Infection Control Update 2009

Satellite Conference and Live Webcast
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Produced by the Alabama Department of Public Health
Video Communications and Distance Learning Division

Faculty

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Program Objectives

- Define hand hygiene and its importance in preventing the spread of disease
- List three products that may be uses for disinfection in the home
- List two of the more common multi-drug resistant organisms
- Discuss the importance of personal protective equipment to the healthcare worker

IC Basics

- What makes your patients more susceptible to infection
  - Broken skin
  - Small children in the house
  - Poor personal hygiene
  - Decreased defenses due to illness
  - Home sanitation
  - Questionable water supply & purity
  - Care giver technique

You can be a

Teacher!

And you are an

Example!!

Handwashing/hand hygiene is the 1st and last step in preventing infections

Handwashing

- How to wash
  - Use warm (not hot, nor cold) running water
  - Lather soap in hand, then vigorously rub together
    - All surfaces (palms, backs of hands, between fingers & wrist)
    - Around nail nail beds and under fingernails
    - Around and under any rings

Handwashing

- Most sources recommend a minimum of 10-15 seconds of friction
- Rinse well under running water to remove all soap
- Turn off water with a paper towel, discard, then dry hands

Hand Hygiene

- Hand hygiene steps
  - Apply 3-5 ml (5 ml is a teaspoon) of alcohol-based waterless agent into hand
  - Vigorously rub hands (all surfaces) together until dry

Handwashing

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

Handwashing

- Soap
  - Liquid soap containers may also become contaminated
    - Carry as small a container as possible
    - If you refill a container, be sure that the container is clean and dry

Hand Hygiene

- Antimicrobial soap and alcohol hand hygiene agents are used to kill or retard resident microorganisms in the deep epithelial skin layers

Handwashing/Hand Hygiene

- When to wash
  - Prior to any patient care activity
  - When handling food
  - Between tasks
  - After removal of gloves

Handwashing/Hand Hygiene

- After any activity that could contaminate your hands
  - Emptying trash
  - Sneezing
  - Touching hair
  - Changing diapers
  - Using toilet
  - Emptying vacuum

Handwashing/Hand Hygiene

- At the end of the visit, before doing any paperwork
- WHEN IN DOUBT DECONTIMINATE
- Use friction when drying hands with a clean unused paper towel
  - Also helps remove bacteria

Hand Hygiene

- Waterless alcohol handwash products
  - First used only when soap and water were not available
  - Now know they are more effective than soap and water
  - Cause less skin irritation and dryness

Hand Hygiene

- Decreases the amount of time needed to decontaminate hands
- Increases hand hygiene compliance
- Alcohol is not a good cleaning agent and is not recommended in the presence of physical dirt or contamination with body fluids

Handwashing/Hand Hygiene

- Frequent handwashing will strip the skin of natural oils and lead to dryness, cracking and irritation
  - This increases the risk of colonization and infection
- Use lotions & creams with care
- Fingernails should be kept short and any flaking or peeling polish should be removed

PPE

- Gloves
  - Use 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 cracked or torn
  - Between tasks and procedures on the same patient
    - Don't wear the same gloves to brush teeth that were used to bathe the patient
  - If a dirtier part of a task was completed before a cleaner part

PPE

- After any contact with any material containing a high concentration of bacteria
  - Changing diaper or cleaning feces
- After any contact with patients that have MRSA or VRE
- Remove gloves as soon as possible after a task is completed to prevent cross contamination

PPE

- DO NOT WASH OR REUSE DISPOSABLE, SINGLE USE GLOVES
- ALWAYS WASH HANDS AFTER GLOVES ARE REMOVED
- Don't touch your face or adjust PPE with contaminated gloves
- Don't touch environmental surfaces except as necessary during patient care

PPE

- Latex gloves are made from natural rubber
- Latex allergies
  - Skin rash
  - Hives
  - Flushing
  - Nasal, eye and sinus symptoms
- Not only your problem, but possibly your patients also

PPE

- Aprons should be worn with every patient
  - The apron worn over your uniform provides a basic barrier to protect you and also protect your patient
- Gowns should 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 & 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

PPE

- Removing
  - Gloves
  - Goggles
  - Gown
  - Mask

PPE

- 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

Cleaning

- Patient care equipment
  - All items must be cleaned first to remove any blood or body fluids before disinfecting
  - Most non-critical items can be cleaned with a detergent

Cleaning

- Disinfection
  - Products suitable for disinfection in the home
    - Bleach
    - Hydrogen peroxide
    - Boiling water
    - Phenolics (e.g. Lysol, Pinesol)
    - Isopropyl alcohol (70%)

Cleaning

- Acetic acid (vinegar) is often used for disinfection, but since vinegar may not contain a standard concentration of acetic acid, it is not recommended
- Vinegar is not effective against Staphylococcus aureus

Cleaning

- Principles of cleaning, disinfecting and sterilization
  - Clean all items thoroughly to remove any soil organic material
  - Read manufacturer's recommendations or departmental procedure
  - Leave disinfectant on items for the recommended contact time

Cleaning

- Thoroughly rinse items and allow to dry
  - Take care not to recontaminate
- Rinse with fresh tap water or sterile water
- Use appropriate PPE when cleaning and disinfecting items
- Always store items properly

Cleaning

- Waste disposal
  - Waste can be disposed with other home waste in correct containers
  - Be familiar with pamphlet "Handling and Disposal of Home Medical Waste: a Household Guide for Alabamians"

Cleaning

- Medical waste is not transported from patient's home to home health office for disposal
- Disposable supplies should be double bagged in plastic trash bags, securely fastened and placed with other household trash

Cleaning

- Soiled linen and clothing can be safely laundered in the family washer using
  - Detergent
  - Hot water
    - As hot as safe for material
  - Bleach
    - Read washing instructions
  - A dryer boosts antibacterial activity

Cleaning

- Never hold clean nor soiled linen against your clothing
- If soiled with fecal material, dispose in the toilet and wash separately
- Keep off the floor and upholstered furniture
- Never shake linen, clean or soiled

Food

- Food preparation
  - Wash hands before and after food preparation
  - Store cooked and uncooked foods separately
  - Do not thaw and refreeze foods
  - Persons with diarrhea should not assist with food preparation

Food

- Dishes need no special treatment
- Refrigerate leftovers
- Keep all food prep areas clean
- Do not use cracked eggs
- Heat leftovers thoroughly
- If in doubt throw it out!

Food

- CDC reports that 85% of ALL foodborne illness is preventable

General

- Pets
  - Man's best friend and a big comfort
  - Pets can speed recovery
  - Should not be in area when any treatments are being done
  - Problems with reptiles

Transmission

- Communicable disease seen in home
  - Pinkeye (conjunctivitis)
  - Acute diarrhea
  - Fifth Disease
  - Lice
  - RSV
  - Ringworm of the scalp
  - Scabies

Transmission

- MDRO's
  - Bacteria that have become resistant to antibiotics normally used to treat infections they cause
    - MRSA (Methicillin Resistant Staphylococcus)
    - VRE (Vancomycin Resistant Enterococcus)
    - C. difficle

Transmission

- Transmitted in two ways
  - Direct contact
    - Skin to skin
  - Indirect contact
    - Exposure to contaminated environment or equipment
- Protect yourself and your next patient by washing your hands and wearing the appropriate barriers (PPE's)

Transmission

- Risk factors for MDRO's
  - Underlying chronic and/or immunosuppressive illness
    - Cancer
    - HIV
    - Transplant
    - Steroid therapy
    - Multiple health problems

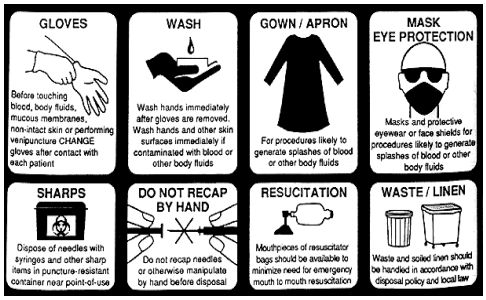
Transmission

- Colonization versus Infection
  - Colonization
    - Bacteria is present, but is not causing infection
  - Infection
    - Bacteria is causing an infection such as UTI, skin (spider bite, cellulitis), wounds, blood or other body site

Isolation

- Standard precautions
  - All patients blood, body fluids, secretions, excretions, non-intact skin, and mucous membranes
    - Except sweat
- Contact precautions
  - Patients who are infected with MDRO's
  - Use when having direct contact

Standard Precautions



Viral Hepatitis

- Signs and symptoms
  - Jaundice
  - Dark urine
  - Pale colored stools (clay colored)
  - Flu-like symptoms
  - Pruritus (generalized itching)
  - Anorexia (loss of appetite)

Hepatitis A

- Transmission
  - Close personal contact – fecal/oral route
    - Household, sexual, daycare
  - Contaminated food or water
    - Infected food handler, raw seafood
  - Blood exposure
    - Very rare

Hepatitis A

- Present vaccine is 99% effective
- Two dose schedule
  - Given 6 months apart
- Recommended for children 2 years or older, homosexual and bisexual men, IV drug users and travelers to endemic countries

Hepatitis B

- Transmission
  - Sexual
  - Parenteral
  - Perinatal
  - Other

Hepatitis B

- Approximately 30 – 60% of young children and 2 – 10% of adults who are infected, will develop chronic disease
- Persons with chronic HBV infection are often asymptomatic
- Approximately 15 – 25% of these may die prematurely from either cirrhosis or liver cancer

Hepatitis B Vaccine

- Vaccine is a yeast product (not blood)
- 96% effective
- 3 dose series, given IM in the deltoid (arm)
  - 0, 3 and 6 month interval

Hepatitis C "The Silent Epidemic"

- A major healthcare problem worldwide
- Many people who are infected do not have symptoms for many years, but their blood and body fluids could be infectious to others

Hepatitis C

- 50 million people worldwide; of these 4 million are in the U.S.
- 70 -90% of those infected will develop chronic infection
- Contributes to over 12,000 deaths annually

Hepatitis C

- Transmission
  - Injecting drugs
  - Sexually
  - Blood transfusions (prior to blood donation screening)
  - Perinatally (rare)
  - Household
    - Sharing toothbrushes, razors,etc.
  - Other

Hepatitis C

- Treatment
  - There is no vaccine at present for hepatitis C
  - There are some anti-viral medications available for treatment of some hepatitis C patients, but the treatment is usually only effective in 10-40% of those treated

2007 Respiratory Illnesses of Concern

- Seasonal Flu
- Avian Flu
- Pandemic Flu
- Pertussis in teenagers and adults
- RSV
- Meningitis

Seasonal Flu

- A respiratory illness that can be transmitted, easily, from person to person
- Most people have some immunity and a very effective and safe vaccine is available
- Everyone is strongly encouraged to get a yearly flu shot

Pandemic Flu

- A virulent (strong) human flu that can cause a global or worldwide outbreak or pandemic of serious illness
- Because there is little natural immunity, the disease can spread easily from person to person
- There is pandemic flu currently

Pertussis

- Seeing more teenage/adult age cases
- Most infectious during catarrhal (runny nose) stage
- Incubation period is seven to ten days

Pertussis

- Transmission
  - Coughing or sneezing
  - Unclean hands
  - Inanimate objects

Respiratory Etiquette

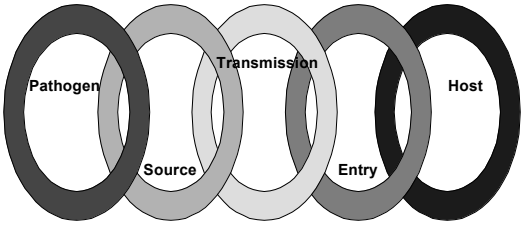
- When cough or sneeze, cover nose and mouth with a tissue
- Dispose in a waste basket
- If you do not have a tissue, sneeze or cough into your sleeve
- Avoid touching eyes, nose, or mouth

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

Chain of Infection

Links in the Chain of Infection



Handwashing

Infection Prevention

Lend Healthcare A Hand
By Washing Yours™