

ORAL PRESENTATION

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# O066: Thermal disinfection of bedpans: European ISO 15883-3 guideline requirements are insufficient to ensure elimination of ARE and OXA-48 outbreak-strains

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## Introduction

During 2012, our hospital was faced with a vancomycin-resistant *Enterococcus faecium* (VRE) outbreak. Washer-disinfectors are used for the cleaning and thermal disinfection of bedpans. The European guideline NEN-ISO 15883-3 (ISO) states that washer-disinfectors have to achieve a minimum  $A_0$  value of 60 for appropriate disinfection of bedpans ( $\approx 80^\circ\text{C}$  for 60 seconds or  $90^\circ\text{C}$  for 6 seconds). However, previous data have shown that some *E. faecium* strains survive 60 seconds at  $80^\circ\text{C}$ . Following ISO, the  $A_0$  measurement should include a cold (a minimum interval of 60 minutes since the machine was last used) and hot start.

## Objectives

We determined the  $A_0$  value of the VRE outbreak-strain and the outbreak-strain of the OXA-48 *K.pneumoniae* outbreak in another Dutch hospital during 2011. Moreover the impact of a cold start measurement on the  $A_0$  value was evaluated.

## Methods

The minimum  $A_0$  value that results in the killing of all isolates was determined for both strains. Bacterial suspensions were heated at 65, 75 and  $80^\circ\text{C}$  and samples for viable counts were obtained after 1, 2, 3 and 10 minutes at each temperature. VRE PCR and cultures were performed on bedpan swabs after disinfection; hot and cold start measurements were compared.

## Results

Adequate killing required a minimum  $A_0$  value of 180 for the VRE outbreak strain and 120 for the OXA-48 *K.pneumoniae*. The cold start resulted in a 30% lower  $A_0$  value, than the hot start. All washer-disinfectors in our hospital functioned in agreement with the European guideline, although the lowest  $A_0$  value was 73, only just above 60. Swabs taken from bedpans processed in these washers with low  $A_0$  values, were VRE-positive by PCR and cultures.

## Conclusion

Both outbreak strains survived the  $A_0$  value of 60 required in the ISO. VRE were identified by PCR as well as cultures of bedpans that had been disinfected by these washer-disinfectors. We suggest to increase the minimal acceptable  $A_0$  value of washer-disinfectors to at least 180. Furthermore, the cold-start is needed for adequate  $A_0$ -value measurement.

## Disclosure of interest

None declared.

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