Trauma RN EJ Program: Advancing Nursing Practice & Reducing IV Team Activations in the Emergency Department

Brandee Khoshnevis, MSN, BSBA, RN, CEN, TCRN, CNIII

Introduction

Obtaining PIV access in the ED can be challenging. Our patients are at a disadvantage; drug use, obesity, diabetes and a host of other conditions can make IV access nearly impossible. Multiple failed attempts in extremities often prompts the RN to place an order for Vascular Access Team (VAT). This delays patient care by prolonging the time from MD orders to obtaining labs & administering necessary medications and/or IV fluids. Multiple attempts also leads to patient discomfort & dissatisfaction with care and wait times for VAT can be extensive. EJ placement by nurses is an approved skill by the NC Board of Nursing; evidence-based practice demonstrates a link between patient safety & nurses functioning to the full extent of their training & licensure. Studies indicate that patients with difficult venous access have poorer outcomes, increased costs, and overuse of materials and staff resources (2). Moreover, from an advancement of nursing practice perspective, evidence states that in order to promote patient safety, scope of practice barriers for nurses should be removed. Nurses should work in partnership with physicians and be allowed opportunities to practice within the full scope of their education. Nurses who perform at the top of their licensure directly affect nurse, patient, and organizational outcomes in a positive manner (1).

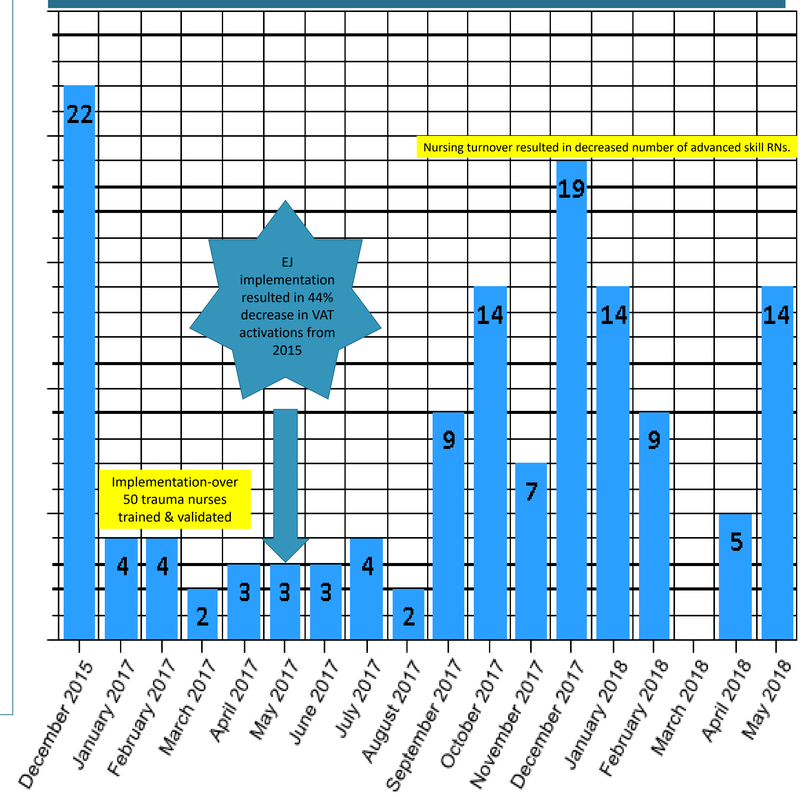
Example of difficult peripheral access.

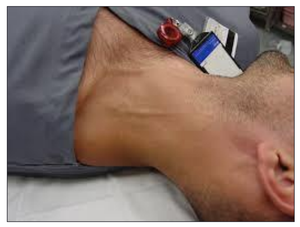
Methods

At the beginning of the study, the ED team was activating VAT on a regular basis; 30-40+ times in a given month in 2015. After implementation of the Trauma RN EJ program in January 2016, numbers started to significantly decrease & continued to show results in the following months. In order to implement the program, several steps were taken.

- Trained over 50 nurses on insertion & management of EJs
- Education included a PowerPoint based class with a post-test
- A successful EJ placement was performed on a simulation manikin prior to the end of class
- Students were given a validation form and recorded two additional real-time EJ insertions with observation by an attending or third-year resident
- Once successful education validation was submitted to educator and recorded in employee file, nurses were officially validated to perform the skill
- Of note, nurses were taught very specific guidelines in terms of EJ placement; the number one exclusion criteria for EJ placement being inability to **visualize** the vein

Results

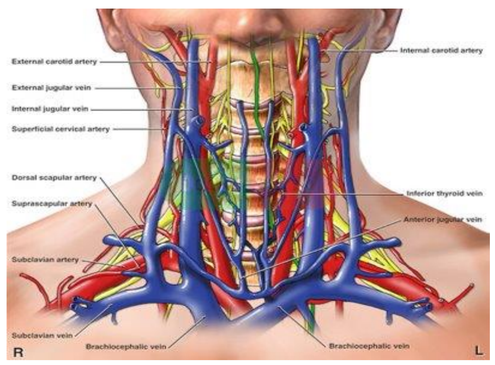




Visualization of the external jugular vein must be present to proceed with EJ insertion (shown above)

EJ placement: a peripheral access line

Diagram of vasculature



Discussion/Barriers

The overall goal in this study was to have all trauma nurses in the Adult ED trained & validated to place EJs on an ongoing basis and evaluate the number of VAT activations in relation to the addition of this skill. Using evidence based practice to guide this process, implementation of this skillset exhibited an elevation of nursing skills & practice in experienced ED nurses.

The first data point collected was the number of VAT activations in the Adult ED for the month of December 2015. Prior to that, 2015 exhibited between 25-25 activations per month. Beginning in December 2015, there were a total of 22 orders for VAT. Trauma nurses were offered EJ Validation classes beginning mid-December. By the first quarter of 2016, approximately 96% of this group had received education & were granted the ability to initiate EJs.

Value of this skill is exhibited by measuring follow-up data points. Of note, VAT activations were reduced by as much as 63% during 2016. However, as diagrammed, numbers began to climb as nursing turnover increased. Barriers to the EJ program included:

- Data collection resources & lack of funding to further explore more specific study results such as complications & other follow-up points
- Turnover created an influx of new nurses, thereby decreasing the use of this skill & increasing VAT orders due to lack of ED experience
- Data is limited at this time due to inability to extract patient specific data

In 2019, goals are to continue to train & validate nurses new to the role of trauma. Consideration will be made to possibly offer this skillset to a greater subset of nurses in order to influence nursing practice & support growth. The selection of nurses would be based on experience and skill versus the designation of trauma nurse.

Conclusion

Per the data presented, EJ placement by ED nurses is a valuable & time saving skill which benefits patients as well as nurses. Per ENA recommendations, alternative IV access should be pursued when traditional peripheral access fails (3). As of mid 2018, there was a 44% DECREASE in VAT activations as compared to 2015 . Number of VAT activations in the ED has significantly reduced, thereby indicating a need for continuation of this practice change. RNs report increase in satisfaction with an additional skill to promote timely, effective & safe patient care.

Contact

Brandee Khoshnevis, Clinical Nurse Educator, Emergency Department
Brandee.Khoshnevis@atriumhealth.org
Jill Story, Trauma PI Coordinator, Trauma Services
Jill.story@atriumhealth.org
Atrium Health, Charlotte, North Carolina
Carolinas Medical Center, Level 1 Trauma Center
F. H. "Sammy" Ross Trauma Center

References

1. Allen, S., PhD, RN. (2015). The connection between nurses working at top of licensure and patient care. Retrieved from http://www.infor.com/content/executive-briefs/connection-between-nurses-working-at-top-of-licensure-and-patient-care.pdf
2. Whalen, M., Maliszewski, B., & Baptiste, D. (2017). Establishing a Dedicated Difficult Vascular Access Team in the Emergency Department: A Needs Assessment. Journal of Infusion Nursing, 40(3), 149. doi:10.1097/NAN.0000000000000218
3. Emergency Nurses Association (2015). Clinical Practice Guidelines: Difficult Venous Access. Retrieved from: https://www.ena.org/docs/default-source/resource-library/practice-resources/cpg/difficultivaccesscpg.pdf?sfvrsn=9944da58_8.