Evidence has shown that a closed peripheral IV (PIV) catheter system has a lower incidence of blood borne pathogen (BBP) exposure, needle stick injury, phlebitis, infection and is more stable as open peripheral IV catheter systems. As such, this topic was proposed as an evidence-based practice (EBP) project due to the generated interest among various disciplines to measure pertinent outcomes. Currently, there is an inconsistency and lack of standardization in the usage of the open versus closed PIV catheter system at Landstuhl Regional Medical Center (LRMC) as both are available in the supply system.

On a Medial Surgical, inpatient ward, how will the use of a closed PIV catheter system compared to current practice of an open PIV system:
- decreased incidence of blood-borne pathogen (BBP) exposure
- decreased needle stick injuries
- decreased incidence of infection
- increased dwell time
- greater stabilization compared to open PIV catheter systems

### Method
- Followed the steps of the Iowa Evidence Based Practice Model
  - Formed a team consisting of a team leader, four staff nurses, a medic, and an infection control nurse
  - Performed a literature search and a critique of the identified articles that supported standardized use of closed PIV systems
  - Initiated a pilot study on one inpatient medical surgical ward:
    - Collected baseline data while staff exclusively used the open PIV system
    - Trained staff to use the closed PIV system
  - Instituted a 2 week "washout" period during which staff exclusively used the closed PIV system prior to collecting outcome data
  - Outcome data will be collected for the closed PIV system to compare with baseline data

### Results
- Baseline data collected for open PIV system:
  - Ease of Use
    - Average of 1.6 attempts (+0.8)
  - Dwell Time
    - Average of 1.7 days (+0.9 days)

### References

### Nursing Implications

The closed PIV catheter system was approved and standardized by the Landstuhl Regional Medical Center (LRMC) inpatient medical-surgical wards and enhance staff and patient safety by decreasing occupational and community health risk by 80%.

The views expressed herein are those of the authors and do not reflect the official policy of the Department of the Army, Department of Defense, or the U.S. Government.