"Now, don't panic, but I'd like you to take off all your clothes so we can burn them."
Florence Nightingale: Notes on Hospitals, 1863

“It may seem a strange principle to enunciate as the very first requirement of a hospital that it do the sick no harm”
What is Infection Control?

Infection Control is the prevention of the spread of clinically significant micro organisms that cause infection; or the prevention of the spread of pathogenic micro organisms that have the potential to cause disease.
Human pathogen transmission

- Infection caused by airborne transmission
- Infection caused by contact and faeces
- Infection caused by contaminated water
- Infection caused by pathogens in bloodstream and tissues
Up to 80% of infectious diseases are transmitted by touch.
CLEAN HANDS SAVE LIVES
Protect patients, protect yourself

Alcohol-rub or wash before and after EVERY contact.

www.cdc.gov/handhygiene
Germ Farm

Scrub'em!

www.first-in-handwashing.com
Which is More Clean?
Infection Control Practices Cont’d

- Universal Precaution- Consider all patients, patient samples and any object that has come into contact with the patient infected.
- PPE (Personal Protective Equipment) – Safety Goggles, Face Shield, Gloves, Lab Coat, and Rubber Shoes
- Hand Hygiene- Cleansing hands with an alcohol based foam, gel or wipe that is approved by your healthcare facility before and after direct contact with a patient, patient sample or any object that has come into contact with the patient is a MUST DO!
Infection Control Practices Cont’d

• Wash hands for 15-30 seconds under warm flowing water if they are visibly contaminated with blood or any type of body fluid
• Change gloves between patients and also when the glove has been compromised
• Clean phones, keyboards and any surface that may have come into contact with biohazard material
## INFECTION CONTROL OVER THE PAST DECADE

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Then</th>
<th>Now</th>
<th>Reference(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRBSIs</td>
<td>5.0/1000 catheter days</td>
<td>1.7/1000 catheter days</td>
<td>a, b</td>
</tr>
<tr>
<td>VAP</td>
<td>9.5/1000 ventilator days</td>
<td>2.0/1000 ventilator days</td>
<td>a, b</td>
</tr>
<tr>
<td>CAUTIs</td>
<td>5.4/1000 catheter days</td>
<td>3.1/1000 catheter days</td>
<td>a, b</td>
</tr>
<tr>
<td>C. difficile infection</td>
<td>5.5 cases/10,000 discharges</td>
<td>11.2 cases/10,000 discharges</td>
<td>c, d</td>
</tr>
</tbody>
</table>

Abbreviations: CRBSIs, catheter-related bloodstream infections; VAP, ventilator-associated pneumonia; CAUTIs, catheter-associated urinary tract infections.

- b Am J Infect Control 2009; 37:783–805
- d http://hcupnet.ahrq.gov

Adapted from Patterson et al, Crit Care Med 2010; 38(8):265-8.
# ISOLATION CATEGORIES ARE BASED ON MODES OF TRANSMISSION

<table>
<thead>
<tr>
<th>Hand Hygiene</th>
<th>Private Room</th>
<th>Gloves</th>
<th>Gown</th>
<th>Mask</th>
<th>Eye Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>Yes</td>
<td>PRN</td>
<td>PRN</td>
<td>PRN</td>
<td>PRN</td>
</tr>
<tr>
<td>Droplet</td>
<td>Yes</td>
<td>Yes*</td>
<td>PRN</td>
<td>PRN</td>
<td>W/in 3 ft</td>
</tr>
<tr>
<td>Contact</td>
<td>Yes</td>
<td>Yes*</td>
<td>Yes</td>
<td>Yes</td>
<td>PRN</td>
</tr>
<tr>
<td>Airborne</td>
<td>Yes</td>
<td>All</td>
<td>PRN</td>
<td>PRN</td>
<td>N95</td>
</tr>
</tbody>
</table>

* When possible; cohort if not possible. Avoid rooming with immunosuppressed or high risk patients. All = Airborne Infection Isolation: negative pressure with no air recirculation (unless HEPA-filtered); 6-12 ACH.
ISOLATION PRECAUTIONS – EXAMPLES OF INDICATIONS

• Standard – All patients

• Droplet – Bacterial meningitis, pertussis, mumps, seasonal flu

• Contact – MDRO’s, infectious diarrhea, localized shingles

• Airborne – TB, chickenpox/disseminated shingles, measles
PREVENTING VENTILATOR-ASSOCIATED PNEUMONIA AND OTHER COMPLICATIONS

• Hand hygiene for HCW’s
• Aseptic care of equipment
• Elevation of head of bed to 30-45 degrees
• Daily “sedation vacation” and assessment of readiness to extubate
• Oral decontamination with CHG
• PUD prophylaxis
• DVT prophylaxis
INFECTION CONTROL IN HOMECARE

- Emerging field of study
- Guidelines not as well developed yet compared to acute care in-patient facilities
- Hand hygiene
- PPE
- Equipment cleaning
- Not all of the “vent bundle” applicable to home care
ORAL CARE IN LONG TERM VENTILATED PATIENTS

• Reduce incidence of LRTI’s by reducing bacterial load in oropharynx
  – Oral suctioning
    • Deep suction before major patient position changes and before deflating trach cuff to limit entry of secretions into the lungs
  – Swab mouth and tongue with CHG
  – Keep mouth and lips moisturized
CLEANING RESPIRATORY EQUIPMENT

• Have to thoroughly clean prior to disinfection
• Use detergent or enzymatic cleaner to remove organic matter
• Get into all small surfaces and lumens
• Critical, semicritical, and noncritical equipment
• High-level versus low-level disinfection
VACCINES SAVE LIVES