A Randomized Controlled Comparison of Flushing Protocols in Home Care Patients with Peripherally Inserted Central Catheters

Margaret G. Lyons, DNP, RN, CRNI & Ann G. Phalen, PhD, CRNP, NNP-BC
Villanova University College of Nursing - Villanova, Pennsylvania / Thomas Jefferson University - Philadelphia, PA
in conjunction with Jefferson Home Infusion Service (JHIS) part of the Jefferson Health System, Philadelphia, PA

Abstract
Research has failed to demonstrate an optimal flushing solution or frequency for central catheters. In a 2002 study of 50,000 home care patients, catheter dysfunction with loss of patency was the most common complication and occurred in 29% of the PICC lines tracked. With the advent of the Affordable Care Act and the promise of expanded home care services, this study offers evidence as to a preferred flushing protocol to prevent catheter patency complications for home infusion patients with peripherally inserted central catheters (PICCs).

Objectives
1) Compare three different commonly used flushing solutions and their relationship with PICC patency related complications such as: sluggishness, occlusion, missed medication doses, catheter replacement, additional nursing visits and the use of a thrombolytic agent.
2) Identify if one solution is more effective in reducing PICC patency related complications.
3) Identify risks associated with using a particular flushing solution.

Methods
• A prospective, randomized, one way, single-blinded posttest with control group study was performed.
• Independent variable was the flushing protocol
• Dependent variables included the development of a patency related complications such as: sluggishness & occlusion, missed medication doses, catheter replacement, additional nursing visits and the use of a thrombolytic agent

Flush Solutions Studied
• SAS (Saline only 10 ml)
• SASH High (100 units/ml heparin-300 units in 3 ml)
• SASH Low (10 units/ml heparin- 50 units in 5 ml)

Conclusions
• Institutional flushing protocols are not standardized and are not based on high levels of evidence.
• Analysis of the data concluded that in home care patients without a diagnosis that can impact coagulation, each of the three flushing protocols tested were equally effective.
• There was some trending to say that the SAS group had more issues of additional RN visits and antithrombolytic usage which would justify using one of the heparin solution groups, but statistical significance to support this was not achieved

REFERENCES AVAILABLE UPON REQUEST

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