is no indication to clamp the drainage tubing. Clamping would cause fluid retention in the abdominal cavity, which could exacerbate symptoms like abdominal discomfort and dyspnea. There are no signs of catheter displacement, and peritoneal dialysis catheters are not routinely changed due to the risk of infection and their design. Tissue growth in the catheter cuff helps keep it securely in place, so routine catheter changing is not done.

8.

| Weekly Topic | Subtopic | Nursing Concepts |
|---|---|---|
| Male Reproductive | BPH signs and symptoms | • Homeostasis and Regulation: Elimination (The primary issue in BPH is urinary elimination due to prostate enlargement obstructing the urethra, leading to difficulty starting urine flow, straining, and incomplete bladder emptying.)<br>• Personal Development: Clinical Judgment (Recognizing symptoms such as difficulty urinating, nocturia, and dribbling is crucial for assessing BPH.)<br>• Care Competencies: Safety (The nurse must ensure the patient's safety, particularly regarding potential complications of untreated BPH, such as bladder infections or kidney damage.) |

| Question Type | Scoring | Points | Mastery (Y/N) | Bloom's Taxonomy Level | NCLEX Test Plan Client Need | Integrated Processes | Nursing Process/CJMM | Course Objective(s) | Class Objective(s) | Question Use |
|---|---|---|---|---|---|---|---|---|---|---|
| HTx, Case | 0/1 | 2 | N | AN | PHYSIO/ADAPT | CJ | AS, RC, AC | 1 | 1 | New 43828/1 |
| Post Item Analysis Suggestions | | | | | | | | | | |
| | | | | | | | | | | |

The home care nurse is caring for a client in an assisted living facility. Highlight in the case study the findings that support the client may have benign prostatic hyperplasia.

| Time | Admission Note |
|---|---|
| 1130 | Older adult male who lives in an assisted living community. Ambulates independently but walks with a limp due to a swollen right knee from arthritis. Appetite is "fair" and reports struggling with constipation. The patient mentions feeling fatigued in the afternoon and occasionally has difficulty falling asleep. {He states that he has difficulty starting the flow of urine}, {requires straining}, {and his bladder continues to feel "full" afterward}. {He reports getting up twice a night to urinate} and {occasionally dribbles urine after urination.} The patient also mentions lower back pain upon rising in the morning and feeling stiff, particularly after sitting for long periods. He denies shortness of breath, chest pain, or abdominal pain. The patient takes |

medications for high blood pressure, hypercholesterolemia, aspirin daily, and over-the-counter joint supplements for arthritis.

**Rationale**

The clinical manifestations of BPH are related to lower urinary tract symptoms (LUTS). Those manifestations include difficulty starting the flow of urine even with straining, a weak stream of urine, multiple interruptions during urination, and dribbling once urination is complete. Symptoms related to changes in the bladder include urgency, frequency, the feeling that the bladder has not completely emptied after urination, and frequent awakening at night to urinate. As the bladder becomes more sensitive to the retention of urine, incontinence may result. The patient may experience bed-wetting and the inability to respond quickly enough to the need to urinate. A urethral obstruction or enlarged prostate that is left untreated may result in bladder outlet obstruction, which includes acute urinary retention, bladder infection, bladder stones, and increasing pressure in the kidney, possibly resulting in hydronephrosis or postrenal acute kidney (AKI) injury or pyelonephritis.