A Curriculum for Teaching Emergency Nurses Ultrasound Guided Peripheral Intravenous (USGPIV) Placement in Emergency Departments

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INTRODUCTION

- The demand for teaching ultrasound guided peripheral intravenous (USGPIV) placement has extended into the Emergency Department (ED). USGPIV placement, a skill held only by physicians, has not transitioned into an advanced nursing skill for ED nurses.
- Utilization of USGPIV in the Emergency Department has been shown to expedite throughput times while maintaining high patient satisfaction.
- With various conditions that lead to unsuccessful standard intravenous line placement, improved access to ultrasound trained clinicians and portable ultrasound machines, the opportunity for emergency department nurses to obtaining this important skill set is paramount.

OBJECTIVES

The aim of this quality improvement project included the following:

1. Implement USGPIV placement as a new skill to 15% of the emergency department nurse at the five ED locations.
2. Increase the quality of patient care by decreasing the number of unsuccessful IV attempts.
3. Improve the nurse perception of time to patient disposition receiving USGPIV placement.

METHODS

- Mandatory pre-class education included a binder of educational material, online video lectures, and to review the hospital policy and procedure for intravenous administration.
- Classes were 2 hours in duration and consisted of 3 stations: PowerPoint lecture given by ultrasound directors, hands-on experience with instructor using gel phantom, and successful USGPIV placement on 5 patients.
- Post-course competency test and sign off sheet from instructors were placed in each nurse’s competency file.

RESULTS

- Over a 3 year period, the Emergency Medicine Ultrasound Directors trained 125 ED nurses including 65 from Moses Cone, 16 from Alamance Regional Medical Center, 14 from Med-Center High Point (Free-standing ED), 12 from Annie Penn Hospital, and 18 from Wesley Long Hospital in USGPIV placement.
- 18 USGPIV classes were offered over the 3-year period.
- Post Survey sent to the 65 USGPIV trained nurses at Moses Cone ED had responses from 22 participants. This is a 38% response rate. The results included:
  - Time of Disposition felt improved by 70% of ED nurses
  - Patient’s Experience felt improved by 80% of ED nurses
  - Obtaining Difficult IV Sticks, showed 80% ED nurses trained in USGPIV felt more confident in decreasing the number of unsuccessful IV attempts.
  - Confidence in placing USGPIVs: 50% felt it required < 10 attempt and 50% felt it required up to 20 attempts.
  - Successful attempted USGPIV placement performance totals:

CONCLUSIONS

- The ED nurse post survey concluded how nurses felt about their ability to perform and master a new skill. Through the training and experience to become comfortable with the skill, the nurse’s perceptions of time to disposition was lessened, patient satisfaction with the ED visit was improved, and nurse’s confidence levels in preventing unsuccessful IV sticks with difficult stick patients improved.
- One nurse stated, “This skill has changed my life… and the lives of the patients who are a difficult stick. I wish I had this skill years ago!”
- The continued request and growing demand from ED staff nurses, remains in place for every other month and rotation at different ED site campuses. The growth in an advance skill set with USGPIV will train up to 42 nurses annually among all ED campuses. The size of our classes will allow for 15% of ED nurses to be trained on each campus annually.

NURSING IMPLICATIONS

- ED nurses trained in USGPIV has many implications to improving patient care in the ED by decreasing the need for outside unit IV support, improves patient venous access for medication and treatments, and improves patient flow throughout the department.
- USGPIV trained nurses found the transverse approach technique to be most successful with the IV insertion.

ACKNOWLEDGEMENTS

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