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The Effectiveness of Examination Table Cleaning Protocols in Osteopathic Family Medicine Offices

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The Effectiveness of Examination Table Cleaning Protocols in Osteopathic Family Medicine Offices



ROWAN-VIRTUA
Osteopathic Medicine

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Background

- Health care associated infections (HAIs) are infections transmitted while receiving treatment in healthcare settings. Proper and adequate cleaning of contaminated surfaces in healthcare settings is important for reducing microbial contamination of surfaces and subsequent risk for HAIs.
- The need for adequate cleaning has only increased in light of the COVID pandemic. This shift has also been seen in Osteopathic Family medicine offices.
- Observations have shown that family medicine do not take the care necessary to adequately disinfect examination tables.

Methods

- ATP bioluminescence assay used to audit effectiveness of the existing cleaning protocols



- Assays performed using AccuPoint Advanced HC Reader (Neogen Corporation, Lansing, MI).
 - Sampler cartridges removed from refrigerator 1 hour prior to use and warmed to room temperature
 - For collection, sampler was removed from cartridge by handle with caution to not touch or allow tip to touch any other surface
 - Sample: Location A - Measured 10 cm x 10 cm box beginning 50 cm down from midline of face cradle (see picture)
 - Sample: Location B - Edge of the examination table (see picture)
 - Swabbing technique
 - Started in one corner of box and formed a continuous back-and-forth line in a zigzag pattern.
 - Repeated pattern with slightly less pressure from starting point 90° from the first (Figure 2)
 - Sample processing
 - Sampler inserted into cartridge, fully depressed, swirled clockwise for 2 seconds and placed into sampler compartment of the AccuPoint Advanced HC Reader
- Standard benchmark threshold of ATP level of 500 RLU/100cm² was used

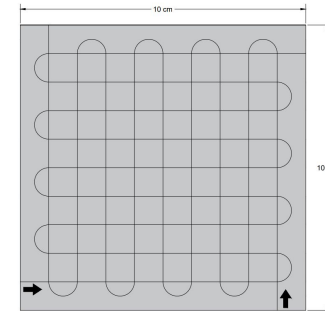


Figure 2: Zigzag pattern protocol for swabbing

Discussion

Table 1: Failure rates in initial and terminal samples.

	Initial samples (N = 18)			Terminal samples (N = 18)		
	Passes	Fails	% Fails	Passes	Fails	% Fails
Location A (Mid-torso)	17	1	5	15	3	17
Location B (Edge)	0	18	100	0	18	100

Table 2: Median RLU and range of RLU data points of initial and terminal samples.

	Initial samples (N = 18)		Terminal samples (N = 18)		z-value	p-value	Effect size Cohen's d
	Median (RLU)	Range (RLU)	Median (RLU)	Range (RLU)			
Location A	134	4-946	193	1-690	0.11	0.9124*	0.04
Location B	2257	932-5825	2095	891-5540	-0.57	0.61**	0.12

* p-value calculated from Wilcoxon signed rank test for location A initial and terminal samples

** p-value calculated from Wilcoxon signed rank test for location B initial and terminal samples

- The findings from this study reveal a significant disparity in outcomes between the two sample locations, Location A (Mid-torso) and Location B (Edge).
- Location A demonstrated a relatively low failure rate in both initial and terminal samples, indicating successful outcomes.
- In contrast, Location B consistently displayed a 100% failure rate, emphasizing the need for more care and attention when cleaning the edge of the examination to ensure patient safety.
- High pathogen presence in areas such as the edge is concerning due to this region's increased potential pathogen infection given the edge of the examination table being a high touch area.

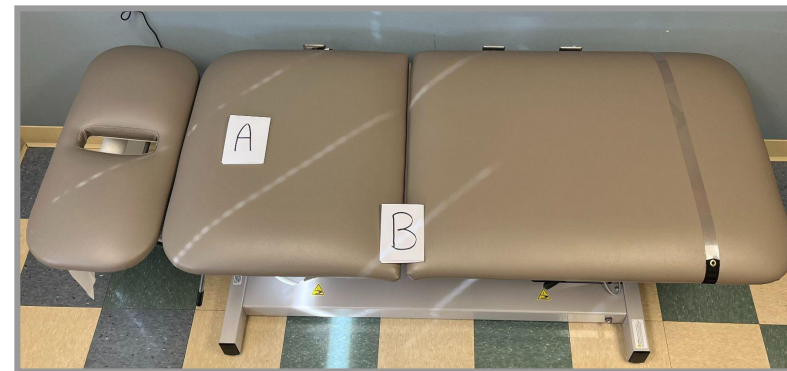
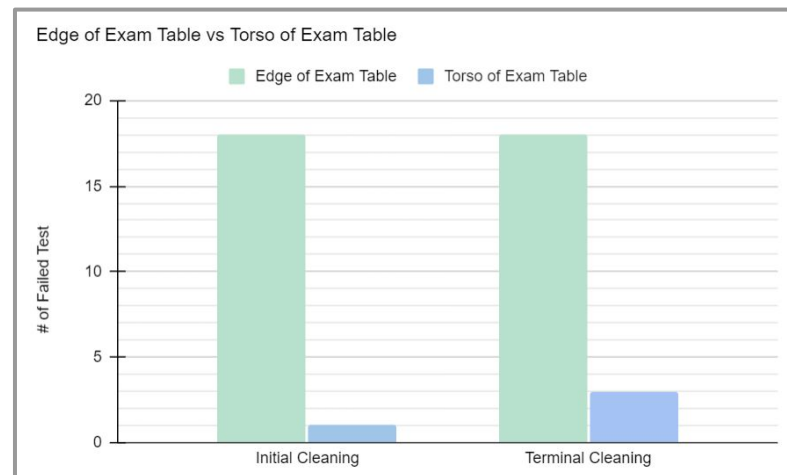


Figure 1: OMM examination table with location A & B labeled.



Graph 1: Number of Failed Tests in Initial and Terminal Samples

Osteopathic Family Medicine Offices must update current disinfection protocols to reduce the spread of pathogens.

