Hand Hygiene and Aseptic Technique

Infection Control Education: The ICE Project
What is the ICE Project?

- Cross-Institutional effort to educate Health Care Workers (HCWs) in
  - Exemplary hand hygiene
  - Principles and practice of aseptic technique
  - Creation of a “fail safe team” when preparing for procedures in both the inpatient and ambulatory environment
- Prevention of health care related infection
Health Care Associated Infections

- Annual number of health care-associated infections in the US: 1,700,000
- Number of deaths from health-care associated infections yearly in the US: 100,000
Michigan Hospital Association
Keystone Center

- Dedicated to improving patient safety and patient care quality

- Sample Initiatives
  - Keystone: ICU
    - Median acquired infections in participating hospital ICUs = ZERO
  - Keystone: Gift of Life
  - Keystone: Surgery
  - Keystone: Hospital-Associated Infections
General Principles

- Exemplary Hand Hygiene (HH) and Aseptic Technique (AT) prevent infection
  - HCWs do not consistently practice good HH or AT
  - HCWs are inconsistently trained and assessed in HH and AT
  - Teams who care for patients together should train together
General Principles

- Standardization of practice is essential for optimal patient outcomes
  - All 747 cockpits look alike—this prevents errors as different cockpit crews work together
  - Health care environments are non-standard as are HCW behaviors—this is fertile ground for error commission
More Principles

- Every provider of patient care is a role model for every other member of the team
- Every provider of patient care can make a difference in infection-prevention
The “Fail-Safe Crew”

- When every member of the patient care team feels personally responsible for preventing errors
- When every member of the patient care team is empowered to question every other member
- When every member of the patient care team respects the input of every other member
Fail Safe Crew

- When every member of the team has the
  - KNOWLEDGE
  - SKILLS and
  - ATTITUDES necessary to perform optimally
The Swiss Cheese Model

- Multiple errors are usually needed to result in harm to a patient
- Latent errors set up HCWs for actual errors “at the sharp end”
- The VERY BEST PEOPLE make the VERY WORST MISTAKES
- Good teamwork helps prevent errors
The “Swiss Cheese” Model
Fail Safe Crew

- Fail Safe Crews make it unlikely that multiple errors will occur and a patient will be harmed.

- They provide checks and balances to inevitable error cascades.
Aseptic and Asepsis

- Aseptic technique is the purposeful prevention of transfer of organisms by keeping microorganism counts to an irreducible minimum.
- Asepsis is the absence of pathogenic (disease-producing) organisms.
Dirty vs. Clean vs. Aseptic

Number of microorganisms

Dirty
Soiled
Contaminated

Clean

Aseptic
Sterile
Clean Technique

- Typically clean gloves are used for activities that do not invade sterile sites
  - Wound cleaning, dressing changes, trach care
  - Dealing with blood and other body fluids
Clean vs. Sterile

- Clean technique refers to practices that reduce the number of microorganisms.

- Sterile or ASEPTIC technique refers to practices designed to render and maintain objects and areas maximally free from microorganisms.
Aseptic Technique

- Aseptic technique involves:
  - using sterile barriers such as gloves, gowns, drapes to prevent transferring microorganisms from environment or health care practitioner to the patient
  - applying antiseptic agents to minimize the number of organisms on a patient’s skin at the time of a procedure
  - cleaning and appropriate reprocessing (sterilizing) reusable equipment
Hand Hygiene and Aseptic Technique

- Exemplary hand hygiene and attention to detail when setting up and working within a sterile field are expectations of all care providers.
- Team members must help each other fulfill these expectations.
Infection Control Education

- ICE
  - Every patient
  - Every time
  - Every provider

- BEST CARE
  - Every patient
  - Every time
  - Every provider