

APHON COUNTS



Dedicated to the care of children, adolescents, and young adults with cancer and blood disorders, and their families



Vascular Access in Patients with Hemoglobinopathies—Poking the Chronically Poked

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Vascular access (VA) for hemoglobinopathy patients can be a challenge for nurses and patients. Patients with thalassemia and sickle cell disease (SCD) on chronic transfusion therapy require peripheral VA every month of their lives. In order to sustain life, they will need to have multiple blood transfusion or exchange transfusion procedures. The veins of thalassemia and SCD patients are precious and considered to be their lifelines.

Although blood transfusions give patients life, VA can be challenging, painful, and emotionally traumatizing if multiple venipunctures (pokes) are required. It can result in increased anxiety, limit future VA, require an individual care plan or a referral to a psychologist, and affect the patient's quality of life. Unsuccessful VA can be frustrating and stressful for the patient, family, and nurse. These experiences can remain with the patient and be carried into adult life. Peripheral VA for chronic transfusion patients requires great skill and expertise on many levels.

Patients

Patients become experts on their own veins and often know best which veins work and which do not. They often develop hopes and expectations that it will take no more than one or two pokes. Early in their lives they get used to different staff, skill levels, and techniques. They know who has good skills and will tell you if the VA team is needed. Some patients will choose their own site depending on who performs the VA. One teenage patient reported, "I know there are only a few that can get my vein, and if they are not there I use [the antecubital] vein; I learned the hard way."

Another patient reported, "There was a time when I was getting up to four pokes on a bad day...it is very frustrating, and it hurts! I have had more than 500 pokes!"

Coping

Patients receiving regular transfusion therapy learn to cope with needles early in life. Children develop a tolerance for pain, often choosing to stop the application of topical anesthetics. They learn to cope with one or two extra pokes; however, if a procedure results in three or more, all the courage they so bravely demonstrated plummets, resulting in an inconsolable child. At this point, VA success becomes increasingly difficult. Although it is rare, some patients become so anxious and traumatized that they have to return another day. Some are tearful after the first unsuccessful attempt. It is important to be aware of patients' coping ability in order to provide the support they need. One child said after two

continued on page 18

INSIDE

Promoting an Environment of Quality Improvement—A Continuous Journey Traveled by Hematology/Oncology Nurses	2
President's Pen	3
News on Certification	3
Practice Corner	4
Local Chapter News	5
COG Feature of the Quarter	6
Treatment Innovations	8
Educational Opportunities	8
Chemotherapy/Biotherapy News	9
APHON 36th Annual Conference and Exhibit	10
Administrative Tidbits	14
APN Updates	16
My Most Memorable Case	17
Feature Case Study	19
Childhood Cancer Updates	19
Association News	20

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continued from page 1

unsuccessful attempts, “You did not say you were sorry for poking me!”

The early years are an extremely critical time to prevent needle phobias by ensuring VA does not take multiple attempts. Some strategies to ease the stress and improve coping ability include

- teaching relaxation and distraction strategies and taking the time to find out what will work for each child
- involving and communicating with the child life specialist or psychologist
- applying topical anesthesia if it does not affect the vein
- apologizing if you have to poke them more than once
- praising them for having strength and courage.

Children can be distracted with toys that require only one hand to operate while the other hand is being accessed. As the child grows, parents often step aside, allowing them to take responsibility for the VA procedure. Parents and nurses are pleased and relieved when children cope well. A positive experience influences future VA procedures.

Veins

What makes VA so challenging? It begins with the overall clinical condition and vein anatomy of the patient. All patients, regardless of the quality of their veins, can have poor experiences.

There are physical and psychological issues that can affect the veins, including severe anemia, dehydration, acute illness, sickle cell crisis, small or fragile veins, needle phobias, veins that are not visible/palpable, weight, age, inability to hold still, and anxiety or tenseness, which causes vasoconstriction or venospasm. As the child grows, veins can become increasingly painful, sting, roll, be scarred, or fail to cannulate.

On rare occasions, insertion of a central venous access device (CVAD) is necessary until the veins recover. In my experience, four patients have required CVADs during the last 20 years. Providing individual and appropriate care for all patients is essential, especially for difficult VA. Not everyone will successfully achieve the peripheral VA.

Vein sites

Dorsal hand sites are more visible or palpable in babies and small children. Forearm veins become more developed in teens and adults, freeing the hands for activities such as schoolwork. However, these veins can roll and nurses often lack confidence in attempting these veins.

It is important to determine patient preference or discuss with the patient his or her comfort. For example, “I don’t know if I can get that particular site. Would you be willing to try another site?” Patients become attached to their veins. It may take some discussion with the patient if you want to use a site with which they are uncomfortable. Children as young as 4 years old will tell you which hand they prefer. It is sometimes possible to be successful using the same vein repeatedly for months before the vein needs a *rest*.

Nurses Should Know the Patient, Know the Vein

Patients may receive treatment at the same clinic for their entire childhood. Nurses can be successful in not only knowing the patient but also knowing his or her veins.

Below are three key strategies to prevent multiple pokes.

1. Develop nurse-patient rapport. Patients who trust their nurse tend to have less anxiety.
2. Develop VA skills. Not all patients are challenging; however, they can be for a nurse who lacks skill and confidence, resulting in damage and bruising to the precious vein, venospasm, or hematomas. Multiple attempts can result when the skill level varies. VA requires regular practice. Chronic patients with a history of difficult VA require nurses who have strong venipuncture skills. It is important for nurses to acknowledge their limitations and seek an expert when attempting patients with VA difficulties. Nurses should build their skills on patients with easier access.
3. Communicate. Patients are experts, so they should be involved in the VA process and encouraged to communicate their needs.



Transitioning

Transitioning patients to adult care can be challenging and stressful. Patients will be leaving the nurses with whom they have grown up and developed trust. VA challenges can continue through adulthood. Patients who had easy veins throughout their childhood report it can take two or three pokes as adults. Nurses should assist patients in a smooth transition to the adult world.

Key points:

- Communicate and liaise with the adult team.
- Provide a written summary of the patient’s VA history and coping ability.
- Consider the needle size. Is a larger gauge catheter required for an elective transfusion?
- Teach and encourage patients to advocate for themselves.

Tips for Success

In our program, every effort is made to ensure VA is a positive experience. VA standard guidelines are followed. A communication document includes information specific to each patient regarding VA.

- Train a core group of consistent VA staff.
- Listen to the patients; they know their veins.
- Encourage patient involvement.
- Check the history for previous sites used.
- Assess the vein carefully.
- Warm the vein.
- Anchor veins that need good skin traction.
- Document the access, number of attempts, and coping strategies.
- Use relaxation and distraction techniques.
- Encourage patients to
 - get the vein ready (pump hand or warm the site)
 - develop strategies to reduce anxiety
 - drink extra fluids prior to coming to the hospital; failure to do so affects vein plumpness.

Conclusion

The goal is to provide a positive and successful VA experience for patients that they will remember for life. Every effort should be made to preserve veins, prevent needle phobias, and minimize emotional or psychological trauma to pediatric and adult patients. Nurses must have well-developed VA skills, and consistency should be provided when possible. Clinicians should closely monitor VA to ensure quality of care. Patients’ veins are their precious lifelines, and they will have to come back next month to do it all again! ●