Infection Prevention

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%" (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 interroom seal
    - tightness of seal
  - Healthcare worker traffic

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

Hendall, ICHE 2013 DOI: 10.1086/673151
Reduce Exposure to Water

- Citrobacter freundii
- Pseudomonas aeruginosa
- Enterobacter cloacae
- Pseudomonas stutzeri
- Klebsiella pneumonieae
- Rhodactis plunketti
- Klebsiella oxytoca
- Serratia marcescens

- Number of outbreaks: 2013-2014: 34 cases, 2012-2013: 23 cases

Eliminate Multidose-Multipatient Vials

- Insulin
- Lidocaine
- Insulin Pens
- Saline flush

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

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.

Be Aware of Emerging Threats

- Risk of CRE Infections
  - C. Difficile
  - MRSA

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!
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 to 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