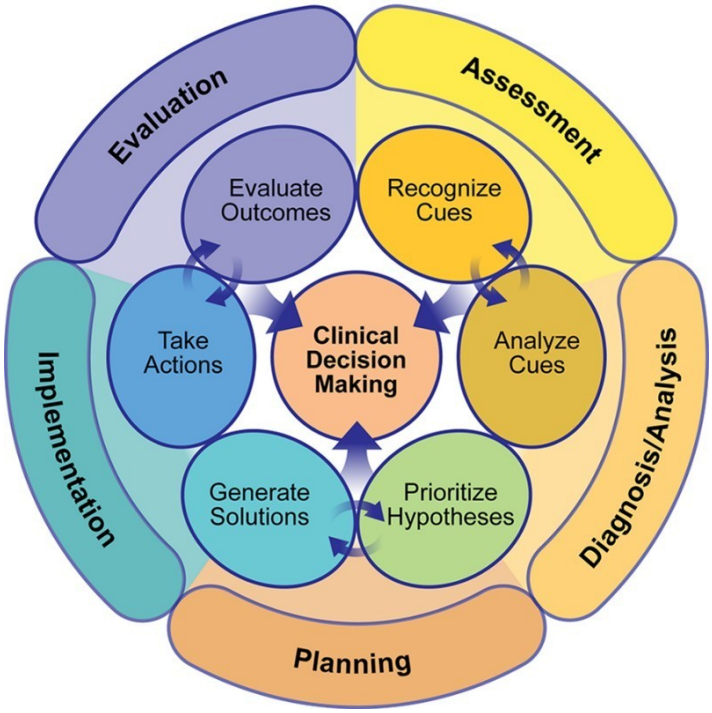
….Q2Week 3 EDAPT Altered Perfusion



By planning to elevate the head of the bed before administering oxygen, the nurse is generating a solution based on priority, timing, resource availability, and risk.

Prioritizing a hypothesis includes the process of evaluating resources, risk, timing, and the need for immediate action.

Analyzing and recognizing cues would come before deciding to act.

By checking a client's blood pressure after administering an antihypertensive medication, the nurse is evaluating outcomes.

Deciding what this cue means in the context of the entire clinical situation would be an analysis of the cue.

Generating a solution would describe the actions the nurse plans to take.

➢ Perfusion is best understood as a continuum of the heart's ability to adequately supply blood to the body and the patency of arteries to adequately supply blood to peripheral tissues. Normal perfusion is at the healthy end of the continuum while infarction is at the illness end of the continuum. Ischemia occurs before infarction.

- **Ischemia** refers to impaired perfusion, whereas **infarction** is complete tissue death.

Conducting a complete client and family history for risk factors for altered perfusion is essential.

Risk factors for altered perfusion can be modifiable or non-modifiable.

- Modifiable risk factors include smoking, lack of physical activity, and obesity.
- Nonmodifiable risk factors include age, gender, and family history.

Clients with hyperlipidemia, diabetes mellitus, peripheral vascular disease, and arteriosclerosis are at very high risk for both decreased central and peripheral perfusion.

Conducting a complete client assessment to identify existing problems indicating altered perfusion is essential.

The nurse must recognize cues that indicate altered central or peripheral perfusion.

- Signs of altered **peripheral perfusion** include decreased hair distribution on the extremities, nonlocalized and diffuse pain or discomfort, cool skin, and pallor or cyanosis of the extremities. If not treated, skin ulcers may develop or cell death occurs, such as gangrene.
- Signs of altered **central perfusion** include dyspnea, dizziness, syncope, and chest pain. Decreased central perfusion is caused by decreased cardiac output and can be life-threatening. Signs of decreased cardiac output include hypotension, tachycardia, diaphoresis, anxiety, confusion, and dysrhythmias. If not treated, acute myocardial infarction, stroke, and shock may develop.

During the assessment, be sure to assess the presence and quality of distal peripheral pulses because severely impaired perfusion can lead to absent peripheral pulses distal to the arterial occlusion.

A peripheral vascular assessment is a systematic assessment used to detect impaired blood flow to the extremities. The peripheral vascular assessment, sometimes called the neurovascular assessment, screens the client for:

- pain
- pallor
- pulselessness
- paresthesia (numbness and tingling)
- paralysis
- poikilothermia (inability to regulate body

temperature) This assessment is often called the 6 Ps.

Type of Altered Perfusion	Assessment Findings
Altered Central Perfusion	• dyspnea • dizziness • tachycardia • chest pain
Altered Peripheral Perfusion	• decreased hair distribution on leg • cool, pale skin on legs • decreased capillary refill. • diminished pedal pulses

Symptom/Sign	Scope of Perfusion Defect	Potential Cause
Dysphasia (difficulty speaking)	Localized to the speech system in the brain	Localized blocked artery in the brain
Weakness, vision changes, loss of balance	A regional problem affecting an entire organ A systemic problem affecting one or more	Blocked or narrowed artery outside the brain
Complete loss of consciousness		Fluid volume deficit or heart not pumping efficiently

Symptom/Sign	Scope of Perfusion Defect	Potential Cause
	organs	

The nurse is caring for a client with altered central perfusion. The client is at risk for developing myocardial infarction caused by decreased cardiac output.

Now that you have recognized and analyzed cues, a plan of care can be created. When prioritizing hypotheses, the nurse should include urgency, risk, difficulty, and time as part of the process.

Hypothesis	Altered Perfusion
Immediate action (urgency, risk)	Is the client at significant risk of serious injury or death? Cues that may suggest this include very low blood pressure, serious cardiac dysrhythmias, severe tachycardia or bradycardia, loss of consciousness, and loss of localized perfusion (e.g., reduced, or absent circulation to an extremity). Immediate action must be taken to mitigate injury and prevent death.
Priority	Is immediate intervention needed when reviewing the cues and data? If yes, then immediate action must be taken to mitigate injury and prevent death. If not, can the client be observed until further changes are noted?
Resources	Are resources available to carry out the plan of care? Does teaching need to be done sooner rather than later?
Time	What is the timing in which these cues occurred? This could determine whether immediate action is needed, or observation is appropriate.

When prioritizing hypotheses, the nurse must consider that multiple cues can lead to several diagnoses. We must consider all assessment findings and generate several hypotheses.

Let's review Nancy's symptoms, determine the problem, and prioritize our hypotheses.

Symptoms	Problem
Dizziness, hypotension, tachycardia	Altered perfusion
Poor skin turgor, hypotension, tachycardia, decreased oral intake, oliguria	Altered fluid balance
Statement by the client, "I ran out of water 3 hours ago."	Knowledge deficit

Nancy is experiencing altered fluid balance leading to altered perfusion caused by decreased oral intake. Altered perfusion is the most concerning problem and can be resolved by improving the client's fluid balance through oral or intravenous rehydration. The knowledge deficit can be resolved once the client is stabilized.

Priority	Hypothesis	Altered Perfusion	Rationale
1. Immediate need to prevent injury and loss of consciousness [High Risk]	Altered perfusion	Place the client in a supine position.	Improves perfusion to the brain and body by reducing the effects of gravity.
2. Immediate need to prevent injury and further deterioration [High Risk]	Altered fluid balance	Provide rehydration with either oral or intravenous fluids.	Increasing fluid intake to restore intravascular volume, increase blood pressure, decrease pulse rate, and improve skin turgor.
3. non-urgent need [Low Risk]	Knowledge deficit	Instruct the client on the importance of fluid intake with strenuous outdoor activity, especially when in hot environments.	Prevent further episodes causing the current signs and symptoms.

Decreased central perfusion can cause serious and life-threatening consequences. The healthcare provider may prescribe vasodilator medications, supplemental oxygen, and vascular intervention to open an occluded or narrowed artery.

Bronchodilator medications are needed for altered gas exchange, not altered perfusion. Intravenous fluid replacement would be needed to restore fluid balance following fluid volume deficit, not altered central perfusion due to myocardial infarction.

Let's think back to Nancy's problems and consider the interventions that are needed.

Nursing Action	Problem
• Place the client in a supine position. • Frequently monitor vital signs.	Altered perfusion
• Initiate a peripheral intravenous line and administer IV fluids as prescribed. • Provide water to encourage oral hydration. • Monitor intake and output.	Altered fluid balance
• Teach the client how to prevent dehydration in the future.	Knowledge deficit

Severe pain following a significant orthopedic injury could represent altered peripheral perfusion distal to the injury. The nurse's priority action at this time is to perform a peripheral vascular assessment of the left leg to determine if blood flow is compromised.

Normal peripheral vascular assessment findings include 2+ pulses distal to the injury, no paresthesia or paralysis of the extremity, minimal swelling of the extremity, skin pink and warm to touch, and controlled pain.

Signs of altered central perfusion that require immediate follow-up include shortness of breath, chest pain, oxygen saturation 82%, and crackles in the lower lung fields.

Although the client's health history (smoking, heart failure) is a risk for altered perfusion, these do not require immediate follow-up.

Pitting edema in the lower extremities is likely an effect of altered perfusion and it does not require immediate follow-up.