Something So Little Causing Problems So BIG...MRSA

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Staphylococcus Aureus

Lehigh Valley Health Network Regional Burn Center:
- 18 bed State of the Art, Regional Burn Center;
  - 650 admissions per year; full time dedicated staff;
- Constructed with:
  - Positive pressure rooms
  - Controlled heat and humidity
  - All private rooms
  - Anti-fungal paint
  - Seamless flooring
  - Limited surface areas for dust prevention
  - Encased blinds, no curtains
  - Encased wiring of electronics
  - 2 barcode scanners, in and out of patient room

http://www.lib.uiowa.edu/hardin/
http://phil.cdc.gov/phil/details.asp

May 2009 - September 2009

Surveillance:
- 18 patients identified with Healthcare-acquired Methicillin resistant Staphylococcus aureus
- 17 of 18 patients had negative nasal screens

Significance:
- 3 ventilator associated pneumonias
- 4 central line associated bacteremias
- 2 line sepsis
- 1 primary bacteremia

Results:
- 8 patients / 9 isolates submitted for testing
- 1 patient had 2 different MRSA strains - 1 matched another patient
- 8 out of 178 Healthcare workers found to be positive for MRSA (4.50%)
- 3 Healthcare workers matched 3 patients

Action Plan:
- Cultures from patients and environment sent for pulse field gel electrophoresis
- Bronchoscope cultures obtained
- Burn operating room cultures obtained
- Healthcare worker screening conducted
- Monthly performance improvement monitoring and updates

Healthcare Worker:
- Confidential screening
- Positive MRSA screen
  - Mupirocin Ointment for 5 days
  - Chlorhexidine body wash
  - No work restrictions
- Unit scrub attire provided to ancillary team members
- Cover gowns required outside unit
- Observation of staff and personal accountability
- Mandatory education for multidisciplinary team

Process:
- Hand hygiene compliance
- Dressing change and glove change with each site
- Ventilator circuits changed weekly on affected patients
- Ventilator circuit breaks minimized
- Patient decontamination on admission
- Trash / Linen disposal process altered
- Plastic barrier for portable x-ray plates and barcoding scanners

Environment:
- Environmental cleaning with single use system utilizing a bleach product
- Hand sanitizer and gloves placed within patient rooms
- Personal protective equipment required in contact isolation rooms
- Traffic control enforced
- Ultraviolet disinfection of rooms after ten step cleaning process

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