Infection Control Update 2013

Satellite Conference and Live Webcast
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Faculty

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Hand Hygiene

- **Hand hygiene is the FIRST and LAST step in preventing infections**

Hand Hygiene

- **Two methods of hand hygiene:**
  - **Soap and water**
  - **Waterless, alcohol-based hand washing products**

Hand Hygiene

- **Antimicrobial soap and alcohol-based hand hygiene agents are used to kill or retard the number of microorganisms on the skin**

Hand Washing with Liquid Soap

- **Liquid, antimicrobial soap is preferred over bar soap**
- **Liquid soap containers may become contaminated**
  - **Carry as small a container as possible**
  - **If you refill a container, be sure the container is clean and dry**

Hand Washing with Bar Soap

- Bacteria can grow on bar soap, especially if it is resting in water
- If bar soap is used, store it in a drainable dish, but rinse bar under running water before use
- Do not carry bar soap from home to home

Use of Waterless Alcohol Products

- Waterless, alcohol hand washing products contain 60 - 90% alcohol

Use of Waterless Alcohol Gel Products

- Alcohol is an antiseptic agent that can be used to decontaminate hands that are not visibly soiled
- Only use waterless, alcohol hand washing products when soap and water are not available

Hand Washing Using Soap and Water

- Method for washing hands:
  - Use warm (not hot, nor cold) running water
  - Lather soap in hands

Hand Washing Using Soap and Water

- Vigorously rub hands together, washing all surfaces:
  - Palms
  - Backs of hands
  - Between fingers and wrist
  - Around under nail beds and under fingernails
  - Around and under rings

Soap and Water Method

- Wash hands a minimum of 15-20 seconds using a rotary motion and friction
- Rinse well under running water to remove all soap
- Dry hands with a paper towel
- Use paper towel to turn off faucet, then discard paper towel

Waterless Alcohol Hand Gel Method

- Follow manufacturer's recommendations regarding amount of alcohol-based waterless agent to use
  - A general rule: apply 5 ml (1 teaspoon) into hand
- Vigorously rub hands (all surfaces) together until dry

Use of Waterless Alcohol Products

- Using waterless alcohol hand products decreases the amount of time needed to decontaminate hand
- Tends to increase hand hygiene compliance

Use of Waterless Alcohol Products

- Not recommended in presence of physical dirt, contamination with body fluids or exposure to spore-forming organisms
  - e.g. C.Diff, norovirus

Hand Washing / Hand Hygiene

- Indications for hand hygiene:
  - Prior to any patient care activity
  - When handling food
  - Between tasks
  - After removal of gloves
  - Emptying trash
  - Sneezing

Hand Washing / Hand Hygiene

  - Touching hair
  - Using toilet
  - After any activity that could contaminate your hands
  - At the end of the visit, before doing any paperwork

Hand Washing / Hand Hygiene

- Remember:
  - When in doubt, wash hands!

Hand Hygiene

- Frequent hand washing can strip the skin of natural oils and lead to dryness, cracking, and irritation
  - This increases the risk of colonization and infection
- Lotions and creams should be used with care

Hand Hygiene

- Fingernails should be kept short
  - Flaking or peeling polish should be removed
- Artificial fingernails or nail extenders are not recommended for use by direct care providers because they increase the risk of spreading infection

Personal Protective Equipment (PPE)

- Use gloves for any task involving a potential for contact with non–intact skin, mucous membranes, and blood or body fluids (except sweat)
- If in doubt use gloves

PPE

- Change gloves:
  - If torn
  - Between procedures on the same patient
  - After contact with patients known to have multi-drug resistant bacteria

PPE

- Remove gloves as soon as possible after a task is completed to prevent cross contamination
- Don't touch your face or adjust PPE with contaminated gloves
- Do not wash or reuse disposable single use gloves

PPE

- Always wash hands after gloves are removed
- Latex gloves are made from natural rubber
- If allergic to latex, vinyl gloves may be an option

PPE

- Latex allergies may include:
  - Skin rash
  - Hives
  - Flushing
  - Nasal, eye, and sinus symptoms

PPE

- Aprons provide basic barrier to protect you and your patient
- Wear apron when performing care activities that may result in your uniform becoming soiled
- Gowns may be worn during patient care activities when you anticipate your uniform may have contact with blood or body fluids

PPE

- Wear mask and / or eye protection when there is a possibility of splashes or sprays to the facial area
- Masks / facial shields should protect the nose and mouth and prevent fluid penetration

PPE

- Goggles or safety glasses should fit snugly over and around eyes or eyeglasses
- Personal glasses are not a substitute for goggles

PPE

- Donning:
  - Gown
  - Mask
  - Goggles
  - Gloves
- Removing:
  - Gloves
  - Goggles
  - Gown
  - Mask

PPE

- Safe work practices – always remember to:
  - Keep hands away from face
  - Limit surfaces touched
  - Change equipment when torn or heavily contaminated
  - Perform hand hygiene immediately after removing all PPEs

Prevention Precautions

- Standard Precautions
  - Means to treat all patient's blood, body fluids, secretions, excretions, non-intact skin, and mucous membranes (except sweat), as if they were infectious material

Prevention Precautions

  - Includes the use of hand hygiene, gloves, gown, mask, goggles or facial shield, depending on the anticipated exposure

Prevention Precautions

- Contact Precautions
  - Are used for diseases transmitted by contact with patient or the patient's environment
    - e.g., C- difficile, etc.
  - Wear gown and gloves

Prevention Precautions

- Droplet Precautions:
  - Used to prevent the spread of diseases caused by large respiratory droplets that are produced by coughing, sneezing, or talking
    - e.g., influenza, mumps, bacterial meningitis

Prevention Precautions

  - Wear mask
  - Handle items contaminated with respiratory secretions with gloves
    - e.g., tissues, handkerchiefs

Prevention Precautions

- Airborne Precautions:
  - Used to prevent the spread of infectious organisms that remain suspended in the air and travel great distance
    - e.g., measles, smallpox, chickenpox, pulmonary tuberculosis, influenza

Respiratory Etiquette

- Cover nose and mouth with a tissue when coughing or sneezing
- Dispose of tissue in a waste basket
- If you do not have a tissue, sneeze or cough into your sleeve
- Avoid touching eyes, nose, or mouth

Prevention

- After coughing or sneezing, always clean your hands with soap and water or an alcohol based hand cleaner
- Stay home when you are sick
- Do not share eating utensils, drinking glasses, towels, or other personal items

Viral Hepatitis

- Hepatitis means inflammation of the liver
- Several types exist
  - A, B, C, D, and E
- All can cause unapparent and acute inflammation of the liver

Viral Hepatitis

- Infections with hepatitis A and E usually resolve on their own with no chronic state
- Hepatitis B, C, and D can progress from an acute to a chronic condition
  - Can lead to cirrhosis, liver failure, liver cancer, and death

Viral Hepatitis

- Signs and symptoms may include:
  - Jaundice
  - Dark urine
  - Clay colored stools
  - Flu-like symptoms
  - Generalized itching
  - Anorexia (loss of appetite)

Hepatitis A (HAV)

- HAV is usually spread when a person ingests fecal matter from contact with objects, food, or drinks contaminated by feces or stool from an infected person
  - Even in microscopic amounts

HAV

- HAV also can be spread through contaminated food or water
  - This most often occurs in countries where HAV is common, especially if personal hygiene or sanitary conditions are poor

HAV

- Contamination of food with HAV can happen at any point
  - Growing, harvesting, processing, handling, and even after cooking

HAV

- Hepatitis A can be spread when:
  - An infected person does not wash his or her hands properly after going to the bathroom and then touches objects or food
  - A caregiver does not properly wash his or her hands after changing diapers or cleaning up the stool of an infected person

HAV

  - Someone engages in certain sexual activities, such as oral-anal contact with an infected person

Preventing HAV

- Get vaccinated
  - Two shot series given 6 months apart intramuscular (IM) injection
- CDC recommends vaccination for children 1 year or older, homosexual and bisexual men, IV drug users, and travelers to endemic countries

Hepatitis B (HBV)

- HBV is a contagious liver disease that results from infection with the Hepatitis B virus
  - Can range in severity
    - Acute: a few weeks
    - Chronic: serious, lifelong illness

HBV

- HBV is usually spread by blood, semen, or another body fluid through:
  - Sexual contact with an infected person
  - Sharing needles, syringes, or other drug-injection equipment
  - Infected mother to her baby at birth

Preventing HBV

- Is a vaccine preventable disease
- Vaccine is a yeast product (not blood), and is 96% effective

Preventing HBV

- Get vaccinated
  - 3 shot series
    - Children: Given at birth, 1-2 months, 6-18 months
    - Adults: Initial shot, 1 month, 6 months

Preventing HBV

- Get vaccinated
  - HAV / HBV combination vaccine available
    - 3 shots: Initial, 1 month, 6 months

Hepatitis C (HCV) "The Silent Epidemic"

- Hepatitis C virus infection is the most common chronic blood-borne infection in the United States
- Many people who are infected do not have symptoms for many years, but their blood and body fluids could be infectious to others

Spread of HCV

- HCV is most efficiently transmitted through large or repeated percutaneous exposure to infected blood such as:
  - Blood transfusion from unscreened donors
  - Injecting drugs

Spread of HCV

- Sexual and perinatal (less frequent)
- Sharing toothbrushes, razors, etc.

Preventing HCV

- Currently, there is no vaccine to prevent HCV
- Avoid risky behaviors such as illegal drug use, engaging in unprotected sex, sharing needles, razors, or toothbrushes

Preventing HCV

- HCV carriers should avoid transmitting the virus to others by not sharing needles, razors, toothbrushes, and by using condoms with sexual partners
- HCV carriers should avoid donating blood, organs, tissue or semen

Preventing HCV

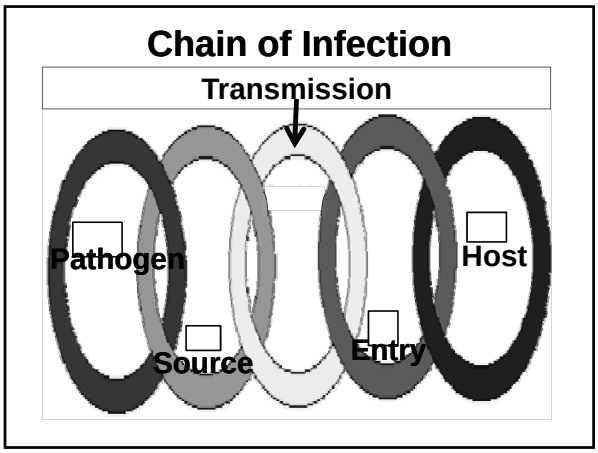
- Always practice standard precautions by wearing the appropriate PPE when contact with blood or body fluid is anticipated

Preventing HCV

- Currently no cure available for HCV
- Treatment consists of:
  - Providing supportive care
  - Encouraging abstinence from alcohol ingestion
  - Avoid hepatotoxic drugs for long-term management

HDV

- Hepatitis D is seen only as a co-infection in persons with HBV or HCV
- Hepatitis D can't exist alone


Chain of Infection
Transmission
Pathogen
Host
Source
Entry