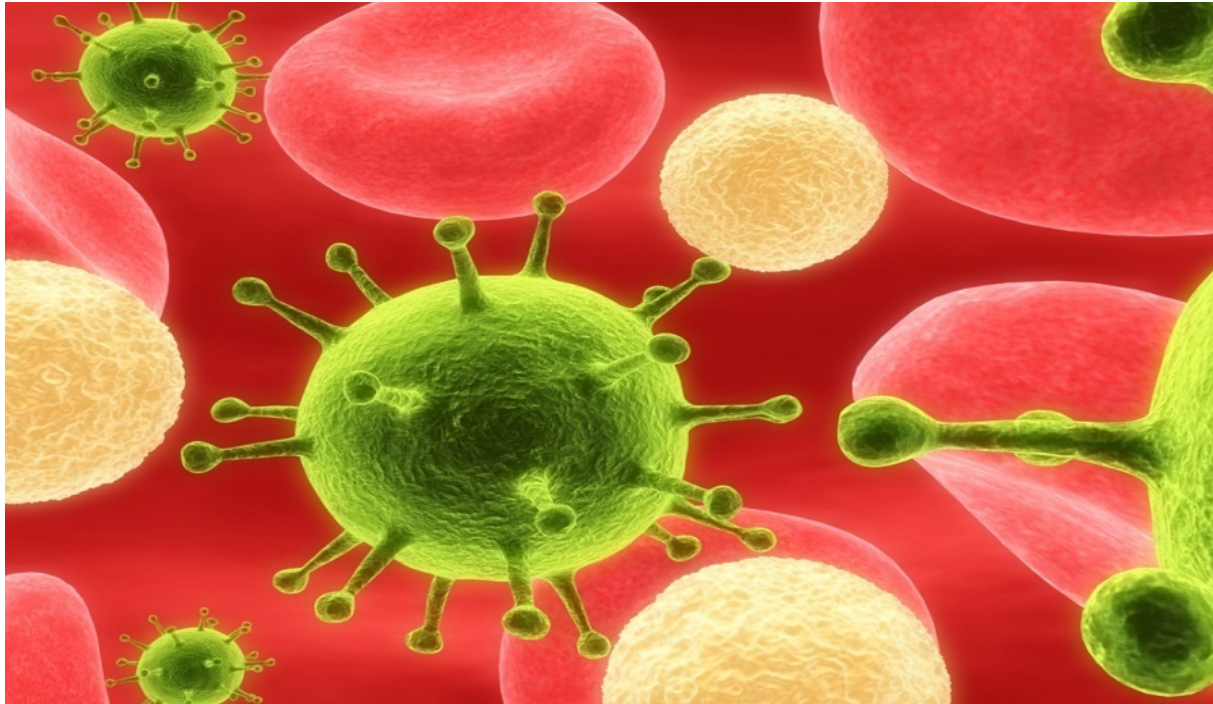


Infection Prevention

It's in Your Hands



South Carolina Nursing and Healthcare Student Orientation

Objectives

- ☐ Verbalize basic understanding of infection control concepts
- ☐ Describe how and when to wash hands.
- ☐ Describe Bloodborne pathogens.
- ☐ List the different routes Bloodborne pathogens are spread.
- ☐ Describe how you would prevent spread of Bloodborne pathogens with standard precautions.
- ☐ Outline the types and use of personal protective equipment.

Objectives, continued

- ☐ Describe the action you would take if you had a bloodborne pathogen exposure.
- ☐ Identify different types of isolation and PPE to be worn.
- ☐ Describe how to don and remove PPE.
- ☐ Identify infectious waste and hazardous pharmaceutical waste.

The Basis of Standard & Transmission Based Precautions: **Hand Hygiene**



Handwashing is the #1 way
to prevent the spread of
infection!

Handwashing

- Click on the link below and follow the learning module instructions.
- To advance the screens, click on NEXT in the upper right hand corner.
- When you complete the interactive training, Click exit and click “X: to close the window, and you will return to this course.
- CDC-Hand Hygiene Training
<http://www.cdc.gov/handhygiene/training/interactiveEducation>

Handwashing: Key Points

- **Use Soap & Water**
 - **When hands are visibly soiled or contaminated with blood/body fluids**
 - **After using the restroom**
 - **After using the alcohol-based gel/foam approximately 5-10 times due to residue of gel ingredients**

Wet, lather, rub 15 sec, rinse, dry

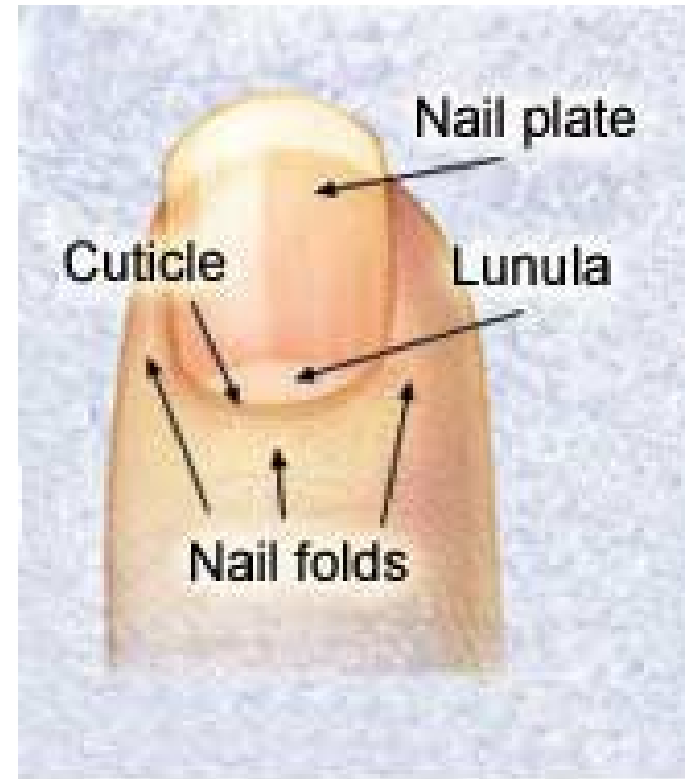


Waterless Products

- **Waterless** *(60-80% alcohol)*
 - Rub **30 sec** or until dry
 - **Dry completely** before touching anything with an electrical source
 - For routine cleansing of hands
 - Before and after your work shift, patient contact, and using gloves.
 - Before preparing or administering medication (if applicable to role)
 - After blowing nose or covering sneeze (if visibly soiled, wash with soap and water)
 - After contact with items used for patient care.

Fingernails and Artificial Nails

- Natural nail tips should be kept to $\frac{1}{4}$ inch in length
- Artificial nails should not be worn when having direct contact with patients



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Guideline for Hand Hygiene in Health-care Settings. *MMWR* 2002;
vol. 51, no. RR-16.



Hand Care: Moisturize

- **ONLY USE facility-approved and supplied lotions if you wear gloves**
 - Some lotions may make medicated soaps less effective
 - Some lotions cause breakdown of latex gloves
- **Do not refill lotion bottles**
 - Lotions can become contaminated with bacteria if dispensers are refilled



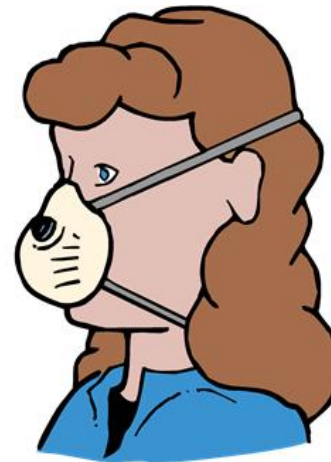
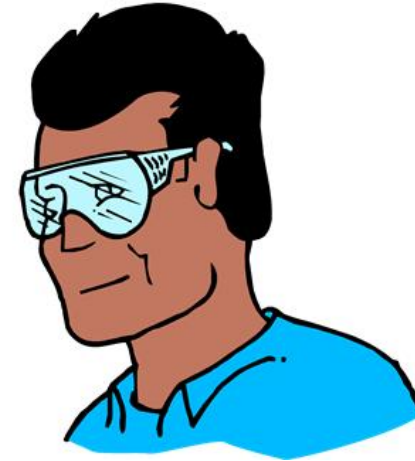
How Do We Stop The Spread?

*By stopping the transmission
using.....*

- Standard Precautions
- Use with any patient
 - Any patient may be potentially infectious
 - Protect yourself.
 - Standard Precautions include wearing protective items such as gloves, gown, or mask when in contact with any bodily fluid or blood.

Personal Protective Equipment (PPE)

- These may include:
 - Gloves
 - Goggles, safety glasses, face shields
 - Fluid resistant gowns
 - Resuscitative pocket masks and bag-valve-mask (ambu bag)
 - **YOU ARE REQUIRED TO USE PPEs TO PROTECT YOURSELF**



Personal Protective Equipment

- Masks with shields or goggles should be worn if you anticipate any spraying, splashing or flaking of body fluids.
- Glove are to be worn when you are handling blood or body fluids or touching unclean surfaces or objects.

Choose the Right PPE

1. Correct **type**
for the job
2. Correct **size**
3. Correct
application
and removal
technique

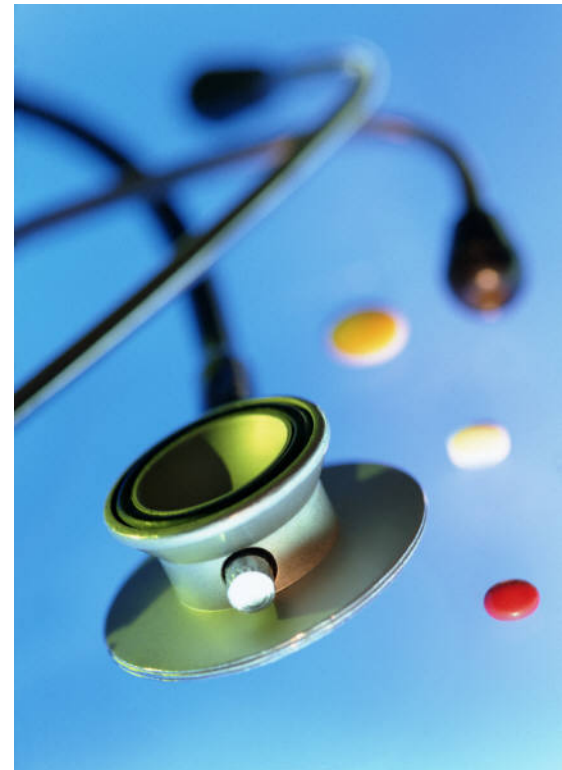


Germs can be transported by other things too.....



And Where Has This Been?

- *Clean between patients*
- *No covers*
- *Do not wear around neck*



What about
those lab
coats?

Lab coats and uniforms are
to be clean and worn according
to school policy.



The Environment:

Keep It Clean.....



- Nursing Units
- Patient rooms
- Departments
- Halls
- Bathrooms
- Food areas
- EVERYWHERE



Contact with the Environment:



Separate Clean and Dirty; *a JCAHO favorite!*

OSHA's Bloodborne Pathogens Standard Contains.....

- (a) Major Provisions by Paragraph
- (b) Definitions
- (c) Exposure Control Plan (ECP)
- (d) Engineering and Work Practice Controls
 - Personal Protective Equipment (PPE)
- (f) Vaccination, Post-Exposure Follow-up
- (g) Labeling and Training
- (h) Recordkeeping



**STANDARD
PRECAUTIONS**

Sharps Containers

Using facility approved safety devices.

Always activating safety devices before disposal.

Never recapping a used needle.

Following facility policy when administering medications that require a needle.

Immediately disposing of sharps container.

Place into sharps containers, anything that can puncture skin

*Needles, blades, wires, razors, teeth,
used glass slides, glass tubes and
Discarded vials of vaccines
containing live viruses*

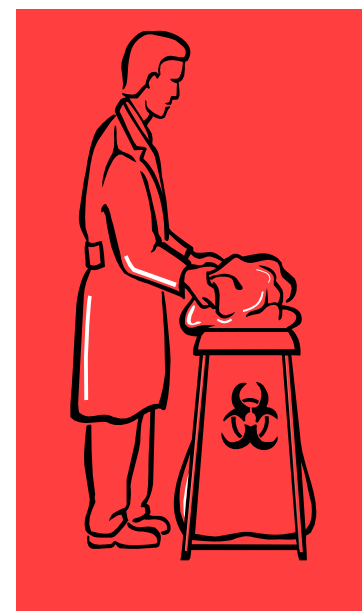


Infection Control Policies

- Always refer to the facility policies related to infection prevention.....look at policy manuals or online at the facility.

Dispose of Infectious Regulated Waste *Per SC– DHEC Regulations*

- **Place in Red Bag**, items soaked or caked with “potentially infectious materials”.
 - *If it drips when squeezed or flakes when dried, it is soaked or caked.*
- Infectious materials include:
 - *blood, bloody material, tissue, amniotic, synovial, pericardial, thoracic, peritoneal, and CS fluids.*
 - *Lab waste, disposable vaginal speculums, **filled sharps containers**.....*



Disinfect Blood Spills



Use:

- Facility approved disinfectant
- 1:10 dilution of **bleach** freshly mixed *(1 part bleach to 9 parts water)*
- *Disinfectant wipes for small blood splatters*

Procedure

- Put on gloves / PPE
- Lay paper towels over the spill
- Saturate spill with disinfectant
- Clean up bulk of spill
- Saturate surface with disinfectant
- Allow 5 minutes contact time

Dispose of Bulk Blood or Bloody Liquids Safely

- Wear appropriate PPE
- **Pour** carefully into commode or hopper
- OR
- **Solidify**/Decontaminate bloody fluids in the canister and discard as general waste. (*Isolyzer*)



Place into General Trash, Items Soiled with:



feces, urine, respiratory secretions, saliva, vomitus, sweat, tears

IV bags & lines without visible blood

PPE without blood

Packaging materials

Empty bedpans, emesis basins, wash basins, and urinals

Diapers & underpads only spotted with blood

Stool blood cards

Exam table paper

Unless visibly contaminated with blood

- Decontaminated/ Solidified bloody fluids

Infectious Waste

REMEMBER.....

Only blood or body fluids that are:

- Drippable
- Pourable
- Squeezable
- Flakable



RED
BAG

Go into the infectious waste containers or Red
Bags

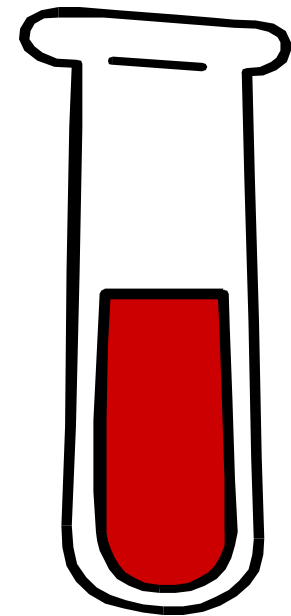
Manage Soiled Linen According to Facility Policy

- Place all soiled linen into leak proof bag
- Loosely fill bags
- Tie the bag securely at the top when 2/3 full (or less).
- Do not throw bags of soiled linen in the floor
- **DO NOT LEAVE SHARPS IN THE LINEN!**
- Place bag in the linen chute/dirty linen cart



Bloodborne Pathogens

- ❑ Bloodborne Pathogens are microorganisms such as viruses or bacteria that are carried in the blood and can cause disease in people.
- ❑ There are many different bloodborne pathogens including:
 - Malaria
 - Syphilis
 - HIV - Human Immunodeficiency Virus
 - HBV - Hepatitis B Virus
 - HCV - Hepatitis C Virus
 -
- **20+** more



Bloodborne Pathogens

- Bloodborne diseases **SPREAD** basically three ways:
 1. Blood to blood contact
 2. Sexually
 3. From infected mother to infant(probably at birth)

Bloodborne Pathogens

❑ All blood and body fluids are potentially infectious and can cause the spread of the following serious diseases:

❑ HIV(the virus that causes AIDS)

❑ Hepatitis B

❑ Hepatitis C

Bloodborne Pathogens

- ☐ Hepatitis B vaccine is recommended for all students who may be exposed to blood or body fluids.
- ☐ Contact your school or healthcare provider for additional information.

Bloodborne Pathogens

- ❑ Effective use of good infection prevention and work practices
 - Hand Hygiene
 - Use of safety devices (e.g., self-sheathing needles)
 - Proper handling and disposal of sharps
 - Appropriate PPE
- ❑ Use of STANDARD PRECAUTIONS every time you have the possibility of exposure to diseases, blood, or body fluids.

You Are Following The BBP Standard
BUT.....

You think you
may have
been
exposed?



Blood Exposure

What is a blood exposure?

- ☐ A cut or needle stick with a sharp item contaminated with blood or body fluids.
- ☐ A splash to eyes, nose, or mouth with a blood or body fluid.
- ☐ A blood contact on broken skin (rash or chapped).

First!

- Wash needle sticks and cuts with soap and water
- Flush splashes to the nose, mouth or skin with water
- Irrigate eyes with clean water, saline, or sterile irrigants.
- No scientific evidence shows that using antiseptics or squeezing the wound will reduce the risk of transmission of a bloodborne pathogen. Using a caustic agent such as bleach is not recommended. (CDC, 2003.)



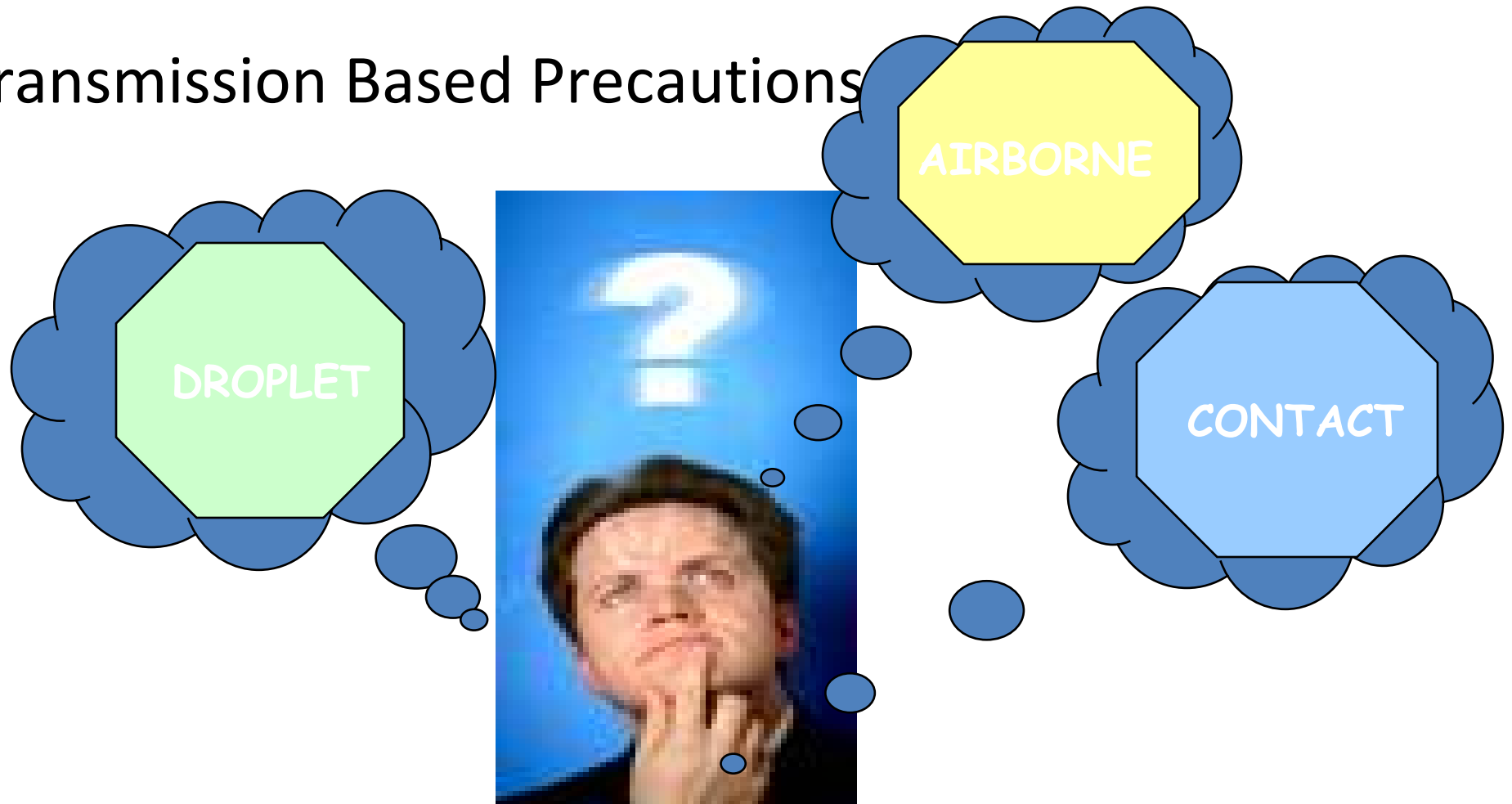
Report Your Exposures



- Procedure:
 - Notify your instructor
 - Complete written report; documentation of the incident, who was involved, witnesses, etc.
 - Follow the procedure for the facility

DO NOT ATTEMPT TO TREAT YOURSELF!

Transmission Based Precautions



Review the facility's isolation/infection prevention policies for more site specific information.

Each facility will provide instructions to remind you what PPE to put on, based on the precaution, prior entering the room.

Diseases Spread by Contact

- Can be spread by direct or indirect patient contact
- Excretions/secretions in environment
 - draining wounds, pustules
 - Chicken pox
 - RSV
 - infectious diarrhea
 - *C. difficile*
- Antibiotic Resistant Organisms, VRE / MRSA
- **Disposable gloves and gowns** are worn for Contact Precautions.



Isolation Precautions: Contact PPE

Before entering the room:

- ☐ Put on isolation gown: tie at neck and waist
- ☐ Put on gloves: should cover cuffs of gown

Before leaving the room:

- ☐ Remove gloves: discard in wastebasket
- ☐ Untie waist
- ☐ Untie neck
- ☐ Remove gown & discard in wastebasket
- ☐ Sanitize hands with alcohol hand rub or wash with soap & water if visibly soiled.

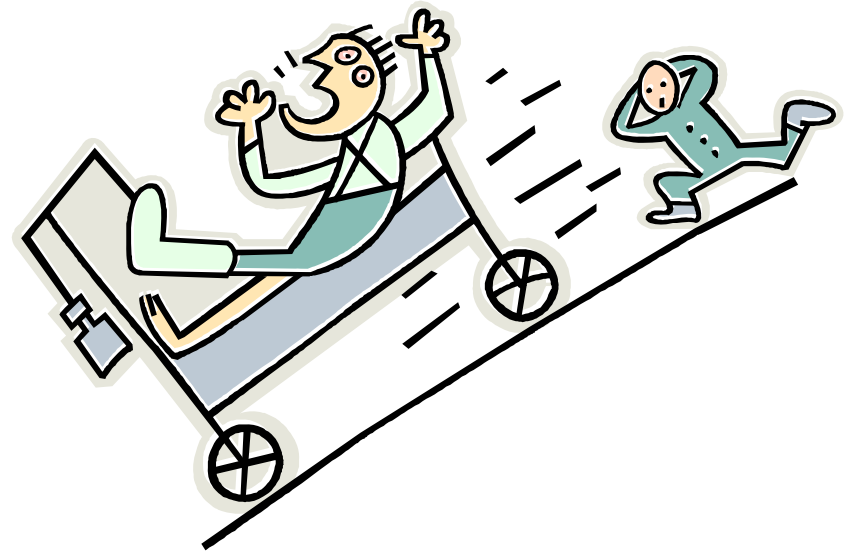
Transporting Patients In Contact Precautions

If medically required, patient may leave room.

Put on gown and gloves to prepare the patient and assist them into the wheelchair or onto the stretcher.

Prepare the patient

- Clean dressings & gowns
- Wash the patient's hands
- Place IV on pole attached to chair or stretcher

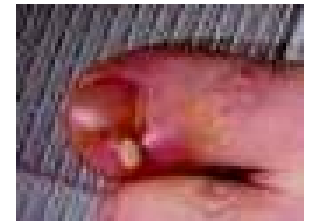


Transport

- Wearing gown and gloves
- Do not allow others on the elevator during transport

Importance of Controlling Antibiotic Resistance in the Hospital

- 60% of hospital acquired infections involve antibiotic resistant organisms
- Resistant organisms cost 2 X to treat
- 95% of the treatment costs for hospital acquired infections are not reimbursable



Community Acquired
Cases of MRSA

Droplet and Airborne Diseases

Identify Respiratory Diseases Early

- Screen all patients who enter for cough
 - Ambulatory Patients (OP) or At Admission (IP)
- If a cough is present
 - remove from others ASAP
 - ask patient to cough into a tissue
 - place surgical mask on patient



Diseases Spread by Droplets of Respiratory Secretions



- Diseases:
 - Meningitis (*H flu*, *N meningitidis*)
 - Meningococcal disease
 - Flu
 - Pertussis (whooping cough)
 - Rubella
 - *GAS pharyngitis / pneumonia in children <6*



Isolation Precautions: Droplet

- Droplet Precautions prevent the spread of germs from the respiratory tract which are generated by the patient during coughing, sneezing or talking.
- Examples: influenza and specified pneumonias in adults.
- **Masks** are worn for droplet Precautions when **within three feet** of the patient.

Isolation Precautions: Droplet

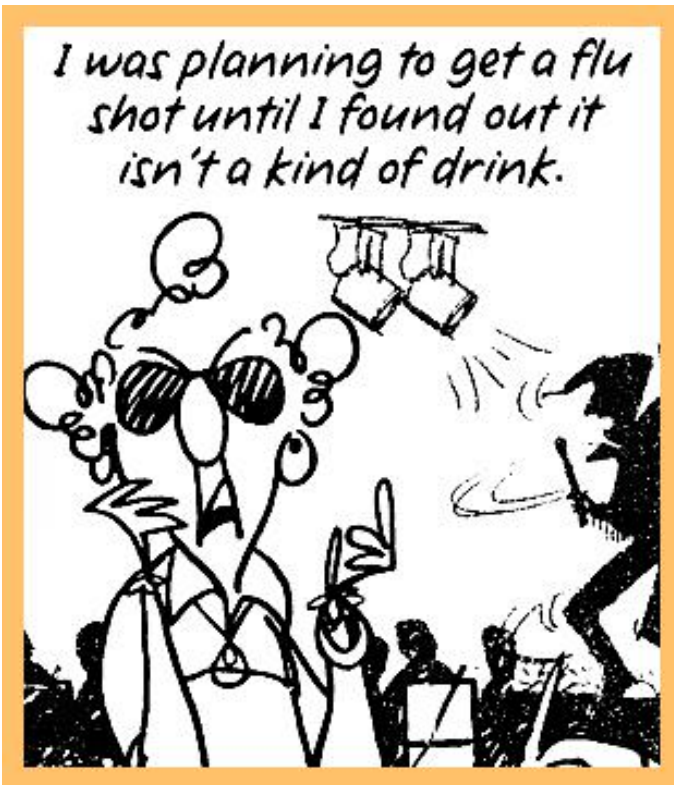
Before entering the room:

- ☐ Put on surgical mask

Before leaving the room, remove PPE in this order:

- ☐ Remove surgical mask, discard in wastebasket in the room
- ☐ Sanitize hands with alcohol hand rub or wash with soap & water if visibly soiled.

Influenza



- 36,000 persons die from complications of the flu annually during an average season.
- Rates of infection are highest among children
- Rates of death are highest among persons less than 2 and older than 65 or any age with medical conditions.
- Vaccination is the most effective method of prevention or severe complications
- Vaccines can be given to anyone older than 6 months to protect them from complications of the flu (*unless it is contraindicated for a medical reason*)
- **You can NOT get the flu from the shot**

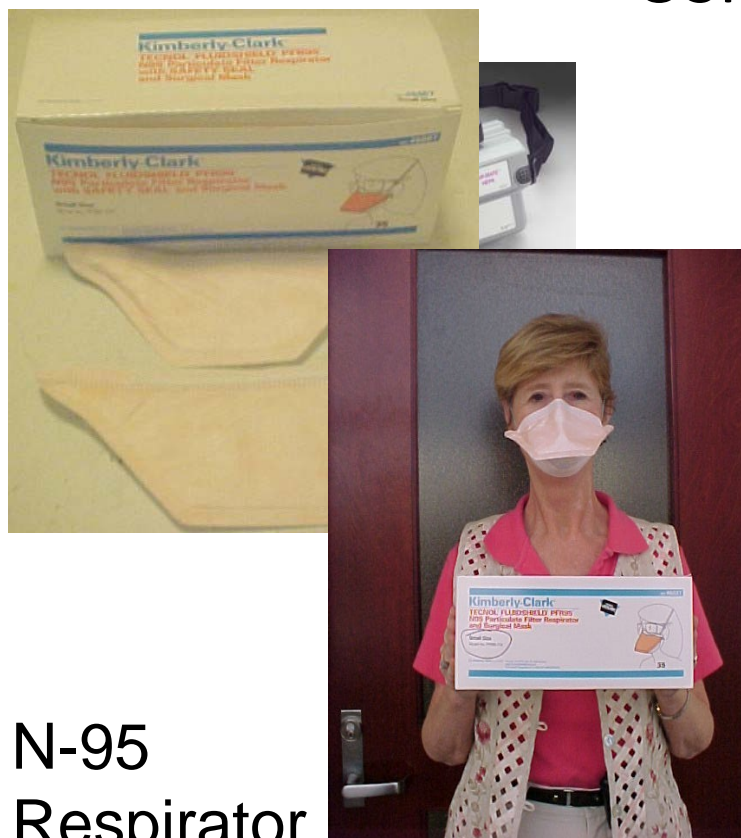
Isolation Precautions: Airborne

- Airborne Precautions are used when the germs are spread long distances on tiny particles in the air.
- Examples: Measles, Chicken Pox, Active or Suspected Tuberculosis
- N95 Respirator masks (specially fitted) or PAPRs are worn for Airborne Precautions.

N-95 Respirator and PAPR

Respiratory Protection for HCWs

OSHA Mandated



N-95
Respirator
Requires a fit test



Powered Air Purifying
Respirator (PAPR)

For people who can not wear the N-95

Isolation Precautions: Airborne

- A patient with suspected or confirmed TB or other airborne disease must be placed in a negative pressure room.
- You **cannot** go into a negative pressure room without a special respirator.
- Students may or may not be assigned to patients in Negative Pressure Rooms-check with the facility.

Chickenpox

- Is spread easily by airborne and contact
- Chickenpox is dangerous; Know if you are immune!
- You are susceptible if you are non-immune or have been vaccinated
- Do not care for these patients unless you are immune
- If non-immune, Get vaccinated!
 - Although vaccination will not prevent all cases of chickenpox, it will assure you have a light case.
 - If you received Varivax, you are still susceptible



Shingles (Herpes Zoster)

Shingles is.....

- A re-eruption of the chicken pox (Varicella) virus.
- Usually no need to isolate patients
- Airborne and Contact Precautions are needed if:
 - more than 1 nerve pathway involved
 - lesions go across the midline
 - shingles in an HIV+ patient



Herpes Zoster

Reactivation of dormant chicken pox virus

- **Localized Zoster “Shingles”**
Does not require Precautions

- **Disseminated Zoster**
Requires Airborne and Contact Precautions

Chicken Pox
Requires Airborne
and Contact
Precautions



Isolation Precautions

- Some patients may have an impaired resistance to infections.
- Good handwashing is critical.
- Standard Precautions are used.
- Example: a chemotherapy patient may have low immunity to disease. Using excellent standard precautions and handwashing will help prevent transmission of disease.

Check with facility policies and/or websites for additional information.

Initiating Any Precautions

- Follow the facility policy regarding initiating transmission based precautions
- Place isolation identifiers at patient's room/
medical record per facility policy
- Get supplies
 - Contact –
 - Gowns & gloves
 - May need additional trash can
 - Droplet-
 - Surgical mask
 - Airborne
 - N-95 mask in 2 sizes
- Make sure PPE is available in the room
- Inform patient and family.....



Educate Visitors and Patients

- Educate about reasons for isolation
- Instruct in isolation techniques
 - Handwashing
 - Wearing gowns and gloves if appropriate



Isolation may be discontinued

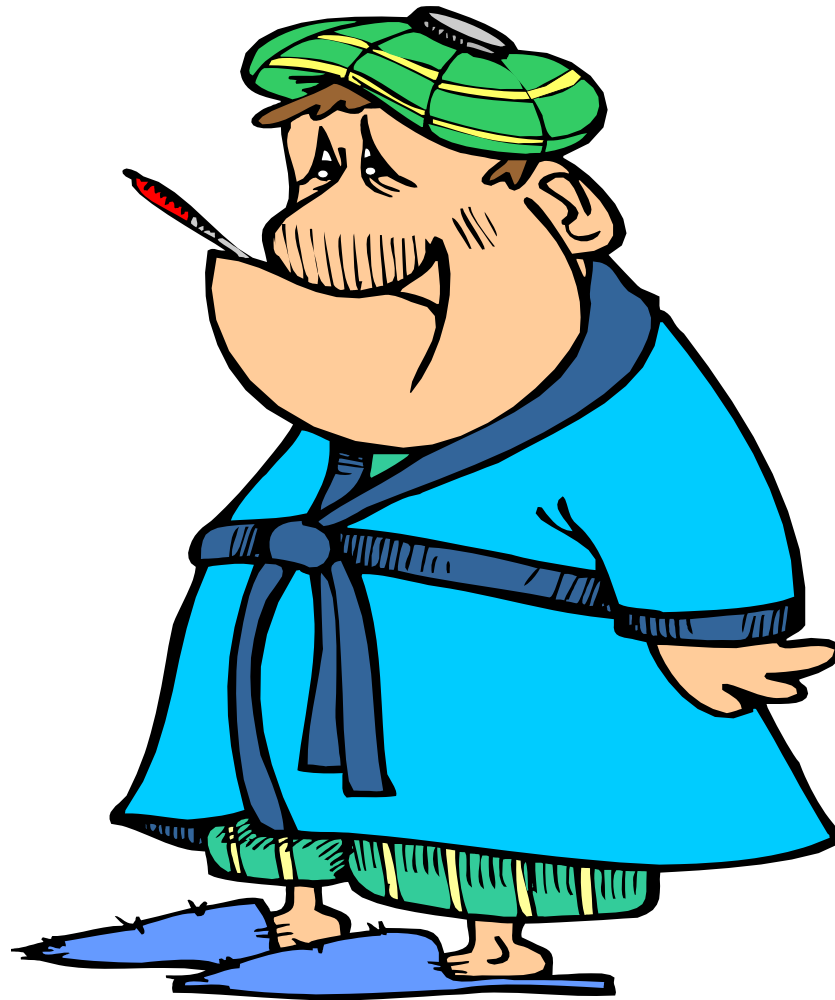
- When infection has resolved (see CDC guidelines in IC manual)
- Screens are negative for MRSA & VRE (contact)
- TB - 3 negative smears for AFB (airborne)
- There is no drainage soiling the bed or room



In addition to
vaccination use
CDC's
“Respiratory
Etiquette”



Student Health



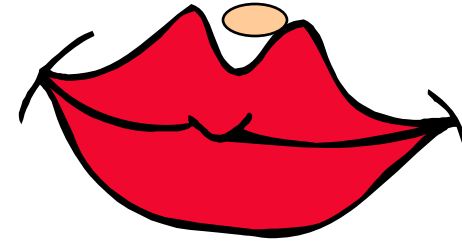
Don't Bring to Clinical Diseases You Can Spread to Patients and Staff

Before Starting clinical.....



- Report illness to your Instructor
 - Boils, rashes, draining skin conditions
 - Shingles
 - URI during cold/flu season
 - Sore throats
 - Conjunctivitis
 - Diarrhea

*You can work with fever blisters,
provided you....*



- Wear a surgical mask
- Change mask at least every 2 hrs. and more often if it gets soiled.
- Wash your hands frequently
- Don't care for severely immunocompromised patients.
- Never nuzzle babies.



Report Exposures to your Clinical Instructor

- **To Chicken Pox**
 - If you are susceptible (*not* immune or vaccinated)
- **To TB**
 - Infection Control will notify your manager if a contagious TB patient received care in your department.
- **To Blood or Body Fluids**

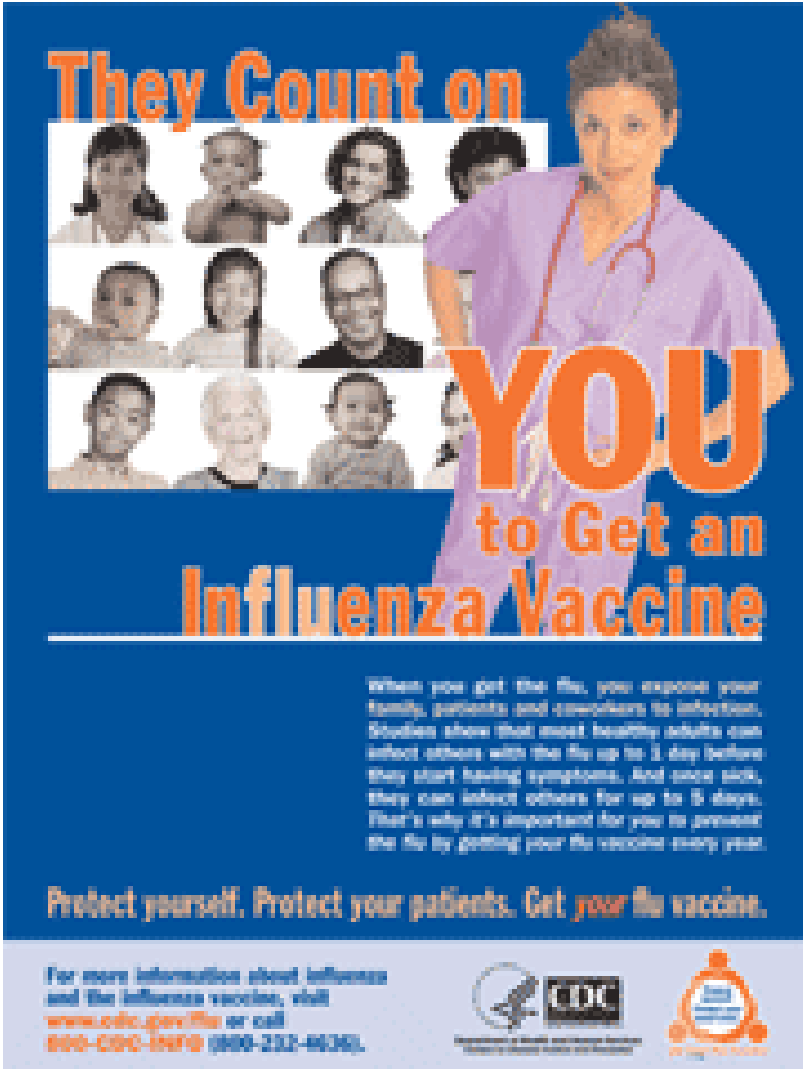
Report Exposure

- To Meningococcal Meningitis
 - Spread by intimate contact with the respiratory secretions of an infected person.
- You have not been exposed unless you
 - gave mouth to mouth resuscitation
 - suctioned or entubated
 - performed cough induction
 - ate or drank after the infected person



Get Immunized Against the Flu

- When you get the flu you expose
 - Family
 - Patients
 - Coworkers
- You can infect others
 - One day before you have symptoms
 - 5 days after onset of symptoms



They Count on



YOU

to Get an Influenza Vaccine

When you get the flu, you expose your family, patients and coworkers to infection. Studies show that most healthy adults can infect others with the flu up to 5 days before they start having symptoms. And once sick, they can infect others for up to 5 days. That's why it's important for you to prevent the flu by getting your flu vaccine every year.

Protect yourself. Protect your patients. Get your flu vaccine.

For more information about influenza and the influenza vaccine, visit www.cdc.gov/flu or call 800-CDC-1588 (800-232-6136).

Infection Control

- Each clinical facility will have an Infection Control person or department.
- OSHA requires that facilities abide by the Bloodborne pathogen standards.
- Facilities must have a process to keep patients, staff, and visitors safe.

References

Fox Valley Healthcare Alliance

www.fvcha.org/students