CLABSI Prevention Takes Teamwork

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INTRODUCTION

Central Line-Associated Bloodstream Infections (CLABSIs) are serious but preventable hospital acquired infections which result in prolonged hospital stays, increased costs, and increased risk of mortality (Joint Commission International, 2012). UPMC Hamot has a skilled group of Vascular Access Nurses (VAN) who are dedicated to the care and prevention of complications related to vascular access devices. Preventing CLABSIs is central to our practice. In 2019, our VAN team collected data on all our central lines, researched each CLABSI with a thorough Root Cause Analysis (RCA), and used this data to work with other disciplines in a targeted approach to prevent further CLABSIs (Ewers, 2016; Zastrow, 2015).

INTERVENTIONS

RESEARCH indicated that "use" of central lines and dressing failure contributed to CLABSIs in 2018

- ➢Data collection on all our central lines
- ➢CLABSI rates monitored and graphed monthly
- ➢RCAs of all CLABSIs

EDUCATION focusing on best practice in care of central lines and proper dressing care

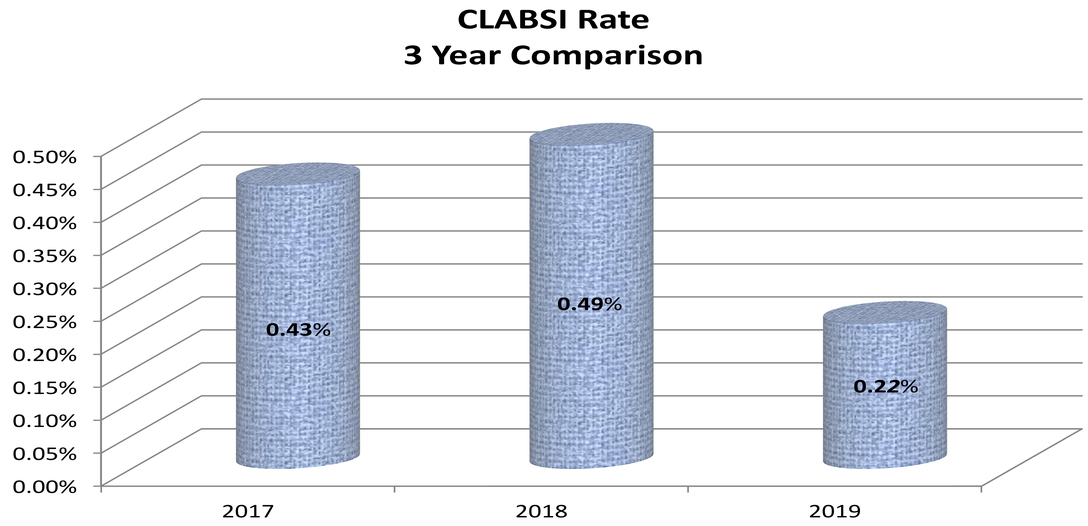
- ➢Distribute monthly "Tips of the Month"
- ➢Education of night shift nursing staff on best practice care of central lines
- ➢VAN supported Mandatory Madness where all front-line nurses demonstrated competency in flushing and drawing labs from a central line
- ➢CLABSI Champs group with representatives from different nursing units supporting best practice of central lines on their units
- ➢Re-education in all ICUs on sterile dressing changes and use of CHG and StatSeal discs/powder
- ➢Special Procedures Unit trained on use of StatSeal on all new central line insertions

NEW PRODUCTS to reduce dressing failure

- ➢Use of either hemostatic agent (StatSeal) or chlorhexidine (BioPatch) patch on all insertion sites of central lines (except Introducers and Mediports)
- ➢Use of IV Advanced dressings and Cavilon skin barrier for all internal jugular dressings

OBJECTIVE

Reduce the incidence of CLABSIs in patients at UPMC Hamot.
Achieve our target goal of Zero CLABSIs.



Comparison of Central lines cared for at UPMC Hamot and CLABSIs from 2017-2019

Year	2017		2018		2019	
Type of catheter	**Total#**	**Infected**	**Total#**	**Infected**	**Total#**	**Infected**
Non tunneled CVCs	637	2	620	2	623	1
Introducers	395	1	356		344	1
Tunneled HD	444	3	459	8	466	1
Temporary HD	243		247	4	312	1
ICY/Coolline	79		67		92	
Tunneled- other	61	1	49	1	93	1
Implanted Ports	851	2	844	1	1025	1
PICCS	1025	7	794	1	1052	3
Total	3735	16	3436	17	4007	9
Rate of infection	0.43%		0.49%		0.22%	

Prevention is Always the Best Practice

RESULTS

The total number of central lines managed by the Vascular Access Nurses (VAN) at UPMC Hamot during calendar year 2019 was 4007 and there were 9 patients with a documented CLABSI. This is a significant decrease in the number of CLABSIs from the previous year when there were 3436 central lines managed by VAN and there were 17 patients with a documented CLABSI.

CONCLUSION

By collecting extensive data on all our central lines and researching each CLABSI, the VAN team was able to identify 2 areas that could be contributing to CLABSIs: contamination during use of the catheters and dressing failure. This data allowed us to focus educational efforts toward improving the care of central lines. We also introduced 2 products, BioPatch and StatSeal, which inhibit infection and bleeding respectively, at the catheter insertion site. Dressing failure was also improved with the use of IV Advanced dressings and Cavilon skin barrier. Although we did not meet our goal of Zero CLABSIs for 2019, these targeted interventions resulted in more than a 50% decrease in our CLABSI rate.

REFERENCES

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