smiths medical
bringing technology to life

Reduction in Central Line Occlusions and the Elimination of Heparin Flushes in Home Infusion

Author: Lydia Harris, RN, BSN, CRNI - Providence Home Infusion
Presented at: Infusion Nurses Society (INS) Annual Convention, Phoenix, AZ, May 2014

Abstract

Maintaining the patency of a central line is critical to insure positive patient outcomes. Catheter occlusions are a complication in home infusion that has a significant impact on patient care. This observational study utilizes anti-reflux technology housed in a needleless connector to prevent occlusions. The study describes the reduction of occlusions by tracking thrombolytic agent use in central lines while eliminating heparin flushing during home infusion.

Objectives


Nexus TKO®-6

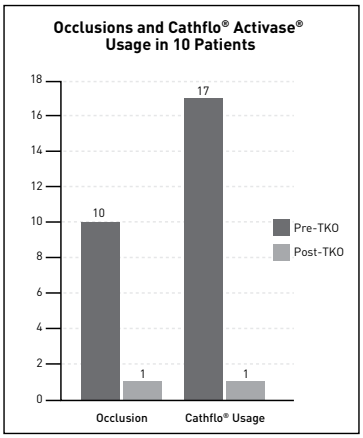
- Quantify the reduction in central line occlusions after implementation of anti-reflux needleless connector technology based upon the decrease in Cathflo® Activase® usage (Nexus TKO®, distributed by Smiths Medical)
- Quantify the reduction in heparin usage from implementation of the Nexus TKO®
- Estimate the annual monetary savings for the organization from the reduction in occlusions, including staff time and medication costs

Methods

- Retrospectively calculated amount of Cathflo® Activase® and Heparin (10U/ml and 100U/ml) used over 8 weeks for 10 compromised patients prior to using anti-reflux needleless connector
- Replaced current needleless connector MicroClave® and implemented Nexus TKO®-6 in same 10 patients, modified central line protocol to eliminate heparin flushes, and collected Cathflo® Activase® usage for next 8 weeks
- Estimated facility cost savings reduction for Cathflo® Activase®, heparin and nursing time per usage

Results

- 90% central line occlusions reduction from 10 to 1
- 94% Cathflo® Activase® usage reduction 17 vials to 1 vial
- 100% heparin flush elimination
- Cathflo® Activase® costs were $1,532 prior to use of Nexus TKO®-6 and $102 for these patients after implementation
- Nursing time per occlusion estimated at 2-4 hours with an average cost of $295
- Estimated savings of $2,655 in nursing time for these 10 patients over 2 months



Conclusions

- This study demonstrated that implementing anti-reflux needleless connector technology to central lines decreases occlusion rates, Cathflo® Activase® usage and provides confidence in eliminating heparin flushes in home infusion (Nexus TKO®, distributed by Smiths Medical)
- Decreased occlusion rates results in annual cost savings for both medication (>$18K) and nursing time (>$35K)
- Data collection and results validation will continue while implementing this technology for all central line patients across our services

References

Janisky, L, Wurster, J. Occlusion Reduction and Heparin Elimination Trial Using an Antireflux Device on Peripheral and Central Venous Catheters. J Infus Nurs. 2009; Vol. 32 No. 9.

McKnight, S. Nurse's Guide to Understanding and Treating Thrombotic Occlusions of CV Access Devices. Medsurg Nurs. 2004; 13:377-82.

Moreau, N, et al. Central venous catheters in home infusion care: Outcomes analysis in 50,470 patients. J Vasc Interv Radiol.2002; 13:1009-1016.

Disclosure

Poster format support provided by Smiths Medical ASD, Inc.

medex™

Distributed by:
Smiths Medical ASD, Inc.
St. Paul, MN (USA) 55112
Phone: 800-258-5361

Manufactured by:
Nexus Medical LLC
Lenexa, Kansas (USA) 66215

Find your local contact information at: www.smiths-medical.com/customer-support

MPAUCA-1121

Rx ONLY