Impact of a MRSA search and destroy policy in a tertiary care emergency department.

Erwin Dhondt a, Rita Duerinckx b, Ingrid Laes a and Annette Schuermans b,

a Department of Emergency Medicine and EMS system, b Infection Control Department,
University Hospitals, Catholic University of Leuven, Belgium.

Introduction

The emergency department (ED) case mix consists of patients at high risk of both introducing and acquiring infections. Alerted by the rise of hospital-acquired MRSA infections, the ED of a teaching hospital set up an ED infection control (IC) programme.

Methods – ED campaign design

1. applying a proactive MRSA admission screening protocol (Table 1) and subsequent selective contact isolation (quarantine), taking into account:
   - past medical history or actual suspicion of MRSA carriage (MRSA+),
   - transfers from other hospitals and long-term care facilities
   - admission of hospitalized patients to the ED for upgrading of care.

2. improving hand hygiene (HH) by
   - promoting alcohol based hand disinfection,
   - refraining all health care workers (HCW) from wearing hand jewellery nor artificial fingernails
   - supplying HCW with clip watches
   - developing promotional material
   - targeted education supervised by link persons selected among medical, nursing and domestic staff.

Methods – Measurements

1. MRSA carrier detection yield

2. Compliance to HH by
   - observation
   - microbiological analysis of the total count of colony-forming units (cfu) on fingerprints
   - monitoring the consumption of hand rub solutions

3. Surveillance of MRSA transmission

Conclusion

- An ED tailored selective MRSA screening and contact isolation protocol and a change in the HH behaviour in the ED have mainly contributed to a substantial decrease of the hospitals MRSA attack rates far below the national rate.
- A constant and concerted effort on the part of the ED HCW are needed to achieve sustained results in the battle against hospital-acquired infections.

Results

1. A selective MRSA admission screening policy increased the carrier detection rate up to 16%. (Table 2: Figure 1)

2. The observed compliance to HH increased from 49% to 79% and consumption of hand rub solution from 6 to approximately 29 L per 1000 patient-days. (Figure 2) The number of HH moments increased from 19 to 47.

3. Total counts of cfu on fingerprints less than 50 improved from 39% of the analyses to 55%.

4. The MRSA attack rate decreased from 9 to 1 new case per 1000 patient days. (Figure 3)