

Oral and Parenteral Medication Administration Skills & Reasoning



Jerry Williams, 62 years old

Primary Concept

Perfusion

Interrelated Concepts (In order of emphasis)

- Gas Exchange
- Clinical Judgment
- Patient Education

NCLEX Client Need Categories	Percentage of Items from Each Category/Subcategory	Covered in Case Study
Safe and Effective Care Environment		
✓ Management of Care	17-23%	✓
✓ Safety and Infection Control	9-15%	
Health Promotion and Maintenance	6-12%	✓

Psychosocial Integrity	6-12%	✓
Physiological Integrity		
✓ Basic Care and Comfort	6-12%	✓
✓ Pharmacological and Parenteral Therapies	12-18%	✓
✓ Reduction of Risk Potential	9-15%	✓
✓ Physiological Adaptation	11-17%	✓

History of Present Problem:

Jerry Williams is a 62-year old obese (BMI 35.2) Caucasian male with a history of diastolic heart failure and type II diabetes. Last evening, he began having difficulty breathing with activity. He thought he might be getting a cold because he had a runny nose. He reports more swelling in his lower legs the past couple days. He woke up this morning with increased difficulty breathing when he woke up and his wife called 911.

Paramedics report that his initial VS: HR:92 RR: 28 BP: 172/88 O2 sat: 80% on room air with scattered expiratory wheezing bilat. He was placed on oxygen by facemask and albuterol nebulizer administered with some improvement in his breathing. His RR is now 24 upon arrival to the emergency department ED). His initial labs have resulted; creatinine of 2.5 (last adm. 1.8), K+ 3.5 (last adm. 3.7) and BNP 944 (last adm. 322). Jerry is given furosemide 40 mg IV in the ED and had 800 mL urine output in the last hour. He is admitted to cardiac telemetry, and you are the nurse responsible for his care.

What data from the present problem do you NOTICE as RELEVANT and why is it clinically significant?

(Reduction of Risk Potential/Health Promotion and Maintenance)

RELEVANT Data:	Clinical Significance:
<ul style="list-style-type: none"> • diastolic heart failure and type II diabetes. • more swelling in his lower legs. • Difficulty breathing with an activity that is getting worse. 	<ul style="list-style-type: none"> • Had pre-existing medical issues • ABC impaired breathing • Could indicate fluid buildup, DVT, venous insufficiency, CHF

What is the RELATIONSHIP of his past medical history and current medications? Why is your patient receiving these medications? (Which medication treats which condition? Draw lines to connect)

Past Medical History (PMH):	Home Medications:
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Hyperlipidemia Hypothyroidism Type II diabetes Diastolic heart failure Chronic kidney disease stage III	Furosemide 20 mg PO every morning Atorvastatin 40 mg PO at bedtime Metoprolol 50 mg PO BID Levothyroxine 112 mcg PO daily Exenatide microspheres 2 mg subq. weekly
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Nursing Assessment Begins:

Current VS:	Most Recent in ED:	P-Q-R-S-T Pain Assessment:	
T: 98.2 F/36.8 C (oral)	T: 98.8 F/37.1 C (oral)	Provoking/Palliative:	
P: 88 (reg)	P: 92 (reg)	Quality:	Denies
R: 24 (reg)	R: 24 (reg)	Region/Radiation:	
BP: 142/76	BP: 148/80	Severity:	
O2 sat: 93% 4 liters n/c	O2 sat: 94% 4 liters n/c	Timing:	

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Current Assessment:	
GENERAL SURVEY:	Pleasant, in no acute distress, calm, body relaxed, no grimacing, appears to be resting comfortably.
NEUROLOGICAL:	Alert & oriented to person, place, time, and situation (x4); muscle strength 5/5 in both upper and lower extremities bilaterally.
HEENT:	Head normocephalic with symmetry of all facial features. PERRLA, sclera white bilaterally, conjunctival sac pink bilaterally. Lips, tongue, and oral mucosa pink and moist.
RESPIRATORY:	Breath sounds coarse crackles in bases bilat. with equal aeration on inspiration and expiration in all lobes anteriorly, posteriorly, and laterally, nonlabored respiratory effort.
CARDIAC:	Pale/pink, warm & dry, 2+ pitting edema in feet and ankles, heart sounds regular, pulses strong, equal with palpation at radial/pedal/post-tibial landmarks, brisk cap refill. Heart tones audible and regular, S1 and S2 noted over A-P-T-M cardiac landmarks with no abnormal beats or murmurs. Unable to assess JVD due to obesity/thick neck
ABDOMEN:	Abdomen round, soft, and nontender. BS + in all four quadrants
GU:	Voiding without difficulty, urine clear/yellow
INTEGUMENTARY:	Skin warm, dry, intact, normal color for ethnicity. No clubbing of nails, cap refill <3 seconds, Hair soft distribution is normal for age and gender. Skin integrity intact, skin turgor elastic, no tenting present.

What clinical data do you NOTICE that is RELEVANT and why is it clinically significant?

(Reduction of Risk Potential/Health Promotion and Maintenance)

RELEVANT VS Data:	Clinical Significance:	TREND:
RR-24 BP-142/76	RR elevated causes stress on the heart. BP- slight improvement but still continues to put stress on the heart.	
RELEVANT Assessment Data:	Clinical Significance:	TREND:
Breath sounds coarse crackles in bases bilateral. edema to feet/ankles	take in enough oxygen. Jerry is experiencing both left/right-sided heart failure.	

1. INTERPRETING relevant clinical data, what is the primary problem? What primary health-related concept(s) does this problem represent? *(Management of Care/Physiologic Adaptation)*

Problem:	Pathophysiology of Problem in OWN Words:	Primary Concept(s):
Heart Failure.	Heart failure is due to the failure of the heart to pump blood at a rate that is not able to meet the “requirements” to metabolize tissue and elevate blood pressure.	

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2. What nursing priority(ies) will guide your plan of care that determines how you decide to RESPOND?

(Management of Care)

Nursing PRIORITY:		
PRIORITY Nursing Interventions:	Rationale:	Expected Outcome:
Nurse will auscultate breath sounds every few hours and POX	may alert nurse for potential airway obstruction.	Lungs sounds are improving or no changes.

Medical Management: Admission Medication Orders

Care Provider Orders:	Mechanism of Action:	Expected Outcome:
Administer the following home medications: Atorvastatin 40 mg PO daily Metoprolol 50 mg PO BID Levothyroxine 112 mcg PO daily New order: Heparin 5000 units subq. BID	<ul style="list-style-type: none"> inhibits the enzyme it will then lower total cholesterol and LDL. blocks stimulation of beta-adrenergic receptors will decrease BP and HR. replaces or supplements endogenous thyroid hormones. inhibitors the effect of antithrombin on factor Xa and thrombin 	<ul style="list-style-type: none"> decrease cholesterol and LDL. Decrease BP/HR. replaces or supplements endogenous thyroid hormones. prevention of thrombus formation.

Medication Administration

1. Identify the "rights" of safe medication administration?

Check that we have the right patient, right drug, right dose, right time, right route, right documentation, right to refuse, right assessment, right eval, right education.

2. Identify essential steps the nurse must implement to safely administer ORAL medications in practice?

(Management of Care)

Essential Steps to Be Safe in Practice:
<ul style="list-style-type: none"> Check that we have the right patient, right drug, right dose, right time, right route, right documentation, right to refuse, right assessment, right eval, right education. Check the MAR to see if all the rights are noted in the order, when pulling the medications, at the bedside when administering the medications to the patient.

3. What essential teaching will the nurse reinforce about these medications? (Health Promotion and Maintenance)

Medications:	Patient Education:
Atorvastatin 40 mg PO daily Metoprolol 50 mg	<ul style="list-style-type: none"> Do not take two doses at one time. Take with or after a meal. Swallow the entire capsule, don't chew or crush.

PO BID Levothyroxine 112 mcg PO daily New order: Heparin 5000 units subq. BID	<ul style="list-style-type: none"> ● By mouth two times a day ● Best absorbed on an empty stomach, take 30 - 60 minutes before breakfast. ● Use electric shaver; reports signs of bleeding; teach the patient how to properly inject subcutaneously.
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Evaluation: Two Hours Later...

Jerry's respiratory rate has increased to 28 and his O2 sat has dropped to 88-90% on 4 liters n/c. Coarse crackles are present halfway up bilaterally. He states he has a hard time catching his breath at rest.

1. What data do you NOTICE as RELEVANT and why is it clinically significant?
(Reduction of Risk Potential/Health Promotion and Maintenance)

RELEVANT Data:	Clinical Significance:
<ul style="list-style-type: none"> ● RR increased to 28 and O2 dropped to 88-90% while on 4L via NC. Fluid is moving up in the lungs. C/O SOB. 	<ul style="list-style-type: none"> ● The client is filling up with fluids in his lungs, causing him to need more oxygen to allow the body to relax.

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2. Has the status improved or not as expected to this point? Does your nursing priority or plan of care need to be modified in any way after this evaluation assessment? *(Management of Care, Physiological Adaptation)*

Evaluation of Current Status:	Modifications to Current Plan of Care:
Client condition is progressively worsening	Check on him more there every 2 hours

Medical Management: New Orders from Primary Care Provider

Care Provider Orders:	Rationale/Mechanism of Action:	Expected Outcome:

<p>Furosemide 40 mg IV BID</p> <p>Place on high flow n/c if unable to maintain O2 sat >92% on 6 liters n/c</p>	<p>Stops the loop of Henle from absorbing sodium and chloride.</p>	<p>Pull fluid off the body. and reduce BP</p>
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When assessing the peripheral IV site, you notice that the site appears moist, cool to the touch with fluid leaking at the insertion site when flushed with saline. The extension tubing is dangling with one piece of tape holding it to the patient is beginning to peel off.

What clinical data do you NOTICE that is RELEVANT and why is it clinically significant?

(Reduction of Risk Potential/Health Promotion and Maintenance)

RELEVANT Data:	Clinical Significance:
<p>Moist, cool, and fluid leaking around IV. Extension tubing is pushing on the IV</p>	<p>Experiencing infiltration at this time.</p>

Parenteral Medication Administration

1. Identify the essential steps the nurse must implement to safely administer subcutaneous medications?

(Management of Care)

Essential Steps to Be Safe in Practice:
<p>Check that we have the right patient, right drug, right dose, right time, right route, right documentation, right to refuse, right assessment, right eval, right education. Follow protocol when administering medication.</p>

2. Recognizing that the IV has infiltrated, identify the essential steps that the nurse must implement to start an IV?

(Management of Care)

Essential Steps to Be Safe in Practice:

If infiltration is noted, first stop the pump, disconnect fluid, when removing IV apply pressure to the site.

3. Identify the essential steps the nurse must implement to safely administer intravenous medications?
(Management of Care)

Essential Steps to Be Safe in Practice:

Check that we have the right patient, right drug, right dose, right time, right route, right documentation, right to refuse, right assessment, right eval, right education. Check that the medication is compatible with the IV fluid that is running.

4. What will the nurse teach the patient about these medications? Why is he receiving them?
(Health Promotion and Maintenance)

Medications:	Patient Education:
Furosemide 40 mg IV BID	You are taking this medication as you experience fluid on build-up. This medication will help pull fluid off of your legs. You may feel like you have to go to the bathroom more frequently but this is how the medication works. Try to take it in the morning so you don't keep waking up in the middle of the night to go to the bathroom.

Use Reflection to THINK Like a Nurse

What did you learn that you can apply to future patients you care for? Reflect on your current strengths and weaknesses this case study identified. What is your plan to make any weakness a future strength?

What Did You Learn?	What did you do well in this case study?
The understanding of heart failure and how quickly it can progress.	Knowing the medications and what they are designed to do and being able to explain them to the patient.
What could have been done better?	What is your plan to make any weakness a future strength?
	Work on studying the most common drugs given IV

