Difficult IV Access (DIVA) Tool’s Impact on Assisting RNs in Determining When to Call the Vascular Access Team (VAT) RN for Assistance

**BACKGROUND**
- At the start of this project in 2019 the VAT experienced a 60% increase in ultrasound guided PIV requests. The number of VAT insertions has remained high in 2020 through 2021 with VAT PIV insertions between 123 – 192 per month
- Research documents that patient satisfaction scores increase when patients have fewer IV sticks and feel confidence in the practitioner placing the IV
- Ultrasound guided PIV access: has been growing in popularity; has proven to decrease the number of IV sticks and nonessential PICC insertions; demonstrates an increase in IV success rates and a decrease in insertion time when placed by a trained, experienced clinician

**PURPOSE**
- Identify factors associated with the increase in US guided PIV requests and determine the efficacy of the DIVA Tool
- Would the DIVA Tool assist in identifying factors leading to the nurse requesting assistance from the VAT
- By using the DIVA Tool, can nurses quickly identify patients in need of US Guided PIV access and minimize potentially unsuccessful IV attempts

**METHODS**
- Design: Evidence-based quality improvement project
- Population: VAT RNs & RNs requesting assistance
- Data collection: obtained from the DIVA Tool completed by the RN requesting VAT assistance
- The RN scored the patient’s medical history and level of PIV difficulty using the DIVA Tool
- The VAT RN placed the PIV using ultrasound guidance and scored the level of difficulty

**RESULTS**
- Average DIVA score (N=152) is 7.45 with a range of 1-16; most DIVA scores between 1-3 were associated with patient request
- The biggest predictor of DIVA is vein not visible (80%), frail/elderly (57%), followed by DM (43%)
- Two or more unsuccessful attempts during the hospital stay is the most likely reason for the VAT to be called
- Pulmonary Renal Unit / 5 West utilized VAT most frequently at 30% (combined) followed by Med-Tele and Gen Surg at 11% each
- Higher DIVA scores assigned by the unit RN were weakly correlated with a higher difficult rating by the VAT RN (p = 0.015)
- 27% of the RN respondents did not complete their experience level leaving this as a question; 7% had < 1 year experience, 28% had 2-5 years, and 36% were > 5 years

**DISCUSSION**
- SJO added history of DIVA & two or more unsuccessful attempts to the tool. Both are important predictors of DIVA
- COVID hindered alternative courses in PIV insertion for new graduate nurses
- Significant numbers of high DIVA scores indicate need for Vascular Access team expertise

**CONCLUSION**
- The DIVA Tool is a good predictor of difficult IV access
- There is an opportunity to train RNs to use intervention techniques to increase likelihood of IV access

available upon request: Diane.Davis@stjoe.org