Care, Management and Documentation of Peripheral Venous Catheters in the Emergency Department

NU 6070 Practice Enhancement for Nursing
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Introduction

Placement of a peripheral venous catheter (PVC) is one of the most common invasive procedures performed in hospitals. It involves the insertion of a flexible tube containing an introducer needle into a vein to facilitate the administration of intravenous (IV) medications and IV fluids (Bernatchez, 2014) (figure 1.).

The use of PVCs can result in many complcations including phlebitis, extravasation, venous spasm, thrombophlebitis, infiltration and bloodstream infections. These complications are associated with increased patient suffering, morbidity and mortality, prolonged hospital stay and increased cost (Aziz, 2009).

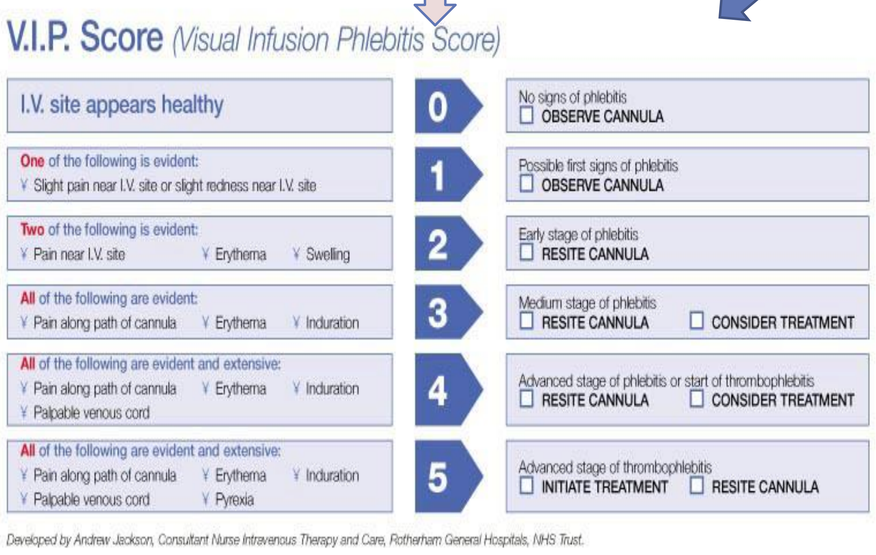
It is widely recognised that these complications may be prevented if certain standards of care, assessment and documentation are strictly adhered to.

Figure 1. PVC

Aim of this Audit

- To assess the current practice with regard to the use and care of PVCs in the Emergency Department (ED).
- To assess the documentation regarding PVCs based on hospital guidelines and An Bord Altrainis guidelines (ABA, 2002).
- To determine if current practice is compliant with the standards of the local hospital policy which provides evidence based best practice guidelines.

Figure 2. VIP SCORE



Methodology

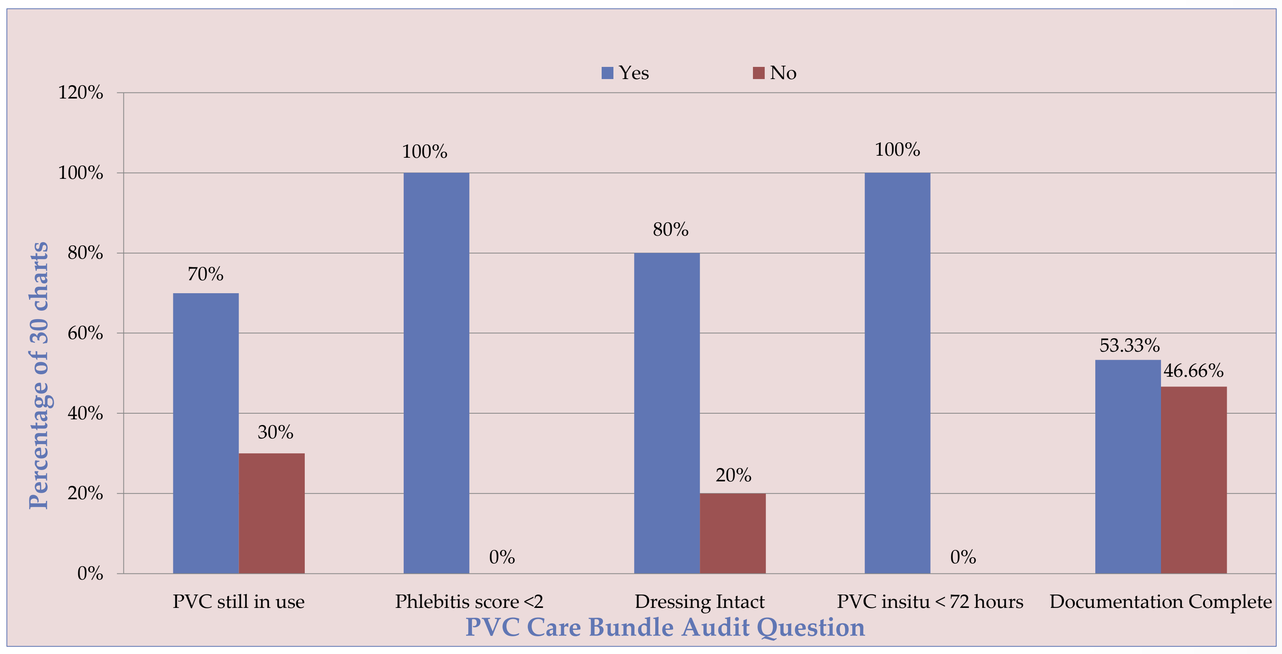
Permission to carry out this audit was sought from the Clinical Nurse Manager (CNM) 3 of the ED, along with the Quality Office in Cork University Hospital (CUH). Advice and guidance was sought from CNM 2 of IV services CUH and CNM 2 CDU CUH.

A concurent methodology was utilised which included a visual nursing assessment of PVC sites of consenting adult patients present in the majors area, resusitation room and clinical Decisions unit in the ED using the "Visual Infusion Phlebitis (VIP) score" (figure 2.). The corresponding patient charts were also examined to determine if the appropriate documentation was completed (figure 4.).

The "Peripheral Venous Cannula Care Bundle Audit Form" was used as the audit tool. This care bundle includes a collection of interventions that are evidence based and must be adhered to for every patient every time in order to improve patient outcomes (HPSC, 2014). Therefore the desired standard is 100% compliance.

A total of 30 patients with PVCs were included in this audit over a period of one week. Their consent was gained prior to assessing the PVCs. Patients' privacy and confidentiality were maintained and hand hygiene was performed before and after each interaction.

Figure 3. Findings of Audit



Findings of Audit

Represented in Figure 3.

- Of the 30 PVCs audited 21 were either still in use or had been used in the previous 12 hour period for the administration of IV fluids or IV medications. There was no indication in the charts or drug kardex for the continuing need for the remaining 9 PVCs.
- All of the PVC sites assessed had a VIP phlebitis score of less than 2. This indicates that the healthcare professionals who inserted the PVCs used a good technique. It also suggests that the Healthcare professionals were observing PVCs for signs of phlebitis and reacting appropriately even if this was not documented.
- Eighty percent of the dressings audited were intact. The remaining 20% were either not secure due to loss of adhesion or had extra tape applied. Hospital policy advises that all PVC dressings must be changed when they are soiled, damaged or become loose. Insecure dressings can lead to mechanical phlebitis and the application of unsterile tape to reinforce loose dressings can introduce bacteria at the PVC site (Bernatchez, 2014).
- All of the PVCs that were assessed were insitu less than the recommended maximum length of insertion of 72 hours. This was an expected finding as one would hope not to find a patient still in an ED after 72 hours.
- Just over half (53.33%) of the PVCs audited had the corresponding insertion documentation completed in the ED patient chart. This sub-standard compliance with documentation increases the risk of a PVC being forgotten or left in for greater than the recommended 72 hour period leading to poor patient outcomes which generally are avoidable.

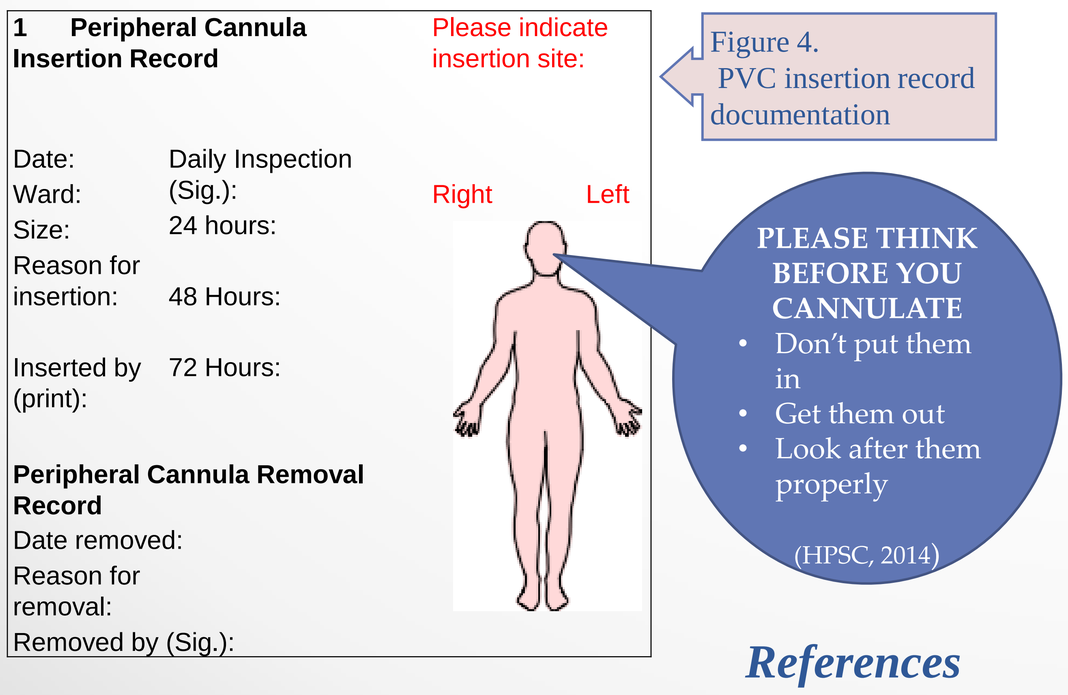


Figure 4. PVC insertion record documentation

Implications for practice and Recommendations going forward

The insertion and use of a PVC is often a very necessary and effective intervention for our patients. As healthcare professionals one of our fundamental values is to "do no harm", therefore as individuals we need to be responsible for our own practice and ensure that we are aware of hospital policies and evidence-based best practice guidelines when inserting, managing and caring for PVCs.

The findings of this clinical audit have highlighted a number of areas for improvement in the care of PVC. The most significant finding was poor insertion record documentation as illustrated in figure 4. NICE (2002) observe that feedback of clinical audit results alone is not effective in bringing about changes in practice therefore other measures need to be taken which may include the following recommendations.

- Regular education sessions with healthcare professionals regarding care and management of PVCs.
- Appointment of designated members of staff as PVC quality officers to monitor and encourage compliance with standards in the ED on a continuous basis.
- Provision of laminated signs on IV trolleys to remind healthcare professionals to complete PVC insertion documentation.
- The development of patient leaflets regarding PVCs which will provide information and list the "signs and symptoms" of potential complications to allow for early intervention.
- Posters to be developed to remind patients to ensure that their PVC has been removed prior to discharge from the ED.
- Continue to re-audit PVC care bundles to monitor progress and to advise future recommendations.

References

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