

# Misconceptions about Peripheral Intravenous Catheter Complications Rate Based on Insertion Settings: A Comprehensive Literature Review

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# Disclosure

## OBJECTIVES:

- The learner will be able to identify the setting with the highest and lowest incidents of complication rates for peripheral intravenous catheters
- The learner will be able to verbalize evidence based standards, reducing potential complications of peripheral intravenous catheters across all health care settings
- The learner will be able to identify the need for current, comprehensive research studies regarding peripheral intravenous catheter complication rates in relation to the various areas of clinical settings in which access is gained

# Purpose

- To determine if adult patients in the United States who require PIVC access in the pre-hospital and emergency department settings are at an increased risk for PIVC complications in comparison to those patients who have PIVC's initiated in the in-patient units
- Current guidelines for PIVC care suggest that complication rates may be increased when access is obtained in pre-hospital or emergency department settings over those placed in inpatient care units
- Current practice guidelines relating to PIVC's are not congruent with the evidence

# Methods

- Literature review performed through systematic research of professional databases such as Ovid, CINAHL, and PubMed with access through MCPHS University using select keywords
- Analyzing and comparing primary quantitative research reports conducted in the United States that included primary data within a 10-year time (2006-2016)
- **Dependent variables:** Infection and complications of PIVC's
- **Inclusive criteria:** Patient setting of PIVC insertion, patient's age, dwell time of PIVC, complications from the PIVC placement
- **Exclusive criteria:** Qualitative research, pediatric patients, IV drug users, research conducted outside of the U.S, research performed before the year 2006, central catheter complications, and research in languages other than English

# Results

- Contrary to current guidelines, the highest incident of PIVC complication rates were found on the inpatient care units
- PIVC's initiated in the emergency department had fewer incidents of complications compared to other units (pre-hospital and inpatient)

# Conclusion

- Only slight variations in complication rates between patient care settings were found, with phlebitis as the most common complication across all clinical areas
- Center for Disease Control and Prevention (CDC) recommendations are based primarily on dwell time for determining PIVC replacement or removal
- Clinical manifestations of a complication, patient complaints of pain/discomfort, and nurses' clinical judgment should be considered the determining criteria for the removal or replacement of peripheral IV's

# Recommendations

- Utilizing The Infusion Nursing Society's (INS) 2016 guidelines as a blueprint for practice
- Practicing these recommendations and guidelines could lead to the improvement of patient care, satisfaction, and cost containment
- Need for new PIVC complication research studies to improve future practice

# References

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**QUESTIONS?**

**THANK YOU!**