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## Clinician Survey Reveals Significant Variation in Ultrasound-Guided PIV Insertion Practices

*Findings highlight urgent need to protect patients through  
standardized and consistent UGPIV practices*

HARTWELL, Georgia—A new survey among vascular access (VA) and emergency department (ED) clinicians has revealed significant levels of variation in ultrasound-guided peripheral IV (UGPIV) practices and supply use across hospitals and alternate care settings. Published in the September issue of the [Journal of the Association for Vascular Access](#), the findings carry critical implications for patient safety.

A total of 1,475 VA and ED practitioners responded to the survey, which was designed to gain better insight into clinicians' current practices regarding UGPIV insertion. The survey also identified inconsistencies in supply use across hospital departments. The survey was conducted by Nancy Moureau, RN, PhD, an internationally recognized expert and consultant in vascular access and CEO of PICC Excellence.

"Identifying gaps and variations in clinical practice forms the basis of quality initiatives intended to improve patient safety. This survey revealed clinically meaningful differences in all variables for UGPIV procedures and supplies," said Dr. Moureau. "Aseptic technique is essential for minimizing contamination, but its effectiveness is diminished if it's not done in a consistent manner. Often inconsistencies in supply usage point to variation in policy application and the potential for substandard practices. The survey results suggest a need for clinical education on the application of UGPIV guidelines, and for greater scrutiny over supplies and techniques in order to promote standardization."

The lack of consistency revealed by the survey is apparent in respondents' varied use of transducer protection and gel. To minimize contamination during UGPIV insertions, current guidelines -- such as those from the [American College of Emergency Physicians](#) and the [American Institute of Ultrasound in Medicine](#) -- recommend use of a transducer cover and single-use gel packets (sterile or non-sterile). According to the survey, however, just 59 percent of VA clinicians and 11 percent of ED clinicians always use a sterile probe cover during UGPIV procedures, and only 64 percent of VA personnel and 13 percent of ED personnel use sterile gel. In addition, more than 22 percent of respondents stated that they vary between multi-use gel bottles and single-use gel packets, both sterile and non-sterile.

The survey results also highlight issues resulting from the presence of gel in the area of the

sterile insertion site. Among the respondents, 41 percent of VA clinicians and 51 percent of ED clinicians reported instances of inadequate gel removal, which results in securement and dressing adherence issues. Poor adherence of dressings can lead to catheter failure and accidental dislodgement. Over half of all VA personnel (52 percent) said they felt that aseptic technique is often compromised by post-procedure gel clean-up.

PIV insertion is the most commonly performed invasive medical procedure among hospitalized patients. Over 70 percent of acute care patients require IV access at some point during their stay. According to Dr. Moureau, up to 60 percent of those patients may be considered to have difficult vascular access (DiVA). These patients frequently require ultrasound guidance in order to successfully achieve peripheral access and receive necessary treatments.

“This study confirms that the lack of consistent, evidence-based guidelines regarding ultrasound-guidance for PIV insertions has led to a great deal of fragmentation, and shows that clinicians are confused over when and how to use this technology in a way that protects patient safety,” said emergency vascular access expert Jon Bell, RN, MSN, VA-BC. “There needs to be an objective standard for identifying difficult access patients, as well as a multi-disciplinary effort to conduct research to determine the best practices that will minimize harm to the patient.”

The use of ultrasound may increase the risk of contamination during PIV insertions if certain guidelines are not followed to maintain a sterile insertion site and use the appropriate supplies (gel and transducer protection). According to Dr. Moureau, a specialty gel-free insertion dressing that separates the transducer and gel from the insertion site (UltraDrape, Parker Labs) may address and even mitigate many of these issues while reducing the cost of performing UGPIV insertions. In this study, 9 percent of survey respondents reported use of this gel separation safety dressing.

The survey results align with recent concerns from the healthcare quality and safety organization, [ECRI](#) (Plymouth Meeting, PA). The nonprofit technology assessment group addressed the issue of standardization in its list of [top patient safety concerns for 2020](#), writing that “policies and education must align across care settings to ensure patient safety.”

ECRI also included the use of point-of-care ultrasound in its briefing on [2020 Top 10 Health Technology Hazards](#), and noted that the rapid adoption of this technology across various care settings has left many organizations struggling to keep up with appropriate safety measures.

### **About Dr. Nancy Moureau and PICC Excellence**

Nancy Moureau, RN, PhD, CRNI, CPUI, VA-BC, is founder and CEO of PICC Excellence, a vascular access education and training service for clinicians. Internationally recognized as an expert in vascular access education and training, Dr. Moureau is also a member of the Alliance for Vascular Access Teaching and Research (AVATAR), based in Australia. Dr. Moureau is widely published in the [medical literature](#), and is a coauthor of recent [guidelines](#) that define appropriate indications for the insertion, maintenance, and care of PICCs and ultrasound-guided peripheral catheters. Dr. Moureau’s consulting organization, PICC Excellence, provides effective, easy-to-understand web-based education, workshops and on-site training for clinicians worldwide.

For more information about PICC Excellence, visit [www.piccexcellence.com](http://www.piccexcellence.com).