Infection Prevention and Control - General Orientation

- Hand Hygiene: CDC
- Isolation Precautions: CDC
- Medical Waste: OSHA
- Environmental Cleaning: CDC
- Safe Injection Practices: CDC
- Bloodborne Pathogens: OSHA
- Respiratory Protection: OSHA
Infection Prevention and Control

- Essential shared activity
- Provide a safe environment for everyone
- Identify and correct unsafe practices
- Reduce and prevent the transmission of organisms
Father of Infection Control

- Used epidemiologic approach with puerperal sepsis
- Developed and tested hypothesis (hand washing) in 1847
- Shared results but did not publish
- Called a crackpot and avoided by peers
- Spent last years in asylum and subsequently died of infection
Infection

Persons at high risk for infection

✓ Elderly/very young

✓ Chronic diseases

✓ Immunocompromised (patients receiving steroids, chemotherapy, organ transplants)

✓ Invasive procedures

✓ Hospitalization
Hand Hygiene

- Upon arrival at work, leaving, and returning to work area
- Before and after any patient, environment, or equipment contact
- After caring for patients with *Clostridium difficile* /active diarrhea
- Between dirty and clean patient care tasks
- When hands are visibly soiled or contaminated
- Prior to invasive procedures
- After personal use of the toilet
- Before and after eating, drinking, or smoking
- Before and after gloves are used
Hand Hygiene

Alcohol Based Hand Rub

- Primary hand hygiene agent
- Use multiple times between washing with soap and water
- Located throughout the facility

Soap and Water MUST be used:

- When your hands are visibly soiled (or contaminated with blood or body fluids)
- When caring for a patient with *C. diff* or diarrhea
- After personal use of toilet.
Hand Hygiene Products and Procedures

- Use facility provided hand lotion.
- Keep natural nail tips neatly groomed and trimmed to ¼ inch in length.
- No artificial nails
Gloves

- Perform hand hygiene before and after
- Change between tasks (clean vs dirty)
- Do **NOT** reuse

- Gloves are **not** to be routinely worn outside of rooms

Gloves are **not** a substitute for hand hygiene!
Personal Protective Equipment (PPE)

- Gloves
- Gown
- Mask (surgical), N-95 respirator (for Airborne), PAPR
- Goggles or safety glasses
- Face shields
- Other PPE for specific jobs include hard hats, special shoes, aprons
Multidrug-Resistant Organisms (MDRO)

✓ MDROs: organisms that are resistant to one or more classes of antibiotics, limiting options for treatment

✓ MDRO infections increase the mortality, lengths of stay and costs for patients

✓ Examples: MRSA, VRE, CRE, ESBL
Standard Precautions

Protect yourself!!!

- Perform hand hygiene
- Personal Protective Equipment (PPE)
- Proper disposal of medical waste
- Sharps Safety
- Colonization vs Infection
- Clean reusable and high touch items
Transmission-Based Precautions

- Used in addition to Standard Precautions
- Signs with instructions are posted outside of patient rooms
- Based on type of Organism/Illness/Issue
  - Contact
  - Droplet
  - Airborne
  - Special

****Always communicate precautions with hand-off ****
Contact Precautions

✓ Prevents direct and indirect contact transmission
✓ Physical transfer (direct or indirect) of organisms can occur
  ❖ During patient contact (turning, bathing, etc.)
  ❖ Contact with the environment.
  ❖ Requires gown and gloves and private room
Droplet Precautions

- Prevents transmission via droplets from the patient when they cough, sneeze, talk and/or undergo certain procedures.
- Droplets can travel 3 to 6 feet
- Requires private area with door
- Wear a surgical mask and gloves
- Eye protection/gowns per facility policy
- Place a surgical mask on patients when traveling outside of their room.
Airborne Precautions

- Prevents transmission through airborne particles
- Negative pressure room
  - Check monitor on wall & keep the door closed
- Wear a fit-tested N-95 respirator prior to entering the room
- When transport is necessary, place surgical mask on patient.
Cleaning and Disinfection of the Inanimate Environment

- **Cleaning**: mechanical removal of dirt or foreign materials
- **Disinfection**: elimination or destruction of almost everything on a surface or item

- Clean all reusable equipment between each use and when visibly soiled with an EPA registered disinfectant.

- Storage: Clean vs Dirty

- Follow manufacturer’s recommendations

- Clean visible blood or body fluids immediately

- Use appropriate PPE
Blood-borne Pathogens Standard requires:

- Personal Protective Equipment (PPE)
- Sharps safety products
- Appropriate handling of medical waste and sharps containers
- Provide Hepatitis B immunizations
- Education and bloodborne pathogens exposure control plan to minimize or eliminate workers’ exposure to blood or other potentially infectious materials

OSHA exposure logs and Employee Health Records

- Confidential records maintained in secure location for duration of employment plus 30 years
Safe Injection Practices

✓ Use aseptic technique when handling medications
✓ Syringes and needles are sterile, single-patient use items
✓ Do not administer medications from a syringe to multiple patients even if the needle is changed
✓ Administer topical, spray or drops in a manner to prevent cross-contamination

ONE NEEDLE, ONE SYRINGE, ONE PATIENT
Sharps Safety

Use sharp safety products with a built in safety device

- Activate the safety device after use
- Dispose of in a puncture resistant-labeled sharps container
- Do not bend or break needles or sharp items

Use proper sharps container for your area

- Do not remove needles from a sharps container
- Do not overfill sharps container
- Change container when it is 2/3 full

Use work practice controls

- Do not eat, drink, apply cosmetics or lip balm, or handle contact lenses in any area where there is a possibility of blood or body fluid exposure
Infectious Medical Waste

Infectious medical waste is any item that is saturated or caked with blood or other potentially infectious materials and must be placed in biohazard containers

- Infectious medical waste containers are labeled: red bags, biohazard signs or labels
- Infectious Medical Waste is covered and transported separately from other waste streams
- Infectious medical waste is secured in storage locations
- Used needles, scalpels and other sharp items are placed in labeled, hard sided sharps containers
- Lab items, such as stool and sputum, are to be placed in biohazard bags prior to transport to the lab
✓ Soiled linen:
  ❖ Handle as little as possible
  ❖ Keep off the floor
  ❖ Place in designated containers with lids or bags
  ❖ Store separately from clean linen

✓ Clean linen should be covered during storage and transport
Bloodborne Pathogens

Exposure risks can occur when unprotected contact is made with some human body fluids. Potentially infectious body fluids include:

- Blood
- Amniotic fluid
- Vaginal secretions
- Pleural fluid
- Pericardial fluid
- Cerebrospinal fluid
- Synovial fluid
- Peritoneal fluid
Bloodborne Pathogens

Hepatitis B virus (HBV), Hepatitis C virus (HCV) and Human immunodeficiency virus (HIV)

- Transmission

  ✓ Activities that involve percutaneous exposure (i.e., puncture through the skin, non intact skin), mucosal contact, unprotected sex with infectious blood or body fluids (i.e., semen, saliva)
If you have any exposure such as a needle stick, use **WIN**:

- Wash the exposed area immediately with soap and water.
- Identify the source of the exposure.
- Notify your supervisor immediately.

**DO NOT WAIT!**

**Know your risk**

HBV positive needle stick exposure: 6-30%

HCV positive needle stick exposure: approximately 1.8%

HIV exposure from a needle stick: 0.3% or 1 in 300
Health Care Provider

Immunizations and certain tests are offered FREE

- Hepatitis B vaccine
- Measles, Mumps and Rubella (MMR)
- Varicella (chickenpox) screening
- Influenza
- Tdap
- 2-step Tuberculosis skin test (TST) or T-SPOT
So What Can We Do?

Hand Hygiene

Cough Etiquette

Immunizations

Cleaning

Follow Precautions!

PPE
Questions???
References

- CDC Guidelines for Hand Hygiene
- OSHA Bloodborne Pathogens Standard
- CDC Management of Multidrug-Resistant Organisms in Healthcare Settings
- OSHA Respiratory Protection Standard
- CDC Guidelines for Medication Handling and Injection Practices
- CDC Guidelines for Environmental Infection Control in Health-Care Facilities