

Growing Numbers

Caring for Ambulatory Surgery Patients

Pediatric IV Therapy Complications

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BEHAVIORAL OBJECTIVES

AFTER READING THIS LESSON THE LEARNER WILL BE ABLE TO:

1. Discuss age-specific factors contributing to IV infiltration, including characteristic behaviors of children.
2. Describe clinical manifestations of infiltration in children and related nursing implications.

A peripheral IV can be life-saving for infant or child who is dehydrated or requires intravenous medications, such as antibiotics for the treatment of bacterial meningitis. However, an IV can also be the source of tissue damage and permanent disability if complications occur. Infiltration is the most common peripheral IV complication, and may result in tissue and nerve damage, chronic pain, loss of limb function or even limb loss.

This lesson will discuss age-specific factors contributing to IV infiltration, including characteristic behaviors of children. Clinical manifestations of infiltration in children and related nursing implications will also be described.

Vulnerability

Risks associated with peripheral IVs increase in pediatric patients for several reasons. Children's veins are small and often difficult to locate and stabilize when inserting and securing a peripheral IV. Additionally, young children are unable to understand and follow directions as simple as "please stay still." Another challenge of safe peripheral IV therapy in children is that they are curious and like to manipulate objects within their reach. The IV tubing, the buttons on continuous infusion pumps - colorful and noise producing, as well as the roller clamp on gravity apparatus tubing, are quite attractive. This behavior, as well as patient movement, can affect the infusion rate, as well as dislodge the IV catheter or cause it to puncture the vein.

Increasing Cooperation

If the child is uncooperative, IV complications increase significantly during venipuncture. For example, the risk of vessel wall damage during insertion, and, therefore, infiltration, increases significantly with a child who is kicking and crying. Most children are less apprehensive if a parent is present. Encourage the parent to be calm and to comfort the child. If it is

Preparing the child, honestly, for the venipuncture helps increase cooperation. However, the best way to accomplish this depends on the child's age and developmental level. In general, the younger the child, the less time there should be before the procedure and the simpler the explanation should be. Utilizing play is helpful to prepare the younger child for a venipuncture. For example, letting the preschooler help "start an IV" on their doll or stuffed toy familiarizes the child with the equipment to be used, including tubing (used) and the catheter (without the needle). When the child's IV is discontinued, he or she can take out the one on his or her stuffed toy.



Give an age-appropriate explanation when the time is right. Again, utilizing play is helpful with young children. For example, with preschoolers wait until immediately before starting and tell the child what is going to happen and what is expected of him or her, as "Your IV is going to be started now. I need you to hold real still like a statue." Always be honest. Tell the child that the venipuncture will hurt, but only for a short time. Don't promise "only one stick" or say that it will feel like a "little pinch." Administer a local anesthetic before venipuncture, according to hospital policy and manufacturer's instructions.

IV insertion should be performed outside of the child's hospital room. This area, as well as the playroom, should be maintained as a safe haven if at all possible. Provide privacy and give the child permission to cry. Allow the child to have age-appropriate items that calm him or her, such as a pacifier, stuffed toy, blanket or a head-set. Let older children participate, such as by holding the end of the capped tubing, which will help distract them.

Infiltration

Infiltration, the leakage of a nonvesicant fluid into tissues surrounding the vein, occurs in approximately 50% patients who require peripheral IVs. Generally speaking, the most distal vein should be cannulated first. For example, if an antecubital vein is "ruined" as a result of unsuccessful cannulation, any fluids or drugs can infiltrate from this site when an IV is then started in the child's hand.

Obtaining a blood return does not guarantee correct placement of the catheter within the vein. For instance, an IV catheter inserted into a young child's small vein or into a

/// SAMPLE ONLY ///

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POPULATION/AGE-SPECIFIC EDUCATION POST-TEST

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Sample 2022

Name: _____

Date: _____ Unit#: _____

Employee ID#: _____

Competency: Demonstrates Population/Age-Specific Competency by correctly answering 9 out of 10 questions related to Pediatric IV Therapy Complications.

PEDIATRIC IV THERAPY COMPLICATIONS

Lauren, 11 months old, who weighs 11 kg (22 lbs) is moderately dehydrated and requires a peripheral IV. Lactated ringers, 500 cc., is to be infused over 4 hours via an infusion pump.

1. The proper way to stabilize Lauren's IV is to:
 - a. explain to her mother that Lauren shouldn't touch the device.
 - b. cover the catheter hub and site with a transparent dressing.
 - c. apply tape over the catheter hub.
 - d. firmly tape down and cover the IV site.
2. Because Lauren's IV is being infused by a pump, the healthcare professional can observe the IV site and infusion rate less frequently, approximately every four hours.
 - a. True
 - b. False
3. Lauren's mother requests her daughter's IV be checked. She believes it is not infusing as fast as previously. Which of the following findings indicates infiltration?
 - a. Redness and warmth
 - b. Crackles in the lungs
 - c. Hardened area in the vein
 - d. Skin cool to touch and localized cooling
4. To determine if Lauren's IV is infiltrated, the healthcare professional should first check for a blood return.
 - a. True
 - b. False

/// SAMPLE ONLY ///

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