



Passport to Safety – A Quality Initiative Project to Decrease Resident Blood Borne Pathogen Exposures



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BACKGROUND

- According to the CDC, more than 385,000 needle stick injuries occur annually among US hospital employees
- Resident Physicians are suggested to be at higher risk of blood borne pathogen exposure (BBPE) given their numerous encounters involving the use of sharp instruments on patients and the increased propensity for injury while learning new technical skills
- At Good Samaritan Regional Medical Center (GSRMC) residents accounted for 8.4% of all BBPEs in 2018 and 11.6% in 2019

OBJECTIVES

To reduce the number of resident blood borne pathogen exposures by implementing a hands on sharps skills station at intern orientation

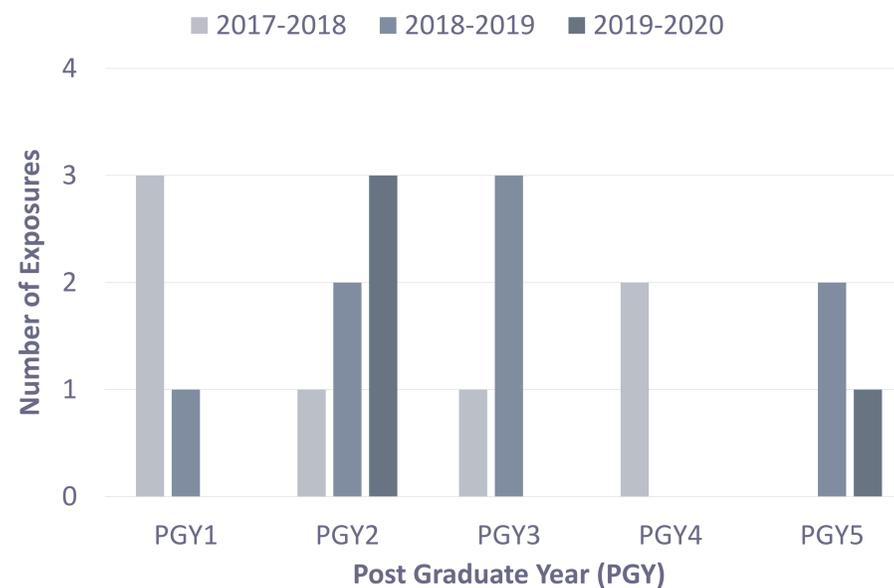
METHODS

- Data from all the resident BBPEs reported at GSRMC between August 2010 and March 2019 were reviewed
- Based on the most common events, we developed 5 hands on skill stations to teach and allow interns to demonstrate ability in each task
- At new resident orientation, interns had to demonstrate competency to a senior surgical resident in tasks in order to be signed off on a skill
- Tasks included:
 - Drawing up local anesthetic from a multi-use vial, exchanging for an injectable size needle, and injecting the anesthetic
 - Recapping of both safety needles and non-safety needles
 - Identifying and demonstrating the proper handling and use of three different scalpel blades (10, 11 and 15 blades)
 - Identifying and demonstrating the proper use of a punch biopsy
 - Demonstrating the ability to load suture needle, throw a simple suture, and protect the needle

RESULTS

- The data was reviewed from the two academic years prior to our intervention from July 1st 2017 – June 30th 2019
 - 2017-2018 had 7 resident pathogen exposures (6 sharps and 1 splash)
 - 2018-2019 had 8 resident pathogen exposures (6 sharp and 2 splash)
 - 75% of exposures in the year prior to our intervention were by surgical specialty residents (Orthopedic and General surgery)
- This data was compared to the 9 months following our intervention July 1st 2019 – March 31st 2020
 - During this time there were 4 resident exposures (all sharps exposures)
 - Again 75% of the exposures were by surgical specialty residents (Orthopedic and General surgery)
 - There were no intern BBPEs

Figure 1 – Blood Borne Pathogen Exposure by Resident Post Graduate Year (PGY)



- We are projected based on this data to decrease the resident BBPE by 25% in one year
- PGY1's (interns) represent only 15.8% of BBPEs reported at GSRMC
- PGY2's represent the highest groups of exposures at 31.6%

CONCLUSIONS

- Surgical specialty residency programs account for 75% of the blood borne pathogen exposures reported at GSRMC
 - Operating room setting confers the greatest risk for exposure
 - Increased proportion of time spent learning and performing invasive procedures
- Interns are not the group represented by the highest number of exposures
 - This is likely because interns have less experience in the operating room in their PGY1 year compared to PGY2 – PGY5 residents
 - We see an increase in exposures during the PGY2 year likely related to the increased time spent in the operating room and exposure to new invasive procedures
- Studies show that up to 50% of resident exposures go unreported indicating a substantial under-representation of the actual numbers

FUTURE IMPLICATIONS

- Continued education to the intern classes at each new resident orientation
- Additional training to the PGY2 and PGY3 year residents may decrease exposure further
- Continue to encourage reporting of all BBPEs to improve safety of residents in the event of an exposure

REFERENCES & ACKNOWLEDGEMENTS

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