Ultrasound Guided Peripheral IV Catheter Placement Program for Registered Nurses in an Emergency Department

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INTRODUCTION

Peripheral intravenous cannulation is a common procedure for patients in the hospital setting. It is essential for fluid and medication administration, and may be required for contrast-enhanced diagnostic testing.

In the emergency department, establishing peripheral vascular access by registered nurses (RN’s) is a common procedure and necessary for the stabilization of critically ill patients, provide time-sensitive rehydration, diagnostic tests, and to obtain urgent lab studies necessary for the management of these patients.

Reasons for difficult IV access:
- Obesity
- History of IV drug abuse
- Multiple previous IV insertions
- Chronic diseases
- Hypovolemia & shock
- Extremes of age

Patients with difficult IV access are subjected to multiple “blind” attempts to access a vein, creating undue stress and dissatisfaction of the patient, and places the patient at risk for deterioration due to delay in IV access.

Ultrasound guidance peripheral IV (USGPIV) placement offers an alternative to central venous catheters and their associated complications (arterial lacerations, pneumothorax, and serious infections).

The Emergency Nurses Association (ENA) Clinical Practice Guidelines (CPG’s) provide a Level A Recommendation for ultrasound-guidance access as a viable option for patients with known difficult access for both adult and pediatric populations, and as a technique that can effectively be performed by physicians, RNS, and ED technicians.

This is further supported by the ENA GA11-014 Resolution: Ultrasound Guided Peripheral Intravenous Access which was passed at the 2011 ENA General Assembly supporting the inclusion of ultrasound-guided peripheral venous access within the scope of practice of RNs.

Reason for starting an USGPIV course at the University of Washington (UW) Emergency Department (ED):
- 67% of ED RN’s emailed expressed an interest to train
  (Interest expressed through the ED Local Practice Council)
- There was a loss of the hospital wide IV team for support
- Hospital policy required a competency checklist prior to performing this skill.

OBJECTIVE

To evaluate increase in confidence and cannulation of peripheral veins by RNs using ultrasound-guided insertion placement.

RESULTS

The first 2 groups of participants were 15 ED RN’s that expressed an interest in the developing this skill, or had previously training, and were proficient with peripheral IV cannulation. RN staff selected represented all shifts so an experienced USGPIV RN would be available 24 hours/day.

The trainees completed an evaluation at the end of the training session. Satisfaction with the skills lab was rated highly effective. One hundred percent of participants felt their objectives were strongly met or exceeded expectations, and were satisfied with the teaching methods.

Key factors in satisfaction:
- Using equipment from their own ED
- Provider knowledge
- Provider’s ability to train

The trainees continue to express a higher comfort level with performing USGPIV and peripheral IV insertion skills.

CONCLUSIONS

A successful USGPIV educational program contributes to ongoing learning opportunities and the acquisition of new skill sets which encourages the transformation of research into practice, allowing RN’s to practice to the extent of their training, providing high quality evidence-based patient-centered care.