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## Aim

To detect changes in the incidence of *Pseudomonas aeruginosa* in clinical samples that might indicate the presence of environmental sources of infection with Borders General Hospital

## Objectives

- To monitor incidence of clinical isolates of *Pseudomonas aeruginosa* from inpatients in BGH.
- To monitor the incidence of invasive *Pseudomonas aeruginosa* infection.
- To monitor the incidence of clinical isolates of *Pseudomonas aeruginosa* from inpatients in SCBU
- To monitor the incidence of clinical isolates of *Pseudomonas aeruginosa* from inpatients in ITU
- To monitor distinctive clinical isolates of *Pseudomonas aeruginosa* that may reflect cross infection or common source acquisition within BGH.

## Definitions

Invasive *Pseudomonas aeruginosa* infection defined as isolation of the organism from a sterile site or bronchoalveolar lavage.

## Methods

1. Inclusion of invasive *Pseudomonas aeruginosa* clinical isolates in IPCT safety brief
  - a. Action limit: Single case
  - b. Action: Review of case to assess potential for transmission from water with particular attention to IV and respiratory therapy. Consider local sampling if contamination with tap water implicated as potential source.
2. Inclusion of any *Pseudomonas aeruginosa* clinical isolate from ITU or SCBU in IPCT safety brief
  - a. Action limit: Single case
  - b. Action: Review of case to assess potential for acquisition from water with particular attention to IV and respiratory therapy. Consider local sampling if contamination with tap water implicated as potential source
3. Inclusion of distinctive *Pseudomonas aeruginosa* clinical isolates (usually multi-drug resistant) from inpatients in BGH in IPCT safety brief
  - a. Action limit: Single case
  - b. Action: Review of case to assess potential for acquisition from water with particular attention to IV and respiratory therapy.

Consider local sampling if contamination with tap water implicated as potential source

4. Maintenance of SPC chart for BGH isolates of *Pseudomonas aeruginosa* with monthly review
  - a. Action limit: Conventional SPC criteria
  - b. Action: Review current controls. Consider local sampling if contamination with tap water implicated as potential source

## **Check list for assessing potential for transmission from water in cases of invasive *Pseudomonas aeruginosa* infection or colonisation on ITU or SCBU**

### **Initial considerations**

- a. What is the likely source of the infection or site of colonisation?
- b. Has the patient been receiving IV therapy around the time of the infection?
- c. Has the patient been receiving respiratory therapy around the time of the infection?

### **Check of general risk factors**

- Check sterile water only is used to fill humidifiers.
- Check decontamination of any reusable humidifiers.
- Check ice has not been used as part of direct care.
- Check that area used for aseptic procedures is not subject to splashing from tap water.
- Check that surfaces used for aseptic preparation are either covered with sterile field or decontaminated prior to use.
- Check use of hand wash basins for discard of small volume fluids.
- Check hand wash basins are cleaned daily.
- Check use of procedure for cleaning hand wash basin.
- Check whether any cleaning solutions containers are topped up.
- Check use of any spray bottles for cleaning.

### **SCBU specific risk factors**

- Check method used to defrost frozen breast milk and warm breast milk if appropriate.
- Check cleaning and drying of incubators.

### **Water sampling**

If considered necessary, water sampling will be performed according to the method outlined in Guidance for neonatal units (NNUs) (levels 1, 2 & 3), adult and paediatric intensive care units (ICUs) in Scotland to minimise the risk of *Pseudomonas aeruginosa* infection from water. (*HPS 2014 version 2.0 and HTM 04 – 1.*)

## **Reporting**

Exception reporting via IPCT plus regular review in water safety meeting.

## References

*Guidance for neonatal units (NNUs) (levels 1, 2 & 3), adult and paediatric intensive care units (ICUs) in Scotland to minimise the risk of Pseudomonas aeruginosa infection from water*, HPS 2014 version 2.0

*HTM 04-01 - Addendum: Pseudomonas aeruginosa – advice for augmented care units*, Department of Health