IMPROVING OUTCOMES FOR NEONATE PATIENTS: PROPER PAIN MANAGEMENT

Constance Girgenti, BSN, RN, VA-BC™
Mindi Davidson, BSN, RN
Teon Smith, BSN, RN, VA-BC™

INTRODUCTION
Peripherally inserted central catheters (PICCs) are an integral part of hospitalized care for adult, pediatric and neonatal patients. Multiple clinical measures to improve the quality and outcomes in which these devices are placed have been primarily implemented in the adult and pediatric population. Yet in the Neonatal Intensive Care Unit (NICU), clinical teams placing PICCs and organizational leadership have been slow to embrace these changes. Neonates are some of our most fragile patients physically, mentally, emotionally and suffer adverse outcomes through the pain and suffering caused by PICC placements.

BACKGROUND
Physicians and nurses enter the profession to promote health, heal and prevent injury to the mind, body and spirit. Neonates of all gestational ages are vulnerable across the physiologic, neurobiological and psychoemotional domains. One can understand the mechanisms of action of sucrose in neonates. As neonates are so vulnerable, it is important to understand why one must step out of their comfort zone to learn and embrace the techniques and technology to decrease the trauma associated with PICC placement in the NICU. PICC placement is not an acute episode of pain similar to a heel stick, instead a prolonged acute episode that can last 1-2 hours, unlike the heel stick, which lasts a few minutes. Sucrose is commonly used to decrease the response to pain during brief painful procedures such as a heel stick or venipuncture. Keep in mind that sucrose should be administered two minutes before the painful procedure and the effects of sucrose last only four minutes. More research is needed to fully understand the mechanisms of action of sucrose in infants. Addressing and properly managing pain and implementing evidence-based practices and new technology can positively impact PICC placement outcomes and lifelong growth and development for the NICU patient.

Coughlin describes the admission to a NICU as a very complex developmental trauma to the infant as well as the parents and family as a whole. She also discusses that when pain is unmanaged or undermanaged, in addition to sleep deprivation, there is an additional allostatic load the infant is exposed to. This constant exposure to stress compromises the infant’s biological integrity and undermines growth, development and recovery.

Understanding these consequences, a clinician considering a PICC placement should weigh the following:

CONTINUED ON PAGE 13
There are numerous rewards when one volunteers their time for professional organizations. You get to network with others in your communities. One of the perks of being on a network board is a free voucher for tuition for AVA’s annual Scientific Meeting. Often, the president attends the annual meeting. Being present at the annual meeting is so important to bring back information to your local network.

I am a founding president for the Central Texas Vascular Access Network. In addition, I am a member of the D-Team, which helps plan the annual scientific meetings. The time I have spent has opened up a new world of meeting wonderful colleagues around the country.

I am also a reviewer for the Journal of the Association for Vascular Access (JAVA). It has been a great experience to read and help other authors fine tune their articles for publication. Getting published in a scientific journal is so rewarding, and helping authors achieve that goal is fulfilling. It is time well spent to help bring relevant information to the readership.

Next time the Association for Vascular Access sends out emails to apply for various positions, think about what you can do to help. There are many positions that need volunteers. I have enjoyed every position and feel it has not only helped me grow professionally but allowed me to meet and make wonderful new friends. Networking with other colleagues may open new doors for you for other opportunities. It has for me!
The Association for Vascular Access (AVA) and the National Home Infusion Association (NHIA) today announced a collaborative relationship that establishes a foundation for jointly advancing patient care while also reducing AVA membership fees for NHIA members.

"NHIA is committed to supporting the advancement of the home infusion field and the professionals who are working to improve patient outcomes. The relationship with AVA will open the door to exciting new resources and serve as a valuable benefit to our members," said NHIA Vice President for Clinical Services Jennifer Charron. "We are thrilled to collaborate with AVA, whose focus on advancing vascular access, a critical component in delivering infusion therapy, aligns with the association’s efforts to enhance patient care.”

As part of the collaboration, NHIA members will receive a 15% discount on the annual fee that unlocks AVA member benefits, which include subscriptions to the Journal of the Association for Vascular Access and Intravascular Quarterly e-newsletter, access to the AVA Learning Center, reduced board certification fees, discounted college tuition and AVA Annual Scientific Meeting registration.

"AVA’s multidisciplinary membership represents every layer of the vascular access continuum including home infusion, a vital and growing component in patient care," said AVA CEO Ramzy Nasrallah. "Vascular access doesn’t always end when a patient is discharged from the hospital. In many cases, it’s apparent that there is a need for continued care when the patient is managed in their new homes, as well as companies that manufacture and supply infusion and specialty pharmacy products. Infusion therapy involves patient-specific compounded medications, supplies and a range of pharmacy, nursing and other clinical services for delivering care to patients in the home setting. For more information, visit the association at http://www.nhia.org/"

NHIA members can visit www.joinAVAnow.com to take advantage of all the great benefits associated with becoming an AVA member.

The Association for Vascular Access (AVA) was founded in 1985 to promote the emerging vascular access specialty. Today, AVA stands at the forefront of protecting and saving lives via establishing best practices and promoting patient advocacy. AVA’s multidisciplinary membership advances research, provides professional and public education to shape practice and enhance patient outcomes, and partners with the device manufacturing community to bring about evidence-based innovations in vascular access. To learn more or join, visit www.joinAVAnow.com

The National Home Infusion Association (NHIA) is a trade association that represents companies which provide infusion therapy to patients in their new homes, as well as companies that manufacture and supply infusion and specialty pharmacy products. Infusion therapy involves patient-specific compounded medications, supplies and a range of pharmacy, nursing and other clinical services for delivering care to patients in the home setting. For more information, visit the association at http://www.nhia.org/

In the history of intravenous medicine, there has been a multitude of techniques used by practitioners to place and utilize vascular access devices. Variations of the process include: performance of patient assessment, vessel preparation, and optimal choice of catheter based on what is most appropriate for the patient’s needs. As vascular line insertion has become more common among multidisciplinary specialists, it is imperative that as practitioners we are utilizing those ‘best practice’ methods on our patients to preserve their vasculature. Providing professional development helps practitioners gain knowledge, skills and perspective needed to strengthen this environment of collaboration. Unfortunately, there is no option for formal or standardized vascular training in the state of Arizona with regard to insertion and maintenance of vascular access devices.

In collaboration with Gateway Community College, several respiratory department directors and practitioners who now place invasive lines discussed a potential resolution to this lack of standardization. This conversation determined that after years of inconsistency there was a need for our community to have an established curriculum that aligns with those ‘best practice’ methods on our patients to preserve their vasculature. Providing professional development helps practitioners gain knowledge, skills and perspective needed to strengthen this environment of collaboration. Unfortunately, there is no option for formal or standardized vascular training in the state of Arizona with regard to insertion and maintenance of vascular access devices.

Collaboration on this process began in 2015 with our community partners to establish a course design that meets all of the criteria deemed necessary for understanding products, placement and maintenance of all vascular devices. The goal being that upon completion of this course, the practitioner will have the knowledge and skill required to successfully complete the vascular access board certification (VA-BC™) exam. Development of this course is underway at Gateway Community College with a planned completion date for the 2019 academic year. This course will be open to licensed practitioners seeking additional credentialing in vascular access training as well as hospital respiratory departments looking to standardize the training of their vascular access team members. A timetable for course length has not yet been determined, however it will offer both online and in-person portions to better accommodate learner’s working schedules. Students must attend an on campus laboratory simulation training on a scheduled date.

The benefit of creating a standardized method for insertion and maintenance is demonstrated in
FOUR STEPS FOR SUCCESSFUL TECHNOLOGY IMPLEMENTATION

To prepare for device installations, it’s critical to bring in a collaborative team, establish a supportive vendor relationship and provide exceptional training.

Susan Brown MSN, MSED, VA-BC™  | Chief Nursing Officer, ivWatch

A device implementation program should aim to establish adaptable processes while adhering to strategic best practice guidelines involving the training team, evaluation schedules, protocol modifications and training materials. Any vascular access professional would agree that bringing in a new technology to the hospital is a challenge – yet, when there are evident clinical and patient benefits, it’s worth the time and financial investment.

In this article, you’ll learn how to methodically map out implementation to ensure executive buy-in and continued acceptance during the rollout.

DATA COLLECTION AND PRESENTATION

After you learn about a new technology or device that can further the advancement of vascular access, start to gather all relevant information to build the business case that explains the benefit to the patient, clinician/physician and organization. Before you can determine where you want to be, you must collect the data on where you currently are. After you gather the data, delve into it to find and present concrete examples to make your case to evaluate or trial the solution.

EVALUATIONS SET THE STAGE

Before leaping to a purchase or install, many organizations first require an evaluation. Prior to the start date, organizations must collaboratively establish and agree upon their evaluation expectations. This includes data collection, education, evaluation summary reports and personnel.

To set up the parameters of the evaluation, first determine the number of departments you intend to include based on the size and average daily census and the number of potential candidates to use the device. At ivWatch, we suggest keeping the size of an evaluation to where the internal evaluation team leader and onsite company clinical education representatives can ensure correct use and educate on the benefits of surveillance monitoring. To properly staff an evaluation and collect enough data to assess the device or technology, an adequate timeframe is typically seven days but will vary by device classifications.

IDENTIFY THE TRAINING TEAM

After the trial and receiving the required support to move into install or implementation, get set for success by building a training team with knowledge in the relevant specialty and skills in instruction. Subject matter experts are often department heads, unit educators, clinical nurse specialists and frontline staff. Creating a training team isn’t one size fits all; bring in other disciplines as it relates to the device benefit. As an example, your team must be involved with installs for devices in the vascular access space to assist with education. VAT members have a thorough understanding of access techniques, best practices and complications, but that level of knowledge may not apply to nurses across the hospital.

CONTINUED ON PAGE 11
INFECTION PREVENTION AND VASCULAR ACCESS TEAMWORK: 5 THINGS TO KNOW

Christie Chapman, RN, BSN, CIC

Healthcare is a rapidly changing field. Patients are living longer and may have more co-morbidities that can complicate their healthcare. Science and studies are bringing to light better and more efficient ways to practice and heal. Regulatory bodies are homing in on details around safer patient care that are changing the way we assess patients, document care and do our work. Much of this change is focused on practices around preventing hospital acquired infections (HAIs) and even more specifically, the multi-faceted challenges of lowering patient risk for vascular access complications and infections. In the face of such increased complexity, Vascular Access (VA) Specialists and Infection Preventionists (IP) must look to how they can work as a team to meet such huge challenges like Central Line Associated Bloodstream Infection (CLABSI) and Peripheral IV (PIV) Bloodstream Infection (BSI) risk reduction.

Every patient touch point with healthcare professionals throughout their continuum of care presents an infection prevention opportunity – this is especially true of vascular access professionals. You are the “gate keepers” of the patient’s bloodstream making you an essential member of the HAI BSI prevention team. However, pockets of individual clinician greatness scattered around in a healthcare facility will not win the war on HAI BSI for our patients. HAI BSI prevention MUST be a team sport.

1. BSI PREVENTION MUST BE A TEAM SPORT
What does teamwork between VA and IP look like? This probably looks different depending on your facility, with the gamut ranging from:
1. “I have no idea who our facility’s IP is” – not good
2. “I know and work well with our IP” – awesome
3. “That IP is always watching me and making me do more work – I hate them!” – REALLY not good

CONTINUED ON PAGE 18

2. IPs NEED VA KNOWLEDGE
Traditionally, the job of “preventing infections” has fallen to a healthcare facility’s IP or Infection Control Officer. This can be challenging, as there is usually only one or two (in some larger healthcare systems, CONTINUED ON PAGE 18) VA/colleagues and here are “5 Things to Know” that might help put together a successful and effective VA/IP team.

3. FIVE THINGS TO KNOW TO HELP EFFECT IV AND CATHETER RELATED INFECTIONS

Help build the training team and develop protocols and training content by encouraging facility department head and clinical educator involvement. In the end, the team an organization assembles to train others is at their discretion. Ultimately, a training team works best when they have a full understanding of the issue and solution, remain involved with clinical practice including executing care and evaluating results, teaching clinicians, performing advanced evaluations and providing guidance for implementing new procedures. You want to establish the most optimal conditions for the implementation to go well.

EDUCATION LEADS TO ACCELERATED ACCEPTANCE
Training is an investment, so it is critical to make sure it is a priority among staff. Our clinical education training team begins with a review of the causes and signs of a peripheral IV infiltration/extravasation, which is the complication our device detects. This information helps the training staff assess what they are already doing and determine what protocols need to be revisited to deploy a new medical device into the equation. There is often aversion to change when new technology affects the way things were previously done. As devices become more intuitive for users, acceptance is accelerated.

As with any new equipment, there will be ongoing training needs, not only to account for turnover but for units and departments not familiar with the device. Continued data collection will ensure you are able to broadcast the success story for first go-live to the last, and beyond.

I will discuss collaborating with non-VAT teams in more detail during my express learning breakout session “Improve Early Detection of Infiltration and Extravasation Events: Training Non-Vascular Access Team Members on Proven Methods, Protocols, and Technology” at the 2018 AVA Scientific Meeting, and invite you to join me.

ABOUT THE AUTHOR
Susan Brown MSN, MSED, VA-BC™
Susan Brown MSN, MSED, VA-BC™ is the chief nursing officer at ivWatch, a leading medical device manufacturer and biosensor technology company focused on improving patient safety and the effectiveness of intravenous therapy. Susan is responsible for clinical research and training programs for the company. Prior to her position at ivWatch, Susan spent 16 years at Children’s Hospital of the King’s Daughter’s (CHKD) specializing in pediatric intensive care and ended her tenure in the position of Director with Patient Care Services. During her time at CHKD, her responsibilities included managing operational and clinical care departments, including departments responsible for patient flow, vascular access, resource pool, and neonatal/pediatric critical care transport.
Reconsider the placement of PICC at night, when possible, given that a preterm neonate would greatly benefit from uninterrupted sleep;

Simply using sucrose as a lone pain intervention is not acceptable since this procedure is a prolonged acute intervention lasting longer than four minutes;

The negative consequences to the infant of not considering these choices are linked to psycho-emotional, physiological and neurobiological domains. The effects can be manifested by light, noise, hands-on-care or an assessment from a cold stethoscope. The stress caused by multiple heel sticks, peripheral IV attempts or other interventions causes even more stress to the infant. We must implement the current standards of practice in the NICU that have proven to show better outcomes as it relates to vascular access device placement in the adult and pediatric population. By doing so, these same practices will reduce the trauma associated with PICC placement in infants as well as increase success rates.

PAIN MANAGEMENT

The placement of a PICC in a neonate can routinely take 1-2 hours because of the fragile nature of the patient. The pain associated with the placement of a PICC for neonates is not due to the needle stick alone. Pain is also associated with tying the tourniquet to distend the vessel and the hyper-extension of the extremity to access the vein. With the prolonged period needed to thread the catheter, clinicians should obtain x-ray and dress the site. This acute yet prolonged episode of pain associated with the placement of a PICC must be addressed appropriately.

As described by Coughlin, admission to the NICU alone is considered a complex developmental trauma to the infant as well as the parents and families of these infants. These psycho-emotional effects can be lifelong broad-spectrum consequences when pain is either unmanaged or undermanaged. These consequences add additional compromises that affect the infant’s biological integrity and undermine maturation, growth and recovery.

If the placement of a feeding tube has been associated

DEVELOPING A VASCULAR ACCESS COURSE, CONTINUED FROM PAGE 3

Banner facilities like Banner Boswell Medical Center. Implementing a team that adheres to the same insertion, care and selection methods resulted in a decrease in overall central line infections in their patients.1 Many institutions now require their staff pass the VA-BC™ exam as minimum criteria for consideration in placement on their line team. This standardization has proven to result in positive outcomes for those who have utilized it. Gateway Community College is looking forward to preparing those professionals for just that purpose.

References


2018 BOARD OF DIRECTORS

PRESIDENT
ANDREA OWENS
avo@avainfo.org

PRESIDENT-ELECT
KEN SYMINGTON
ksymington@avainfo.org

PRESIDENTIAL ADVISOR
JOSIE STONE
jstone@avainfo.org

TREASURER
JOCELYN GRECIA HILL
jhill@avainfo.org

SECRETARY
LORI KACZMAREK
lkaczmarek@avainfo.org

DIRECTOR-AT-LARGE
MADAYN GEORGE-THIEMANN
mthiemann@avainfo.org

DIRECTOR-AT-LARGE
TONIA STEVENS
tstevens@avainfo.org

DIRECTOR-AT-LARGE
AMY STONE
astone@avainfo.org

DIRECTOR-AT-LARGE
RUSSELL NAASSOF
rnassof@avainfo.org

DIRECTOR-AT-LARGE
STEPHANIE PITTS
spitts@avainfo.org

DIRECTOR-AT-LARGE
SHANTHA CRANDALL
scrandall@avainfo.org

DIRECTOR-AT-LARGE
CHRISTIE CHAPMAN
ccchapman@avainfo.org

DIRECTOR-AT-LARGE
LORELLE WUERZ
lwuerz@avainfo.org

CHIEF EXECUTIVE OFFICER
RAMZY NASRALLAH
rnasrallah@avainfo.org

CHIEF OPERATIONS OFFICER
TONYA HUTCHISON
thutchison@avainfo.org

DIRECTOR OF AFFILIATES
CINDY ANDERTON
canderton@avainfo.org

DIRECTOR OF CLINICAL EDUCATION
JUDY THOMSON
jthompson@avainfo.org

DIRECTOR OF COMMUNICATIONS / JAVA EDITOR-IN-CHIEF
ERIC SEGER
eseger@avainfo.org

DIRECTOR OF OUTREACH
BETH GORE
bgore@avainfo.org

DIRECTOR OF FINANCE
KATIE TORNOW
ktornow@avainfo.org

MEMBER SERVICES COORDINATOR
JENNIFER LIVSEY
jlivsey@avainfo.org

Our Staff

www.avainfo.org/Podcast

Subscribe now on the following platforms:
Spotify

WO Rk StraitIO

STAFF SPOTLIGHT

ERIC SEGER: DIRECTOR OF COMMUNICATIONS, JAVA EDITOR-IN-CHIEF

MY SUPPORT SYSTEM: My beautiful, caring and all-around wonderful wife, Amy, who I somehow convinced to marry me on a beautiful June day a little more than a year ago, plus our adorable miniature dachshund, Ruby. And my family: My mother Debra, father Dennis, and two older sisters, Kimberly and Carmen. We live in four different cities that span two states – Ohio and California – but I count my blessings daily for how much we communicate and express our love for one another.

MY FAVORITE MOVIE: The Dark Knight

MY FAVORITE QUOTE: “My best friend missed three one-and-ones. I still get mad at him for that.” ~ Larry Bird

MY FAVORITE CITY: Cape Hatteras, North Carolina and Columbus, Ohio

MY ESCAPE: A long run punctuated with delicious, self-prepared meal as a reward, a good book and a weekend video game session with no distractions.

MY Roots: Ohio, born and bred. I am the second-youngest of 21 grandchildren on my father’s side, all of whom have at least a 4-year college degree, a point of pride in my family. Farming is in my blood – both my parents were raised on acres of grain in Northwest Ohio. Moved to Columbus in the fall of 2010 to attend The Ohio State University. Haven’t left since.

WHAT DO YOU ENJOY ABOUT WORKING FOR AVA: It amazes me daily what both AVA and the individuals on our Core Team accomplish with the limited resources available. So much goes on behind the scenes, and when the results display themselves in a huge way, there is no better feeling. AVA is the first nonprofit I have ever worked for, and it is comforting to know how approachable everyone is on the staff and Board of Directors.

WHAT DO YOU DO AT AVA: I have two roles, and content production serves as the foundation for each. For the Journal of the Association for Vascular Access, or JAVA, I work cohesively with authors, reviewers and our publisher to provide AVA members and our subscriber base with high quality, peer-reviewed vascular access content. As Director of Communications, I own our social media strategy, handle external communications such as press releases and what you are reading now, Intravascular Quarterly, with the assistance of our fabulous designers. We are getting louder as an association and generating more amazing vascular access content, be it with I SAVE That Podcast, JAVA and more.

WHAT ARE YOUR GOALS AT AVA: Make AVA louder! We want to drop the “best-kept secret in healthcare” label. To do this, I want to collaborate with board members and core team to discover fresh, new and exciting content sharing ideas and then tell the world about them. It is also my goal to improve the number of submissions and quality of peer-reviewed articles we publish in JAVA.
with measurable increases in bio-behavioral pain responses, clinicians must consider the pain responses to PICC placement. Given the placement of a feeding tube is a shorter acute procedure as compared to the placement of a PICC, pain interventions must be managed more aggressively. Prevention of pain is a moral and ethical duty for the neonatal care provider because of the long-term adverse effects. Since these consequences for neurological growth and development exist, the greatest attention must be paid to systematic pain management during PICC placement as well as practices that are proven to increase success. Coughlin calls for undermanaged and/or unmanaged pain and pain-related stress to be a “never event” in the NICU and requires a commitment of organizational leadership and the care team.1

When no pain medication is prescribed for the PICC procedure, the inserting clinician should collaborate with the NICU team to determine an appropriate pharmacological intervention. Many times, the neonate is already on a fentanyl or a vented drip and would benefit from being given an additional bolus of medication to ensure pain is managed during the duration of the PICC placement. Along with advocating for pharmacological interventions during PICC placement, developmental interventions such as swaddling and covering the infants’ eyes should always be implemented. The stress these tiny patients experience is a daily encounter.

Administration of pain medications for PICC placement may be considered moderate sedation depending on institutional guidelines. This may create some hesitation among providers to administer appropriate pain control during PICC placement. Inserting clinicians can help put NICU providers at ease by understanding the institutional requirements as well as national accreditation requirements surrounding moderate sedation. Generally, if only one medication is given and the dose is on the lowest end of therapeutic range it can be considered minimal sedation and should be sufficient to manage pain for the procedure.

The NICU nurse is the voice for these fragile pre-verbal patients and must speak up to ensure their pain is managed appropriately and that best practices are implemented to further reduce pain and trauma. Since this patient population cannot speak for themselves, and in most cases parents lack knowledge about best practices, it is the nurse’s responsibility to speak for the patient and the family. As nurses entrusted to care for these patients, every clinician must address the pain and trauma associated with PICC placement, as well as other techniques and technology to improve success.

MODIFIED SELDINGER TECHNIQUE AND ULTRASOUND

The use of ultrasound and MST are now the standard of practice for placing PICCs and CVCs in the adult and pediatric patient population and should be the standard for the NICU.2 The practice to find the vessel has historically been to utilize a transilluminator, or “blind-sticking” the patient for access. Neither of these techniques offers the infant a higher success rate nor a reduction of pain. These also put the inserting clinician at a disadvantage by not utilizing the best available technology to increase success.

A transilluminator does not allow for real time imaging of the vessel, whereas ultrasound predicts vein patency, depth and proximity to other structures, and allows the needle to be seen during the insertion. There are no inherent risks of using ultrasound. The ultrasound reduces the potential for inadvertent arterial puncture and decreases the number attempts to access the vessel because the clinician can visualize the needle during the entire insertion. The use of ultrasound may also diminish pain experienced by the neonate by minimizing attempts.3 With repeated failure to access veins, neonates may require interventional radiology or a surgical cutdown to obtain vascular access which are costly, high risk and extremely stressful for the infant and family. Ultrasound technology for the placement of PICCs is also supported by the CDC and the Agency for Healthcare Research and Quality.4 There must be a shift in neonatal PICC placement to embrace these

CENTEXVAN EDUCATION SYMPOSIUM: PRESERVE, PREVENT, AND MAINTAIN: THE PURSUIT OF HAPPY VEINS

The Central Texas Vascular Access Network (CENTEXVAN) held its fourth symposium June 8 at the Plaza Club of San Antonio at the Frost Bank Tower on Houston Street. The 21st floor meeting room provided a breathtaking view of San Antonio’s downtown. CENTEXVAN serves the Central Texas area including Austin and the surrounding counties of both cities. CENTEXVAN is planning on making this an annual event.

The Association for Vascular Access (AVA) Chief Executive Officer, Ramesh Narsallah, President, Andrea Owens MSN-Ed, RN, CRNI®, VA-BC™, and Director of Affiliates, Cindy Anderton, attended along with 53 participants from all over Texas. In addition, Houston Vascular Access Network (HouVAN) President, Wendy Clark MSN, RN, VA-BC™ and Lone Star Vascular Access Network (STARVAN), Dallas-Fort Worth Secretary, Kendra Hill-Foreman MSN, RN, CRNI® attended. Eleven vendors supported the meeting. Vascular access specialists, infection prevention nurses, managers, and a variety of other health care professionals also attendance.

Special thanks to Eloquest, Ethicon, Bard, SecuraCath, and 3M for providing the speakers. Nancy Riley RN, CRNI®, VA-BC™ spoke on preserving the renal real estate. Dr. Jack LeDonne spoke on the life of a CVC from insertion to end of therapy and how to provide the best care and maintenance. Cheille Devries BS, MPH, CIC spoke on leaving peripheral intravenous catheters until clinically indicated to remove and infection prevention strategies. Caroline Polley BS, RN, CRNI®, VA-BC™ discussed new tip location technologies for peripherally inserted central catheters instead of the old gold standard of a chest radiograph. Brenda Caillouet BSN, MPH, RN, CRNI®, VA-BC™ spoke about prevention of central line associated blood stream infections through intraluminal and extravascular entry points on vascular access devices. Jennifer Bokor BSN, RN, VA-BC™ and Brittany Stewart BSN, RN, VA-BC™ spoke about challenges in pediatric and adult catheter securement.

CENTEXVAN President Christina Gatmaiten MSN, RN, VA-BC™, Vice President, Victor Valdez RN, CRNI®, VA-BC™, Secretary, Lorie Romero BS, Treasurer, Robbie Quitta BSN, RN, Past President, Lynn Deutsch MSN, RN, CRNI®, VA-BC™, and Past President and Web Administrator, Sheila Hale MSN, RN, CRNI®, VA-BC™ planned the event. Thanks to all the attendees and vendors for making the event a success. The board looks forward to working with STARVAN and HouVAN to plan the next symposium.
more) IPs on staff. And, those IPs (no matter how many you may have) may not be able to be singularly focused on BSI prevention as much as they want to and be may not have the deep VA knowledge they would like to have. About 80% of IPs have a nursing background but my guess is that very few of them were vascular access specialists in their “former lives.” The other 20% may not have a clinical background at all. Our field is rounded out with microbiologists, epidemiologists and public health trained professionals. Consequently, the IP may not understand all of the challenges and nuances around vascular access best practices. IPs need VA knowledge and collaboration to make sure we that when we advocate for a new VA technique, product, best practice or VA clinician resource, we understand the complete VA picture – from a patient’s vascular health and potential downstream effects to VA clinician challenges.

Prime example, as a new infection preventionist, one of my first assigned duties was to sit on the Vascular Access Committee (VAC). I loved those meetings because I learned so much about VA and the passion of those clinicians were so inspiring. Also drank those meetings because even though I had been a PACU and ICU RN in the past, I had very little knowledge of VA guidelines, best practices and research. Consequently, I consistently went back to my office after the meeting with lots of homework so I could add value to the next one. I can confidently say that most of what I know today around vascular access is due to relationships I have built with VA teams and the passion of those clinicians. I also dreaded those meetings because even though I had been a PACU and ICU RN in the past, I had very little knowledge of VA guidelines, best practices and research. Consequently, I consistently went back to my office after the meeting with lots of homework so I could add value to the next one. I can confidently say that most of what I know today around vascular access is due to relationships I have built with VA teams and the passion of those clinicians. I also dreaded those meetings because even though I had been a PACU and ICU RN in the past, I had very little knowledge of VA guidelines, best practices and research. Consequently, I consistently went back to my office after the meeting with lots of homework so I could add value to the next one. I can confidently say that most of what I know today around vascular access is due to relationships I have built with VA teams and the passion of those clinicians.

3. WE NEED A COMMON MISSION AND GOAL

As healthcare professionals, our mission should be clear – safe patients and best patient outcomes. This ideal should be in our consciousness every time we interact with our patients. Knowing that when we aseptically insert a line or meticulously care for the vascular access site our actions can potentially reduce the risk of an infection occurring in the bloodstream or elsewhere in the body such as a joint replacement infection or endocarditis. This shared mission needs to be at the heart of every discussion, decision and action we take when we come together as a team to figure out how we can help prevent HAI BSIs in our patients. We need to make sure phrases like “we’ve always done it this way,” “it’s their fault” or “that was how I was taught” are never used in conjunction with patient-safety decision making. BSI prevention WILL happen when we transition from a group of silo-bound highly intelligent professionals each performing our own separate tasks to a purpose-bound, interdisciplinary team with a shared mission and vision – safe patients and best patient outcomes. 4. WE MUST FIND WAYS TO COLLABORATE AND TRUST EACH OTHER: CHECK EGGS AT THE DOOR

Each one of you, as a VA specialist, carry with you a treasure chest of expertise and knowledge that can potentially be shared to accomplish the shared goal. VA clinicians are the experts in choosing the right line for the right patient, seeing the downstream effects of sticks and pokes on the patient’s vascular bed, understanding the nuances of ultrasound guided insertion, the challenges of aseptic insertion and care and maintenance each moment of a line’s lifetime. The IP can bring knowledge around strength of vascular access and data that reflects the facility’s bloodstream-related infections. IPs can share understanding of the microbial transmission process and what certain microorganisms mean in a healthcare/vascular access setting as well as awareness of products that have solid scientific recommendations behind them.

Considering all the amazing information available to us, what is keeping us from working together effectively? David Bray, CIO for the Federal Communications Commission says, “Silos often occur due to a lack of trust. Change agents, for this reason, need to be ‘trust builders.’” To have trust, one must build relationships and be transparent – which would happen again.

5. HOW CAN VA AND IPs BEGIN THIS TRUST AND COLLABORATION PROCESS?

• Get to know each other and build relationships. If you are in the “I have no idea who my facility’s IP is” category, look them up and introduce yourself them. An IP who truly wants the best VA outcomes for their patients will be glad to hear from you and appreciate your knowledge and perspective.

• Get involved. I know, we are all busy. But if at all possible, make yourself available to sit on a products committee, CLABSI prevention taskforce, Infection Control Committee, or the VA Career Center. On LinkedIn? Save time and import your profile directly to the AVA Career Center.

• Don’t place blame. Unfortunately, we’ve probably all heard (and maybe even said) things like, “I didn’t place that line. That was the OR’s fault!” or “Those nurses don’t ever assess patient lines!” We are all human – mistakes and disappointment happen. It is easy to point fingers and assign fault. However, this creates an unpleasant and closed-up atmosphere in a team which can quickly shut down productivity and progress. We should instead take the more difficult step of encouraging our teams to think about mistakes in a constructive way, asking how we can fix what happened and assure that this mistake doesn’t happen again.

CONTINUED ON NEXT PAGE

Connecting Talent with Opportunity

Search and apply for job opportunities in the vascular access field. On LinkedIn? Save time and import your profile directly to the AVA Career Center. Post an ad for an available vascular access position -- find the best talent!
• If they don’t already attend, invite your IP to
• Communicate with preparation and knowledge.

Some examples of how thoughtful and respectful
of a group working toward a common goal.4
misunderstandings that can derail the progress
promotes continuity and clarity within the group.
Effective communication among team members
and make clear the “why” of what you are wanting
to do as a team member is to admit that you don’t
know everything. This “knowledge honesty” can
show that you truly care about the goal the team
is trying to reach and open your mind to new ideas.

5. WE MUST COMMUNICATE WITH EACH OTHER

Effective communication among team members
promotes continuity and clarity within the group.
At its best, good communication encourages
collaboration, fosters teamwork, and helps prevent
misunderstandings that can derail the progress
of a group working toward a common goal.4
Some examples of how thoughtful and respectful
communication between VA and IP could improve
patient outcomes:

I was talking with one of our amazing NICU PICC
nurses recently. She was concerned that our
CLABS Taskforce lacked understanding around vein
preservation. She asked, “Why doesn’t Infection
Prevention have a vascular access specialist on their
team?”. I was able to confidently reply, “We do! You!”

Acknowledgements and many thanks to the IP and VA
colleagues who helped me identify the “5 Things” for
this article: Sue Barnes, RN, CIC, FAIPC; Kim Boynton-
Delahanty, RN, BSN, PHN, MBA/HCM, CIC, FAIPC;
Jackie Daley, HSBS, MLT, CIC, CSPDS; Jill Danna, RN,
RNC; Shannon Oviola, RN, BSN, CIC, FAIPC and Judy
Thompson, MSNED, RN, VA-BC™

References
1. FusSELL, C. (2017). One Mission: how leaders build a team of
14). APIC MegaSurvey provides foundational data about
apic.org/For-Media/Announcements/Article?Id=61bba2fc-
cc4b-4f55-b837-8f85e4351163
3. Mind Tools Content Team. (2012, August 8). Building trust
inside your team ways to improve team cohesion. Retrieved
from MindTools: http://www.mindtools.com/pages/article/
building-trust-team.htm
Professional communication and team collaboration. In Patient
Safety and Quality: An evidence-based handbook for nurses (p.
Chapter 33). Rockville: Agency for Healthcare Research and
Quality.
progreyt.com/silos-causes-overcome/

improving Neonate patient outcomes, continued from page 16

advanced techniques to reduce the trauma the NICU
patient experience.

Typically for the adult and pediatric patient, best
practice is utilizing the upper arm for the placement
of a PICC. Accessing the veins of the upper arm using
ultrasound will create a shorter distance to the
lower 1/3 of the superior vena cava at the cavoatrial
junction, therefore reducing the potential for
spontaneous catheter malpositions. The basilic vein
is the largest vein of the upper arm and has a lower
incidence of phlebitis compared to other vessels.1
Ultrasound lends the ability to assess the vein health
and size, in addition to the ability to directly visualize
the targeted vein. Ultrasound is the safest, most
reliable way to visualize the veins of the upper arm.

MST is a minimally invasive procedure and was
described more than 15 years ago.7 Clinical thought-
leaders, such as Holly Hess, RN, VA-BC™ from
Wolfson Children’s Hospital in Jacksonville, Florida,
are reporting high success when combining MST and
ultrasound in neonates.

Hess reports a 99% success rate in neonates ranging
from 480g to 4 Kg.10 This technique has been proven
to reduce complications in vascular access for
all patient types. Combining the technique of
MST and the use of ultrasound has been found to
improve success from 65% to 74% using traditional
techniques to 86% to 95%.9 Studies have reported
first attempt success in 25 of 30 infants weighing 900
to 3600g using the MST approach.11 While another
reported 25 infants weight 580 to 1700g had PICCs
successfully placed using MST technique; 6 of them
had already had 2 to 4 unsuccessful attempts using
the peel away needle. Success was described as
100% using MST.12

MST is frequently referred to as “micro-puncture”
because it allows a smaller introducer to be used prior
to the inserted of the dilator into the vessel. When
using MST, the vein in the upper arm is accessed
with a 24G needle; a floppy tipped guide wire is
then inserted into the needle into the vessel a few
centimeters past the end of the needle. The needle
is then removed back out of the vessel over the wire.
A peelable sheath/dilator is then threaded over
the wire and gently pushed into the vein. The wire is
then removed while the sheath/dilator stays in the vessel.
Next, the PICC is threaded in the sheath/dilator and
into the vein. Using both MST and ultrasound can
minimize pain and increase success.8,12

There is a need for NICU clinicians to embrace
the needed change and to consider these best practices
for PICC placement in neonates. Collaboration between
NICU leadership and inserting clinicians must
occur in order to adopt and implement these
evidence-based techniques. Once NICU champions
have been identified, the inserting clinicians will
need to attend educational sessions on MST and
ultrasound guided neonatal PICC placement. In
many cases, this additional education is offered free
of charge by the ultrasound and PICC manufacturers.
Ultrasound simulators allow the clinician to practice
the necessary hand-eye coordination required to
use MST and ultrasound. The objective of these
sessions is to ensure repeated practice to perfect
the techniques before moving to actual PICC placement
in patients.

CONTINUED ON NEXT PAGE
There are many relatively affordable ultrasound probes and portable ultrasound machines available. There may even be availability to share an ultrasound device as presented by the manufacturer to the FDA. However, if the FDA recommends the catheter tip be cut squarely and asks that the “clinician be offered a quality assurance mechanism such that the modification will not result in a product that alters the safety or efficacy of the device as presented by the manufacturer to the FDA as a final product.”

Using a quality assurance mechanism provided by manufacturers, such as a trimming tool, will not alter the safety or efficacy of the device. The benefits of trimming are numerous and simple: less external damage to manage during dressing changes; improves assessment of external portion of the catheter; decreases the risk of catheter migration; decreases potential damage to the external portion of the catheter; and decreases the resistance to flow within the catheter.

The Infusion Nurses Society (INS) recommends using a securement device if one is available. There are numerous “older” techniques used in the NICU to secure a catheter, but many of these are ineffective and do not offer a quality securement. A securement device shall be used to preserve the integrity and minimize catheter movement to prevent the loss of the device. Using sterile closure strips over a PICC can lead to catheter damage and may not prevent catheter dislodgment. There are different securement device options on the market today, but not all PICCs fit the available options. When securement devices are used, they allow for direct visualization and assessment of the insertion site and allow for a less complicated dressing change. In many cases, there is a need to standardize dressing changes to promote catheter security in this patient population to further reduce the pain and trauma of dressing changes and catheter replacement.

In a recent study, catheter migration was found to be the most common neonatal PICC complication, more common that catheter related bloodstream infections and occlusions. Securement devices are available for many neonatal PICCs on the market today. The use of a proper securement device can lead to better outcomes with infections rates due to less catheter manipulation and handling.

**DATA COLLECTION**

The following sources were expanded to allow inclusion of devices placed for the neonatal population. The goal is to permit clinicians to create their own “real-world” benchmarks and to begin to show improved outcomes and standards of care for PICC placement in the NICU, much like VON has for medical care in the NICU.

**CONCLUSIONS**

Clinicians and organizational leaders must constantly be seeking and implementing new ways to improve patient outcomes, regardless the size or age of a patient. When stepping out of our comfort zone to implement best practices, there will always be a learning curve. When medical practices have been ingrained for many years, it is difficult to embrace change. As Charles Darwin aptly noted, “It is not the strongest or the most intelligent who will survive but those who can best manage change.”

Once the changes are embraced, and the learning curve for these new techniques and technologies is overcome, there will be a direct positive impact on this fragile patient population. Pain and stress must be managed and mitigated to reduce the developmental trauma associated with PICC placement. These changes have proven outcomes in the adult and pediatric patient populations. There is no good philosophy as to why these should not be adopted into standards of care for neonatal patients as well. Educational opportunities exist that will teach clinicians the advanced techniques of MST and ultrasound to improve vascular access outcomes and reduce trauma in the NICU associated with PICC placement. Those that place PICCs in the NICU have the ability to have a profound impact on the neurological growth and developmental of the patients they lay their hands on to place these devices.

**References**


AVA currently has 51 active networks
YOU KNOW WHERE YOUR NEAREST NETWORK IS?
WWW.AVAINFO.ORG/NETWORKS

Welcome to our Newest Members

GulfVAN

There were a record number of nursing students that attended GulfVAN’s July meeting titled “Infusion Therapy at the End of Life” – a total of 31! One student at a time, we remain committed to our Manny Matters campaign. A big thank you to all of our speakers Kay Coulter, RN, CRNI®, VA-BC® and Jan Curtis, RN, CRNI® for an outstanding presentation! Thought provoking questions, including many from the students in attendance, filled the room.

GulfVAN would also like to announce that Jennifer Bokor, RN, VA-BC™ will be the recipient of our scholarship at the AVA national scientific meeting in September of this year. Thank you MedComp for providing the scholarship funds to our network. Congratulations, Jenny! The scholarship is well deserved.

Until September . . . #MannyMatters #AVASM18

Robert Hamiltoning – Bexar, OR
Christopher McCullough – Martinsville, VA
Jennifer Andalicia – Natchitoches, LA
Samantha Phelps – Cleveland Heights, OH
Jenn Stewart – Barton, MT
Cindel Moore – Westminster, CO
Team Reesman – Fort Lee, VA
Carmel Mallick – Dohnchere, MA
Logan Willie – Podiatrist, WA
Lance Cope – Franklin, IN
Cynthia Garbels – Evanston, IL
Shelli Samson – Flagstaff, AZ
Ivy Anderson – Sharon, KS
Nami Austin – Austin,
Angelica Corazza – Houston, TX
Malori Emerick – Murfreesboro, TN
Amber Fitzgerald – Morrow, OH
Sandra Matthew – New City, NY
Tiffany Neel – Little Orleans, MD
Katharine Stelljes – New Haven, CT
Cynthia Antlembauer – Union, KY
Julia Hamelry – Hagerstown, IN
Jamee Ellis Tembadge – Woodstock, GA
Rachel Harrison – Duluth, MN
Mark Smith – Hendersonville, NC
Anne Harding – Henderson, VA
Haru Park – Van Nys, MD
Tara Corama – Parker Heights, TX
Califfin Burleson – Warrack, MO
Louis Raymond – Franklinville, NJ
Inne Frankiel – Bellingham, WA
Frances Cozart – Bakersfield, MD
Eunbit Han – Kibun, TX
Jill Runzeman – Columbus, OH
David Schwager – Los Angeles, CA
Verina Trues – Junction City, KS
Haylee Racki – Mount Olive, NC
Mary Eberl – Olympia, WA
Debora Lane – Pineland, TX
Karin Col – Wildwood, MO
Mae Hoder – Dallas, TX
Scott Murach – Beaverton, OR
Tae Seol – Seoul, SK
Ronnie Schwager – Marietta, GA
Maria Wosaw – Chaffee, PA
Michael McCall – Salt Lake City, UT
Carla Evans – Hermosa Falls, WI
Jonie Lee – Valparaiso, IN
Patric Gardiner – Corpus Christi, TX
SooHil Jeong – Bronx, NY
Kelly Swenson – Dallas, TX
Rachel Howard – Lauderdale, TN
Susan Mowehan – Carrollton, PA
Jeffrey Schneider – Cedar Park, TX
Blake Curley – Fossil Creek, PA
Denny Wright – Cedar Park, TX
Benjamin Sexton – Avoca, GA
Molly Anderson – Brooklyn, NY
Monauren Cunmire – Jamaica Plain, MA
Kristin Stefan – Sunbury, PA
Jonathan Frazier – Kennesaw, TN
Patty Stewart – Crown Point, IN

Hope Miller – Hughesville, PA
Tina Espinoza – Corpus Christi, TX
Tara Capiquin – Loveland, CO
Natalie Hoffmann – Naples, FL
Melissa Stoll – Spokane, WA
Frances Gallagher – Reston, MD
Chen Lee – Mount Vernon, WA
Monica Monahan – Seattle, WA
Marie Becker – Bozeman, MT
Christine Rota – Spring Kings, PA
Dawn Bagley – Katy, TX
Stanley Steely – Rochester, MI
Kathi Mastro – New York, NY
Kelly Graves – Hopkisdak, IA
Manuel Seibert – Bordentown, PA
Andrea Kelly – Indiannapoli, IN
Giov Camgnaro – Richfield, MN
Andrea Nicol – Saint Paul, MN
Denise Richardson – North Easton, MA
Laura Johnson – Oakland, CA
Frances Bryant – Tulsa City, OK
Paige Jordan-Chipley – Charleston, SC
Daron Bennett – Dassel, PA
Sean Wimpe – Edmond, OK
Derek McFarland – Neoskoce, IA
Marlo Daluy – Hyde Park, NY
Cynthi Andalicia – Atlanta, GA
Tiffany Matthew – New City, NY
Adam Vinmade – Royal Oak, MI
Philip Zeigebrauer – Chatham, IL
Kerri Beazin – Pittsburgh, PA
Jos Tagula – Lodi, CA
Ann Campbell – Whitehouse, TX
Kevin Sims – Austin, TX
Paitleya Naka – Lake in the Hills, IL
Kathy Wiltin – Columbus, OH
Rosanne Pullen – Rochester, NY
Kathryn Blumer – Duluth, MN
Darlene Fulkerson – Virginia Beach, VA
Mary Jane Moore – Batesville, IN
Edward Carver – Abingdon, MD
Kerri Cutts – Hampton, VA
Lisa Starkey – Fairborn, OH
Pamela Baldwin – Berwyn, IL
Stephanie Morgan – Brighton, TN
Andrea Bodin – Riverside, CA
Nick Nemerick – OFallen, IL
Lindsey Fleming – Richmond, VA
Fadim Omakun – Omax, OR
April VanDerritch – Arlington, TX
Samantha Hildreth – Windham, ME
Angela Anthony – New Haven, CT
Fran Sauna Boom – Decap
Linsey Thomas – Lancaster, OH
Pegge Kaltenas – Lakeview, MI
Alexandra Fajardo – Santiago
Evelyn Callahan – Monroe, WA
LizaRestuff – East Central, MI
Somphong Savavia – Citrus Heights, CA
Samantha Alu – Fallbrook, CA
Tanya Hastings – San Diego, CA
Samantha Hildreth – Windham, ME
April VanDerritch – Arlington, TX
Samantha Hildreth – Windham, ME
Angela Anthony – New Haven, CT
Fran Sauna Boom – Decap
We invite you to submit original manuscripts in the field of Vascular Access. We are interested in receiving manuscripts on clinical practice, education and research related to vascular access including articles on vascular access manufacturing and technology, and vascular access care and maintenance issues in hospitals, home settings, hospice, and alternative care facilities.

We also invite submissions to our Patient/Consumer Perspective column where we ask you to share personal stories or “lessons learned” about caring for, living with or having a vascular access device. In about 1000 words and in conversational style, present your story. You can submit on behalf of someone or encourage them to write it themselves.

For complete instructions see:
Information for Authors at www.avajournal.org
Or contact the JAVA Editor at JAVAEditor@avainfo.org

The Second Edition of the ‘Chart of Pediatric CVC Maintenance Bundles’
IS AVAILABLE AT AVAINFO.ORG
GET YOURS TODAY!
Printed full color with gloss UV coating
13” x 19” size

Package of 5
Members: $40
Non-members: $50
Shipping included

Have you signed up for the
AVA SURVEY PANEL YET?
If not, there’s still time! You can share your expertise, earn money and support AVA!

www.avasurveys.com
Do you like what you read here?

Would you like to be part of this publication? Do you have something interesting, informative or new going on in your place of practice? Have you cared for a special or interesting patient? Do you or your colleagues have new or innovative ways of doing things? Have you been to or presented to any meetings or conferences?

We invite you to submit for publication

Writing a submission does not mean that you have to write the next great American novel. It is more about presenting pertinent information in a brief, fun and creative way. Please submit to eseger@avainfo.org

Submission dates are:

**November 1** deadline for submissions for November issue
**February 1** deadline for submissions for February issue
**May 1** deadline for submissions for May issue
**August 1** deadline for submissions for August issue

Visit our website
www.avainfo.org

@associationforvascularaccess
www.facebook.com/associationforvascularaccess/

@ISaveThatLine
twitter.com/ISaveThatLine

@i_save_that_line
www.instagram.com/i_save_that_line/

@associationforvascularaccess
www.pinterest.com/associationforvascularaccess/

Association For Vascular Access
www.linkedin.com/company/association-for-vascular-access/

Association For Vascular Access
www.youtube.com/channel/UCP3i3q44bvmVdjJUclt9esw

Disclaimer: AVA (Association for Vascular Access) is a professional organization of vascular access professionals dedicated to improving vascular access practice and patient outcomes through education and other means. AVA publishes this periodic electronic newsletter for our membership and other interested parties for information purposes only; AVA distributes this electronic newsletter with the understanding that AVA is not engaged in rendering medical or professional service through the distribution of the E-VAN publication, AVA is not giving advice and does not subscribe to guarantee the accuracy or efficacy of the information provided. Privacy Policy and Unsubscribe Information - AVA maintains strict rules of confidence with regards to your email address and all other personal contact information. We will not, under any circumstances, sell, transfer, or provide your email address to any third party for any reason. Email lists are compiled on an opt-in basis by AVA for the sole purpose of distributing the E-VAN newsletter. AVA does not condone or participate in the distribution of unsolicited email. If you feel that you have received an email transmission from AVA in error, please contact AVA at info@avainfo.org and ask to be removed from the list. All removal requests are addressed promptly.