

Infection Prevention

PRESENTED TO TSCCM
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Objectives


- Describe infection prevention strategies utilized in the intensive care unit.
- Discuss the impact of infection control practices on nosocomial infection rates.

First things First

- What is the single most important thing you can do to prevent infection?




Clean Hands



“An estimated 30,800 fewer invasive MRSA infections occurred nationally in 2011. Hospital onset infections decreased by 54.2%”


JAMA Intern Med. 2013;173(2):213
Doi:10.1001/jamaintern.129.10.213

University of Geneva Hospital – 1995 HUG Campaign, Didier Pittet

Provide Hygienic Care

- Hygiene is the essence of prevention.
- The following measures are considered basic:
 - Oral care for ventilated patients
 - CHG baths for patients with invasive devices

Monitor Airflow




Rooms in negative pressure may have variable flow.
Air Pressure is affected by:

- presence of an anteroom
- tightness of seal
- Healthcare worker traffic

Turbulence creates disruptive airflow with most exposure to particles occurring at the head of the bed.

Hewlett, ICHE 2013 DOI: 10.1086/673451


Reduce Exposure to Water



<i>Citrobacter freundii</i>	<i>Pseudomonas aeruginosa</i>
<i>Enterobacter cloacae</i>	<i>Pseudomonas stutzeri</i>
<i>Klebsiella pneumoniae</i>	<i>Ralstonia pickettii</i>
<i>Klebsiella oxytoca</i>	<i>Stenotrophomonas maltophilia</i>

Biofouling, 2013 DOI:10.1080/08927014.2012.757308

Eliminate Multidose-Multipatient Vials




- Insulin
- Lidocaine
- Insulin Pens
- Saline flush

Do not keep or access multi-dose vials in immediate patient treatment area.


2008-2013
Hepatitis B: 20 outbreaks, 162 cases, >10,500 notified
Hepatitis C: 18 outbreaks, 228 cases, >92,550 at risk notified

Ensure a Clean Environment



Items that are stored in the room and are used in the mouth can be vectors of *C. difficile*.

Ensure a Healthy Workplace



- AACN Healthy Work Environment
- Skilled communication
- True collaboration
- Recognition of expertise
- Autonomous decision making

Organization characteristics:
Physician and Nurse staffing are associated with reduced mortality and LOS.
Nursing staffing is associated with risk for BSI.

Critical Care Medicine DOI: 10.1097/CCM.0b013e3181e47888

Be Aware of Emerging Threats



Risk of CRE Infections

1. **Hand Hygiene**
Wash hands with soap and water for at least 20 seconds.

2. **Contact Precautions**
Use gloves and gowns when entering the room of a patient with a CRE infection.

3. **Antibiotic Stewardship**
Use antibiotics only when necessary and for the right duration.

4. **Environmental Cleaning**
Clean and disinfect surfaces in the room of a patient with a CRE infection.

Reductions in HAI

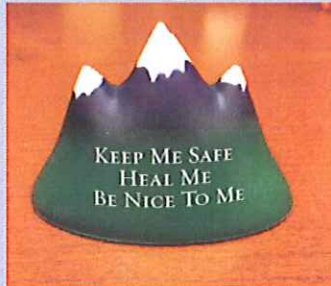
Between 2001 and 2009:

There was a 58% reduction in CLABSI
25,000 fewer infections
6,000 lives saved
\$414 million in savings in 2009
\$ 1.8 billion cumulative reduction in cost

Five year Federal Plan to reduce HAI will compare 2009-2014.

Removing invasive devices as soon as possible is key to prevention!

Remember Why You Are There



Texas Health Resources Summit of Excellence

Learning Assessment

Which of the following is NOT an effective hospital-acquired infection prevention strategy?

- A. Performing hand hygiene prior to and after any patient contact
- B. Providing routine oral care in all mechanically ventilated patients
- C. Active surveillance testing via blood cultures in all critically ill patients
- D. Removal of invasive devices/catheters as soon as medically feasible