Maintenance of IV Fluid Therapy Practice Test (Sample)

Study Guide

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Questions

1. Which symptoms are associated with phlebitis?

A. Coolness and pallor

B. Warmth, redness, and pain along the vein

C. Swelling and discomfort at the IV site

D. Fever and chills

2. What is the purpose of placing a small piece of sterile tape across the hub when accessing an IV?

A. To provide a reference for future dressing changes.

B. To prevent bleeding during disconnection.

C. To temporarily anchor the catheter during disconnection.

D. To ensure secure attachment of the dressing.

3. Which IV site is acceptable in a child but not typically in adults?

A. Hand

B. Forearm

C. Scalp

D. Foot

4. What mistake did the nurse make during the IV tubing change when creating air bubbles in the new tubing?

A. A. Failing to disinfect the catheter hub.

B. B. Closing the roller clamp too late.

C. C. Filling the drip chamber of the old tubing.

D. D. Creating air bubbles by filling the tubing rapidly.

5. Why is it important to assess a patient's medical history before IV fluid therapy?

A. To identify any potential allergies or contraindications that might affect the therapy's safety

B. To allocate more time for the therapy administration

C. To gather information solely for billing purposes

D. To focus on the patient's future medications only

6. What is the importance of using a smart pump for IV medication administration?

A. It provides the ability to infuse fluids faster.

B. It can automatically adjust infusion rates.

C. It helps prevent infusion errors through alarms.

D. It allows for a higher volume of fluid delivery.

7. What type of IV set would be appropriate for an order of 250 mL of NS for KVO?

A. Microdrip tubing (60 gtt per mL)

B. Macrodrip tubing (10 gtt per mL)

C. Macrodrip tubing (15 gtt per mL)

D. Any IV set

8. Which actions during a peripheral IV dressing change are considered correct?

A. Documenting symptoms after a dressing change.

B. Stabilizing the catheter when changing the dressing.

C. Using sterile gloves to remove the old dressing.

D. All of the above.

9. What indicates that further teaching is needed when a patient's IV dressing is being assessed?

A. A. The nurse removes the old dressing systematically.

B. B. The nurse cleans the insertion site using a circular motion.

C. C. The nurse leaves the old tape on the connection.

D. D. The nurse ensures the antiseptic dries completely.

10. What is the correct action if the nurse sees redness and swelling at the IV site during dressing change?

A. A. Continue the dressing change as planned.

B. B. Document the findings and continue monitoring.

C. C. Change the IV site and notify the healthcare provider.

D. D. Apply warm compress and reassess the site later.

Answers

1. B
2. C
3. B
4. D
5. A
6. C
7. A
8. B
9. C
10. C

Explanations

1. Which symptoms are associated with phlebitis?

A. Coolness and pallor

B. Warmth, redness, and pain along the vein

C. Swelling and discomfort at the IV site

D. Fever and chills

The symptoms associated with phlebitis typically include warmth, redness, and pain along the vein. This condition generally arises from inflammation of the vein, which can occur due to irritation from the IV catheter or the fluid being infused. The localized warmth is indicative of increased blood flow in the area as the body responds to the inflammation. Redness is a direct sign of the inflammatory response, while pain is often reported by the patient and reflects the discomfort stemming from the irritated vein. While other symptoms may be present in different conditions or complications related to IV therapy, they are not characteristic of phlebitis specifically. For example, coolness and pallor might indicate inadequate blood flow or arterial impairment, swelling can occur from other causes such as fluid overload, and fever and chills suggest a systemic infection rather than localized vein inflammation. Thus, recognizing the hallmark signs of phlebitis, particularly warmth, redness, and pain along the vein, is essential for timely intervention and management.

2. What is the purpose of placing a small piece of sterile tape across the hub when accessing an IV?

A. To provide a reference for future dressing changes.

B. To prevent bleeding during disconnection.

C. To temporarily anchor the catheter during disconnection.

D. To ensure secure attachment of the dressing.

Placing a small piece of sterile tape across the hub when accessing an IV serves the important purpose of temporarily anchoring the catheter during disconnection. This practice helps stabilize the IV catheter to prevent it from moving or slipping out, which could potentially cause dislodgment or bleeding. By securing the catheter in place, it minimizes the risk of complications that could arise from improper handling of the IV line. This is particularly crucial when a healthcare professional needs to momentarily disconnect the IV for procedures or medication administration, providing a safeguard that maintains the integrity of the IV access site until it is appropriately reconnected or dressed. Additionally, it ensures that the line remains accessible and secure, which is essential for maintaining a smooth flow of therapy.

3. Which IV site is acceptable in a child but not typically in adults?

A. Hand

B. Forearm

C. Scalp

D. Foot

The scalp is an acceptable IV site primarily in children due to the anatomy and physiology of their veins. In infants and young children, the scalp has prominent veins that are easier to access and provide a safe location for intravenous access. This technique is particularly useful in pediatric patients because it minimizes movement and reduces the risk of dislodgment since children may have difficulty keeping other sites still. In contrast, the use of the scalp for IV access is not typically practiced in adults because adult scalp veins are usually smaller and less prominent, making them more challenging to cannulate. Additionally, in adults, there are generally more suitable and accessible sites, such as the forearm or hand, with larger and more robust veins. Overall, the choice of IV site should prioritize safety, accessibility, and the patient's comfort. The anatomical differences between children and adults dictate the use of specific areas for IV therapy, highlighting why the scalp serves as a viable option for children's IV therapies while being seldom used in adult cases.

4. What mistake did the nurse make during the IV tubing change when creating air bubbles in the new tubing?

A. A. Failing to disinfect the catheter hub.

B. B. Closing the roller clamp too late.

C. C. Filling the drip chamber of the old tubing.

D. D. Creating air bubbles by filling the tubing rapidly.

Creating air bubbles by filling the tubing rapidly directly results in the introduction of air into the IV line, which can lead to air embolism or other complications. When changing IV tubing, it is essential to ensure that the new tubing is primed correctly to avoid any air entering the system. Priming should be done at a controlled pace to allow the fluid to displace any air without creating bubbles. Rapid filling increases the likelihood of trapping air within the tubing, which can become a safety hazard when the line is connected to a patient. Therefore, understanding the correct technique for priming IV tubing is crucial to maintain patient safety and effective IV fluid delivery.

5. Why is it important to assess a patient's medical history before IV fluid therapy?

A. To identify any potential allergies or contraindications that might affect the therapy's safety

B. To allocate more time for the therapy administration

C. To gather information solely for billing purposes

D. To focus on the patient's future medications only

Assessing a patient's medical history before initiating IV fluid therapy is crucial primarily to identify any potential allergies or contraindications that could impact the safety and effectiveness of the therapy. A comprehensive understanding of the patient's previous medical conditions, treatments, and responses allows healthcare providers to tailor IV fluid administration to the individual's needs while minimizing the risk of adverse reactions. For example, if a patient has a known allergy to a specific type of fluid, such as certain electrolyte solutions, this information could prevent a serious allergic reaction. Similarly, understanding the patient's existing medical conditions, such as heart or kidney issues, may inform the type or volume of IV fluid that is appropriate and safe to administer. Gathering medical history is not for the sake of allocating more time for the therapy administration, creating documentation for billing purposes, or concentrating solely on future medications; rather, it serves as a foundational step in ensuring the patient's safety and optimizing the therapeutic outcome. By prioritizing patient safety through this assessment, healthcare professionals can make informed decisions regarding fluid administration and adjust their approach as necessary based on each patient's unique medical profile.

6. What is the importance of using a smart pump for IV medication administration?

A. It provides the ability to infuse fluids faster.

B. It can automatically adjust infusion rates.

C. It helps prevent infusion errors through alarms.

D. It allows for a higher volume of fluid delivery.

Using a smart pump for IV medication administration is critically important because it plays a significant role in enhancing patient safety through the prevention of infusion errors. Smart pumps are equipped with advanced technology that includes built-in safety features, such as dose error reduction systems. These systems alert healthcare providers to potential dosing errors, such as infusing a medication at an incorrect rate or volume, thereby reducing the likelihood of administering an unsafe dose to the patient. Additionally, smart pumps can store drug libraries with predefined dosing limits and alerts for specific medications, ensuring that the clinician adheres to evidence-based dosing guidelines. This integration of technology not only helps to safeguard against human error but also improves overall efficiency in medication administration and monitoring. The other aspects related to infusion rates or volume delivery, while relevant to the broader practice of IV therapy, do not directly address the primary function of smart pumps concerning patient safety and error prevention as effectively as the prevention of infusion errors does.

7. What type of IV set would be appropriate for an order of 250 mL of NS for KVO?

A. Microdrip tubing (60 gtt per mL)

B. Macrodrip tubing (10 gtt per mL)

C. Macrodrip tubing (15 gtt per mL)

D. Any IV set

In the context of administering 250 mL of Normal Saline (NS) for keep vein open (KVO) purposes, microdrip tubing is particularly suitable. This type of IV set delivers a smaller volume of fluid per drop, which allows for more precise control over the rate of infusion. When the goal is to maintain venous access (as in KVO), it's important to use an IV set that can facilitate a very slow and steady flow, which microdrip tubing achieves effectively since it allows the healthcare provider to administer smaller amounts of fluid more accurately. This is essential when dealing with KVO, where the infusion rate must be kept minimal, often around 10-25 mL per hour, in order to maintain patency of the IV line without overloading the patient. Using macrodrip tubing would typically result in larger drops and a faster infusion rate, making it less suitable for KVO where precision is necessary to prevent fluid overload. Thus, microdrip tubing is the optimal choice for this scenario, ensuring that the fluid is administered safely and effectively.

8. Which actions during a peripheral IV dressing change are considered correct?

A. Documenting symptoms after a dressing change.

B. Stabilizing the catheter when changing the dressing.

C. Using sterile gloves to remove the old dressing.

D. All of the above.

The action of stabilizing the catheter while changing the dressing is critical for maintaining the integrity and position of the IV line. When a dressing change occurs, the catheter can be susceptible to movement or displacement, which can lead to complications such as infiltration or phlebitis. By stabilizing the catheter, practitioners ensure that the IV line remains securely in place, thereby minimizing the risk of complications and maintaining the effectiveness of the therapy. In the context of the other options, documenting symptoms after a dressing change is useful but not a fundamental action taken during the dressing change itself. Using sterile gloves to remove the old dressing is standard practice to prevent infection; however, simply having sterile gloves does not encompass the comprehensive strategies required during the procedure. Consequently, while all actions mentioned are best practices in IV therapy, stabilizing the catheter specifically addresses a critical point during the dressing change process.

9. What indicates that further teaching is needed when a patient's IV dressing is being assessed?

A. A. The nurse removes the old dressing systematically.

B. B. The nurse cleans the insertion site using a circular motion.

C. C. The nurse leaves the old tape on the connection.

D. D. The nurse ensures the antiseptic dries completely.

Further teaching is indicated if the nurse leaves the old tape on the connection. It is essential to remove all old dressings and tape during the assessment and change process. This practice ensures that any potential contamination or debris around the insertion site is thoroughly addressed, which helps maintain the sterility of the area. Leaving old tape can trap moisture, create a breeding ground for bacteria, and compromise the effectiveness of the new dressing. In contrast, systematic removal of the old dressing is appropriate as it minimizes the risk of pulling on the catheter or causing discomfort. Cleaning the insertion site with a circular motion is also a standard practice to ensure effective antiseptic action. Ensuring that the antiseptic solution dries completely before applying a new dressing is vital, as this allows for proper adhesion and maximum effectiveness of the antiseptic used. Thus, not removing the old tape signifies a breach in proper protocol and indicates a need for further education on IV dressing changes.

10. What is the correct action if the nurse sees redness and swelling at the IV site during dressing change?

A. A. Continue the dressing change as planned.

B. B. Document the findings and continue monitoring.

C. C. Change the IV site and notify the healthcare provider.

D. D. Apply warm compress and reassess the site later.

When a nurse observes redness and swelling at the IV site during a dressing change, taking prompt action is crucial to ensure patient safety and prevent complications such as infection or infiltration. Changing the IV site and notifying the healthcare provider is the appropriate response in this situation. Redness and swelling can be indicators of phlebitis, infiltration, or infection. By changing the IV site, the nurse minimizes the risk of these potential complications exacerbating, as continued use of a compromised site could lead to further issues such as pain, tissue damage, or sepsis. Additionally, informing the healthcare provider allows for further assessment and intervention, which may include additional orders for pain management, antibiotics, or other treatments. Other options, such as continuing the dressing change or just documenting the findings, do not address the immediate concerns of inflammation at the site that could impact patient safety. Applying warm compresses and reassessing later might provide temporary relief for minor issues but does not tackle the potential underlying problems requiring immediate attention and intervention. Thus, changing the IV site and notifying the healthcare provider ensures that the patient's needs are met promptly and effectively.