

# Collaborative Development of a Quality Assurance Programme for the Decontamination of Hire Beds

J. Collins<sup>1</sup>, L. Hall<sup>2</sup>, L. Dalziel<sup>1</sup>, A. Teager<sup>3</sup> and Prof F K Gould<sup>1</sup>

<sup>1</sup>Microbiology Department, Newcastle Upon Tyne Hospitals NHS Foundation Trust  
<sup>2</sup>Infection Prevention and Control, Newcastle Upon Tyne Hospitals NHS Foundation Trust  
<sup>3</sup>Bartrams Mobility, Bartrams Associates Ltd, Sutton, Cambridgeshire



## Background Information

Bartrams Healthcare currently supplies innovative, specialist nursing and rehabilitation equipment to over 400 hospitals and other care establishments throughout the UK. Of particular importance is the Protean Floor-Level Falls Prevention Bed which has been developed for clinical necessity. The National Patient Safety Agency states that approximately 25% of all falls in hospital are falls from bed; this being equivalent to 1:200 patients admitted. The Protean style bed can now all but eliminate the risk of bed-fall injury even in the most vulnerable and challenging patient populations. Newcastle upon Tyne Hospitals Trust (NuTH) have purchased a core number of Floor-Level beds but regularly complement this with additional hire beds when clinically required. The NuTH Infection Prevention & Control Team required assurance that hire beds met minimum standards of cleanliness<sup>2</sup>.

**Aim:** To provide evidence of microbiological assessment of Protean Floor Level Beds decontaminated by Bartrams Healthcare

**Purpose:** Healthcare equipment that has been adequately decontaminated by external providers should be free from potential pathogenic organisms.

## Collaborative Agreement

At the time of initial enquiry Bartrams Healthcare were unable to provide evidence of adequate decontamination. However preliminary discussions with the Divisional Manager, NuTH IPC Matron and NuTH IPC Healthcare Scientist indicated that collaborative working could successfully achieve quality assurance on decontamination for all UK users. The team at Bartrams updated their decontamination policy in line with ISO standards whilst the Microbiology Department at NuTH developed a protocol for sample collection and culture. A joint quality assurance business proposal was presented to the company directors. This was accepted and a new service level agreement was initiated in June 2011. A baseline assessment was established and following this, bed engineers at the decontamination plants in Barnsley and Cambridge now collect weekly samples using the instructions shown in figure 1.

## Laboratory Method Statement:

- To provide Bartrams with testing packs that will include:
  - Pictorial instruction guide for sample collection
  - Sampling sponge (Polywipe<sup>3</sup>, Medical Wire & Equipment)
  - Sterile bag, request form and pre-labelled transport box
- To screen for a predetermined range of bacterial pathogens:
  - Clostridium difficile
  - Vancomycin Resistance Enterococci (VRE)
  - Methicillin sensitive Staph.aureus (MSSA)
  - Methicillin resistant Staph.aureus (MRSA)
- Laboratory processing:
  - Guaranteed turnaround time of 48hrs on receipt on sample
  - Routine Monday to Friday service
  - Weekend service available by prior arrangement
  - Quality Assurance certificates emailed to the Healthcare Division Manager on completion of microbiology assessment
  - Any failed assessments communicated urgently by telephone
  - Escalation agreement initiated in the event of decontamination failures

## Culture Technique

On receipt in the laboratory the polywipes were rolled up and placed in 10mls brain heart infusion broth. After vortexing for 1min and leaving to stand for a further 2 mins, 50µl of broth was inoculated onto ChromID C.difficile<sup>4</sup>, MRSA ID, SA ID and VRE chromogenic agar. All plates were examined after 48hrs incubation under appropriate atmospheric conditions.

## Results

Primary assessment of 3 Protean Floor-Level Beds from each decontamination plant indicated that the newly established cleaning regime using Selgiene Ultra successfully removed the key healthcare associated pathogens. To date (August 2012) 110 bed surfaces samples have been analysed; all having passed the quality standard.

## Conclusion

From a patients safety perspective NuTH were committed to gaining assurance that the hired beds were appropriately decontaminated to reduce the risk of potential harm to patients. Bartrams Healthcare actively embraced the need for quality assurance and following our collaboration, the IPC Microbiology Services at NuTH now provide cleanliness certification which benefits all UK users.

## References

- National Patient Safety Agency 2010 *Slips trips and falls data update* NPSA: London Available from [www.nrls.npsa.nhs.uk](http://www.nrls.npsa.nhs.uk)
- Creamer E and Humphreys H (2008) The contribution of beds to healthcare-associated infection: the importance of adequate decontamination. *Jour Hosp Inf* 69:1 8-23
- Collins J, Asir K, Gordon S, Cook C and Settle C (2011) Mattress Screening using Polywipes and Chromogenic *Clostridium difficile* agar. IBMS Congress Poster assessed via [www.mwe.co.uk](http://www.mwe.co.uk)
- Perry JD, Asir K, Halimi D et al (2010) Evaluation of a chromogenic culture medium for isolation of *Clostridium difficile* within 24 hours, *J Clin Microbiol* 48(11): 3852-58

**Quality control check of protean floor level beds**  
 Sample 1st bed decontaminated every Monday

- Wash hands
- Open sample box
- Fill in the sample form
- Put on sterile gloves
- Peel open blue sample sponge
- Use textured side to sample bed
- Wipe all flat surfaces
- Put sponge inside clean plastic bag provided
- Dispose of gloves appropriately
- Place sample bag and form back into box
- Return to supervisor for shipment to microbiology

NB: If sample sponge is contaminated in any way ie dropped on floor please discard and start again.

Figure 1.

If further information required please contact [jennifer.collins@nuth.nhs.uk](mailto:jennifer.collins@nuth.nhs.uk) or [emma@bartrams.net](mailto:emma@bartrams.net)