

**Title:**

Establishing the Access in Minutes Team in the Adult Emergency Department

**Diana Lyn Baptiste, DNP, MSN, RN**

*Department of Acute and Chronic Care, Johns Hopkins University School of Nursing, Baltimore, MD, USA*

Barbara Maliszewski, MS

*Department of Emergency Medicine, Johns Hopkins Hospital, Baltimore, MD, USA*

Madeleine Whalen, MSN/MPH

*Emergency Medicine, Johns Hopkins Hospital, Baltimore, MD, USA*

**Session Title:**

Evidence-Based Practice Posters Session 2

**Slot (superslotted):**

EBP PST 2: Monday, 30 October 2017: 9:30 AM-10:15 AM

**Slot (superslotted):**

EBP PST 2: Monday, 30 October 2017: 1:15 PM-2:30 PM

**Slot (superslotted):**

EBP PST 2: Monday, 30 October 2017: 2:45 PM-3:30 PM

**Slot (superslotted):**

EBP PST 2: Monday, 30 October 2017: 3:45 PM-4:30 PM

**Slot (superslotted):**

EBP PST 2: Tuesday, 31 October 2017: 8:00 AM-8:45 AM

**Slot (superslotted):**

EBP PST 2: Tuesday, 31 October 2017: 9:00 AM-9:45 AM

**Keywords:**

Difficult Venous Access, Emergency Department and Vascular Access

**References:**

1. Goff, David A., Pamela Larsen, Jason Brinkley, David Eldridge, Dale Newton, Timothy Hartzog, and J. Routt Reigart. "Resource utilization and cost of inserting peripheral intravenous catheters in hospitalized children." *Hospital pediatrics* 3, no. 3 (2013): 185-191
2. Harpel, J. (2013). Best practices for vascular resource teams. *Journal of Infusion Nursing*, 36(1), 46-50.
3. Orr M. & Doellman D.(2016). Infusion therapy standards of practice. 39;1S. *Journal of Infusion Nursing* ISSN: 1533-143
4. Witting, M. D. (2012). IV access difficulty: incidence and delays in an urban emergency department. *The Journal of emergency medicine*, 42(4), 483-487.

**Abstract Summary:**

The literature emphasizes the importance of recognizing factors that contribute to difficult venous access for patients. It also supports the use of designated difficult access teams. Use of designated difficult access teams have proven successful for obtaining venous access and the avoidance of delays in treatment.

**Learning Activity:**

<b>LEARNING OBJECTIVES</b>	<b>EXPANDED CONTENT OUTLINE</b>
----------------------------	---------------------------------

By the end of this session, the learner will be able to recognize 3 common characteristics of patients who have difficult venous access.	Evidence-based literature identifies difficult venous access (DVA) as a condition among individuals who most often require two or more attempts for successful IV access, leading to an increased length of time needed to obtain IV access, or may require special interventions to establish peripheral IV access.
By the end of this session, the learner will be able to identify 2 strategies for reducing amount time for obtaining venous access.	Our findings suggest that identifying patients with difficult venous access and implementation of a dedicated difficult access team can decrease the time and number of attempts necessary for obtaining IV access in individuals with difficult venous access.

**Abstract Text:**

**Background:**

Peripheral intravenous (IV) access is one of the most common procedures performed in Emergency Departments across the United States. Successful IV access is critical in providing timely diagnosis and treatments. . Individuals with difficult venous access (DVA) may experience delays in care due to prolonged wait times for successful phlebotomy and intravenous access. In our Adult Emergency Department (ED), current practice dictates a patient may receive two IV attempts from a nurse or clinical technician. If they are unsuccessful, a more experienced staff member is also allowed two attempts. If they are also unsuccessful, the patient’s IV placement is escalated to an advanced practice provider. While this is in line with the Emergency Nursing Association (ENA) and Infusion Nursing Society (INS) standards, some patients experience significant delays in care, some waiting over eight hours for IV access or blood draws. The problem of DVA has been identified to not only delay treatment, but also compromise patient comfort, safety, and satisfaction.

Given these threats to patient safety, a multidisciplinary team of clinical nurses, nursing leadership, clinical technicians, residents, attending physicians, and physician assistants convened to initiate an evidence based practice (EBP) project to address the needs of patients with DVA. The EBP question to be evaluated was: Can the implementation of a dedicated difficult access team reduce the time from lab order to lab completion on patients with DVA as compared to our current practice in the Adult ED?

**Methods:**

To gather evidence on difficult venous access interventions, a literature search was conducted using CINAHL, PubMed, and Google Scholar data bases. A final selection of 22 articles were reviewed using the Johns Hopkins Nursing Evidence-based Practice model and guidelines (JHNEBP). Two team members conducted independent reviews on all selected articles, which included grading and syntheses for all publications.

**Results:**

Of the 22 articles, there were only two Level I studies, one randomized control trial, and one systematic review which both provided high quality (A) results regarding use of a scoring system to identify patients with DVA and promoted use of a dedicated team to decrease multiple attempts. A large number of articles were quasi-experimental studies, literature reviews, and expert opinion papers, graded at high (A) or good (B) quality. Eight Level II articles were quasi-experimental studies, some comparing standard

practice vs. use of dedicated difficult access teams to increase IV insertion success rates among adults in ED settings. Six of the eight quasi-experimental studies reported that using a dedicated expert IV team can significantly reduce the time to diagnosis and treatments. Level III (n=3), Level IV (n=6), and Level V (n=2) papers provided recommendations that included standards of practice, strategies for cost savings, and use of subject matter experts. The literature emphasizes the importance of recognizing factors that contribute to DVA and supports the need for a designated difficult access team to reduce the number of attempts and avoid delays in treatment. The findings have been synthesized below:

- DVA is a condition among individuals who require two or more attempts for successful IV access
  - 8-50% of children have DVA
  - 14-35% of adults have DVA
  - DVA is associated with intravenous drug use, obesity, sickle cell patients, and chemotherapy patients
  - DVA negatively impacts patient safety and patient satisfaction
  - A dedicated IV team has been shown to decrease the necessity for advanced practice providers to place more invasive IV catheters
  - There are various approaches to determining expertise, self-nomination can be successful

In reviewing the evidence for this project, there was a clear association between use of a dedicated IV team and a reduction in IV-site complications, reduction in unsuccessful attempts and increase in timely placement and patient satisfaction.

### **Implementation:**

Based on the evidence the Access in Minutes (AiM) team was developed and put into practice in the Adult ED. The team consists of self-nominated IV access subject matter experts who are available for consult Monday-Sunday 11:00AM – 3:00 AM when a patient's primary RN or clinical technician have had two unsuccessful IV placement attempts. Self-nominated subject matter experts received additional training on standards of practice and IV insertion techniques prior implementation of this practice change. The AiM team is responsible for placing IV catheters and drawing blood, as well as completing documentation to track multiple primary and secondary outcome measures. This practice change has been in place for six months and demonstrated a statistically significant reduction in lab order to lab completion time ( $p < .001$ ). Additionally, the AiM team was able to reduce the number of IV attempts among patients with difficult access by 11%. These reductions mitigate the necessity for placing more invasive IV catheters such as central lines which often pose increased risks to the patient safety and costs to the institution.

### **Conclusion:**

The examination of evidence on interventions for patients with DVA proved to be a valuable experience for the EBP team. Through this process, we learned the importance of first identifying patients who have DVA, then initiating the appropriate team to promote successful IV insertion and venipunctures; with a goal of reducing number of attempts, and decreasing time to treatment. These findings have been disseminated on the institutional, local and state level. Next steps include a research project to create a predictive scale to identify patients with difficult access to facilitate more timely activation of the AiM team.