

# Reducing Severity and Promoting Early Identification of Peripheral Intravenous Infiltration and Extravasations

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## Background

Over 90% of hospital inpatients require intravenous access. Most infiltrations and extravasations can be prevented, and early identification of an infiltration or extravasation reduces severity of tissue injury. Guidance for peripheral intravenous infiltration and extravasation (PIVIE) management is lacking. A comprehensive, clear, usable evidence-based plan for RN assessment and management of PIVIE is needed.

Objectives:

1. To increase RN confidence in preventing and treating PIVIE
2. To increase the use of antidotes leading to increased safety and quality care for patients

## Improvements & Data Collection

The PIVIE taskforce work

- Identified evidence for PIVIE best practices
- Revised organizational policy and procedures:
  - Grading tool with escalation guidance
  - Treatment guidelines for warm/cold compress and timely use of antidotes
- Developed an interactive learning module
  - Assigned to pilot group of RNs (adult acute care unit, pediatric med/surg unit, and pediatric ICU)

Data Collection

- Safety event reports
- Antidote administration reports
- Scores pre and post PIVIE training

## Results

- RN Preceptor confidence in treating PIVIE increased by 57% from pre to post education (Figure 1)
- Antidote usage increased, demonstrating an increase in PIVIE interventions across the 12-month project timeline (Figure 2)
- A 30% increase in scores from pre to post-test for RN application-based skills of pilot group
- Increase in safety event reporting of PIVIE

Figure 1 Preceptor confidence in treating PIVIEs

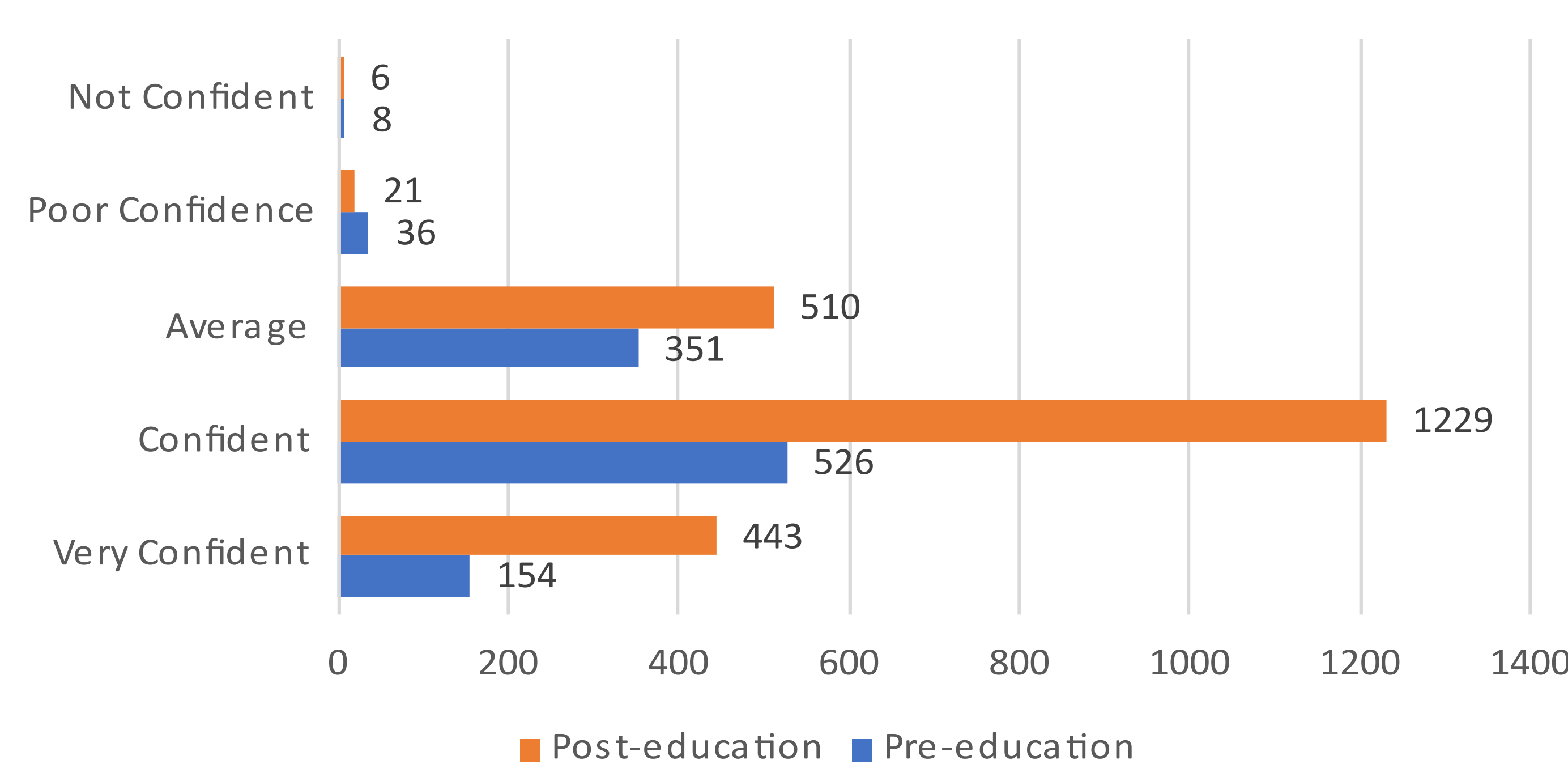


Figure 2 Antidote Usage by Month



## Lessons Learned

- Pilot group identifying and providing PIVIE intervention earlier after education provided
- Systemic barriers exist to timely administration of antidote medications
- Culture/perspective change with ongoing education and knowledge checks needed to improve and sustain outcomes
- Hot pack/cold pack gaps exist:
  - Lack of consistent education on best practices using hot packs/cold packs
  - Lack of standardized products stocked on units for hot and cold packs

## Next Steps

- Develop an infiltration and extravasation order set
- Develop a nurse driven PIVIE protocol to support timely administration of antidotes
- Assign the virtual learning module to all nursing staff upon hire as part of orientation

## Team Members

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