Infection Control Assessment & Promotion Program

Assessment of Instrument Reprocessing in Critical Access Hospitals

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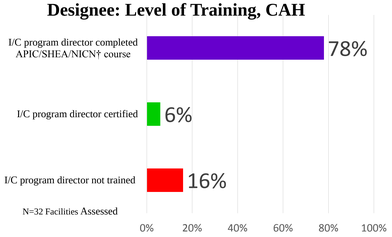
BACKGROUND

The Nebraska (NE) Infection Control Assessment and Promotion Program (ICAP) is a Centers for Disease Control and Prevention (CDC) funded project that recruits facilities for a voluntary review of their infection control (IC) programs and, to date, has assessed 32 Critical Access Hospitals (CAH). The team prioritized assessment of critical and semi-critical instrument reprocessing (IR) when performing on site evaluations in CAH in 2015 and 2016. The frequency of practice gaps in IR and the factors associated with them were studied.

Infection Prevention Program Designee: Level of Training, CAH



† NICN: Nebraska Infection Control Network, 2 day training course for professionals in infection prevention

Facilities with Competency Based Training Program for Semi-Critical Devices

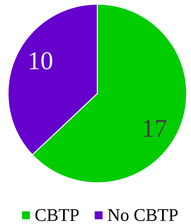


Figure 1

Reusable Critical Instrument Reprocessing: Most Frequently Identified Gaps — Yes / No

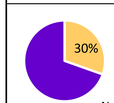
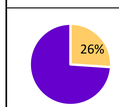
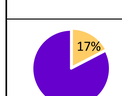
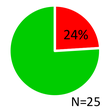
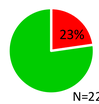
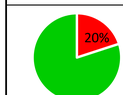
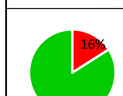
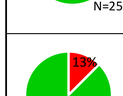
Gap Frequency	Question	Issues Identified
 N=20	Hospital policies address steps to take when there are discrepancies between a device manufacturer's instructions and the sterilizer's manufacturer's instruction for completing sterilization.	Instrument instructions for use are not available, discrepancies are unknown
 N=23	Cleaning brushes are single-use, disposable items, or, if reusable, cleaned and either high-level disinfected or sterilized (per manufacturer's instructions) at least daily.	
 N=23	If immediate-use steam sterilization is performed, all of the recommended criteria are met.	Instrument decontamination occurs in the procedure suite, insufficient time for all reprocessing steps to be performed appropriately
 N=23	Enzymatic cleaner or detergent is used and discarded according to manufacturer's instructions (typically after each use)	Detergent or water (dilution) not measured/ metered for use per manufacturer instructions

Figure 2

Semi-Critical Equipment Reprocessing: Most Frequently Identified Gaps — Yes / No

Gap Frequency	Question	Issues Identified
 N=24	After high-level disinfection, devices are stored in a manner to protect from damage or contamination. (Note: Endoscopes must be hung in a vertical position.)	Endoscopes touching each other or cabinet walls, not hung vertically, cabinet not able to be disinfected
 N=24	After high-level disinfection, devices are rinsed with sterile water, filtered water, or tap water followed by a rinse with 70%-90% ethyl or isopropyl alcohol. (Note: There is no recommendation to use sterile or filtered water rather than tap water for rinsing semi-critical equipment that contact the mucous membranes of the rectum or vagina.)	No alcohol rinse occuring
 N=25	Enzymatic cleaner or detergent is used and discarded according to manufacturer's instructions (typically after each use).	Detergent or water dilution not measured/ metered for use per manufacturer instructions
 N=22	All reusable semi-critical items receive at least high-level disinfection prior to reuse.	Endocavity ultrasound probes are considered semi-ciritical but not receiving high level disinfection
 N=25	For chemicals used in high-level disinfection, manufacturer's instructions are followed for preparation, testing for appropriate concentration, and replacement (e.g., prior to expiration or loss of efficacy).	Testing for appropriate concentration not performed at indicated frequency
 N=25	Devices are dried thoroughly prior to reuse. Note: For instruments with lumens (e.g., endoscopes), this includes flushing all channels with alcohol and forcing air through the channels.	Alcohol and or forced air not done with each use, but perhaps at the end of the day
 N=24	Devices undergo disinfection at the appropriate temperature as specified by manufacturer's instructions.	Temperature monitoring of disinfectant indicated but practice not in place

METHODS

NE ICAP utilized the Centers for Medicare and Medicaid Services Infection Control Worksheet Module 3A and 3B for the assessments. Data was collected during tours of instrument reprocessing departments. In order to study the factors associated with the gaps, this observational data was compared to data reported by the infection preventionist (IP) using the CDC Infection Control Assessment Tool. The factors studied included bed size (<15 vs. >15), IP training, fraction of full-time equivalent (FTE) designated for IP work (<0.25 vs. >0.25 FTE/ 25 beds), and if a competency based training program (CBTP), audit and feedback practices for personnel in the instrument reprocessing department were in place. Fisher's exact test was used to compare factors associated with identified gaps.

RESULTS

Assessment of IR was performed at 25 facilities. IPs in all 25 CAH reported to have IC training. Some hospitals also have a CBTP for personnel that reprocess critical (n=8) and semi-critical (n=15) devices. The most frequent gaps identified are illustrated in Figures 1 and 2. There were no statistically significant associations between the factors studied and identified gaps with one exception. The facilities with a CBTP as compared to those without one are more likely to have policies addressing steps to take in case of discrepancies between a device manufacturer's and the sterilizer manufacturer's instruction for completing sterilization. (100%, vs. 46.15%, p=0.045)

CONCLUSION

Significant gaps in IR still exist despite CAH reporting to have trained IP and some reporting to have CBTP in place for personnel conducting reprocessing. IP training should be evaluated for efficacy of content related to instrument reprocessing. NE ICAP has offered site specific mitigation strategies but larger scale training is needed.

REFERENCES

1. Centers for Medicare and Medicaid Services Hospital Infection Control Worksheet, last accessed 2/20/2017 https://www.cms.gov/Medicare/ProvideEnrollment-and Certification/SurveyCertificationGenInfo/Downloads/Survey-and-Cert-Letter-15-12-Attachment-1.pdf
2. CDC Infection Control Assessment Tool for Acute Care Hospitals https://www.cdc.gov/infectioncontrol/pdf/icar/hospital.pdf