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# Infection Prevention and Clinical Epidemiology



This computer-based learning module provides information to Sharp HealthCare employees regarding Infection Prevention training mandated by JCAHO and OSHA regulations.



# Introduction

## ***Goal:***

The purpose of this training is to alert staff to the potential risk of disease transmission in the workplace so as to prevent illness in patients, visitors and healthcare workers

# Introduction

## Course Content

This computer-based learning module examines:

- The types of infection hazards in the healthcare setting including:
  1. Bloodborne Pathogens (HIV, Hepatitis B and C)
  2. Tuberculosis
  3. Other infectious organisms that may be present in a healthcare facility
  4. Influenza
- The types of personal protective equipment available and when they should be used.
- The post exposure protocol to be followed in the event of a personal exposure.
- Strategies to reduce risk of device-associated infections
- Strategies to reduce risk of surgical procedure-related infections



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# Standard Precautions

Blood and body fluids (BBF) from **all** patients are considered to be potentially infectious. Always follow standard Precautions

**Choose appropriate gloves** for the task or procedure to be performed

## **Wear gloves:**

- When handling blood, body fluids, mucous membranes, non-intact skin or rashes
- When coming into contact with surfaces, materials and objects visibly contaminated with BBF



Click [hotwords](#) to view definitions.

# Standard Precautions

## Change gloves:

- After contact with every patient
- When moving from dirty to clean areas of the patient's body
- Before caring for an IV line
- If torn or punctured



## Use Hand Hygiene:

- Before and after each patient contact
- Before and after removing gloves
- After contact with any BBF
- Hand hygiene includes either soap and water or alcohol based hand rub
- If visibly soiled, hands must be washed with soap and water\*

\* or if caring for patient with *C. Diff.*

# Standard Precautions

## Hand Hygiene includes:

The use of soap and water for a minimum of 15 seconds of friction **OR** the use of alcohol based hand rub

## Soap and water must be used:

- If your hands are visibly soiled
- Before eating
- Following bathroom use
- Caring for patients with certain types of diarrhea (*C difficile*)

Alcohol based hand rub is preferred if your hands are not visibly soiled

# Standard Precautions

## Use mask and eye protection:

If your face is likely to be splashed with fluids use:

- Disposable mask plus goggles or safety glasses,
- Disposable mask plus disposable plastic eye shield, or
- Disposable mask and personal eye glasses with protective shield



**Wear cloth gowns** to protect clothing from dry, potentially contaminated surfaces



**Wear splash-resistant gowns** during procedures that could generate splashes of BBF





# Standard Precautions

## Proper Technique for Removing Personal Protective Equipment

### CORRECT SEQUENCE FOR REMOVING PERSONAL PROTECTIVE EQUIPMENT (PPE)

- GLOVES**

**Outside of gloves are contaminated—DO NOT TOUCH!**

Grasp outside of glove with opposite gloved hand; peel off


Hold removed glove in gloved hand

Slide fingers of ungloved hand under remaining glove at wrist

Peel glove off over first glove

Discard gloves in waste container

Clean and dry your hands thoroughly



- GOGGLES OR FACE SHIELD**

**Outside of goggles or face shield are contaminated—DO NOT TOUCH!**

To remove, handle by head band or ear pieces

Place in designated receptacle for reprocessing or in waste container

Clean and dry your hands thoroughly


- GOWN / APRON**

**Gown front and sleeves are contaminated—DO NOT TOUCH!**


Unfasten ties

Pull away from neck and shoulders, touching inside of gown only

Turn gown inside out

Fold or roll into a bundle and discard

Clean and dry your hands thoroughly



- MASK OR RESPIRATOR**

**Front of mask/respirator is contaminated—DO NOT TOUCH!**

Grasp bottom, then top ties or elastics and remove

Discard in waste container

Clean and dry your hands thoroughly



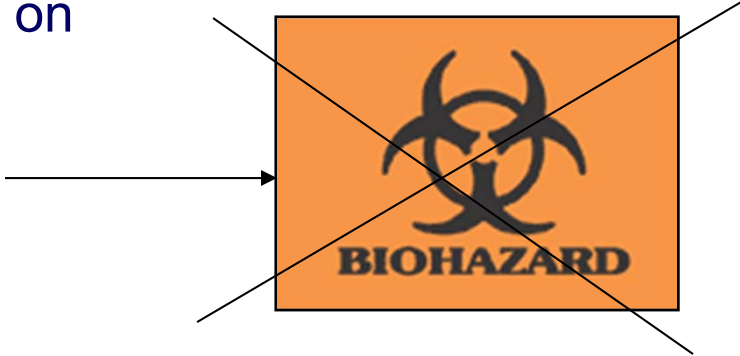
# Standard Precautions

**Use a resuscitation bag** or other protective device when doing rescue ventilation.

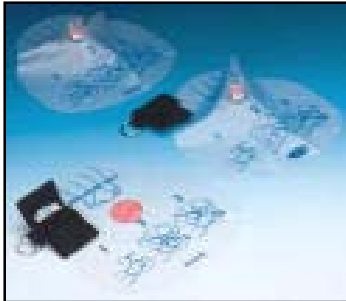


**Collect specimens** in containers with tight fitting lids. Seal specimens in a leak proof bag and deliver them directly to the lab (do not place specimens on countertops, etc.).

**Never** place specimens in a bag with the orange biohazard symbol (this is for use only by lab personnel when transporting specimens off campus).



**Never** provide patient care or handle patient care equipment when you have open skin sores or weeping skin rashes.





# Standard Precautions

## Review Question

Hand hygiene is **only** needed after removing gloves

True

False



## Employee Occupational Health Issues

- All employees must complete an annual health screening
- Work Restriction Policy & Procedure #03003 defines specific infectious disease which require staff to be removed from contact with the patients and other staff

## Latex Sensitivity

A latex allergy is an allergic reaction to [latex protein](#), which is found in some products used in the healthcare environment

Latex proteins may cause reactions through direct contact or from airborne particles

Symptoms can include:

- Hives
- Itching
- Runny nose
- Tightness in throat
- Shortness of breath
- Dizziness
- Anaphylaxis

The key in managing the latex sensitivity is to avoid an exposure

Click [hotwords](#) to view definitions.

## Latex Sensitivity

### At Risk Population

Healthcare workers and patients with certain medical conditions are at increased risk of developing a latex allergy

Patients with spina bifida, spinal cord trauma, conditions requiring frequent urinary catheterization and food allergies especially to avocados, bananas, chestnuts and tropical fruits

Healthcare employees increase their risk of sensitization by repeated exposure to high latex allergen levels found in gloves



# Latex Sensitivity

## Precautions for Latex Sensitive Patients

### Screening/Allergy History

Latex screening of patients shall be completed at time of the initial assessment. If the patient does not have a known latex allergy but indicates risk factors for latex allergy, notify his/her physician

### Documentation

- Document on progress note and on front of chart
- Obtain latex-free equipment as needed
- Remove latex from the environment
- Notify other departments if patient will be treated in other areas

**Note:** Any symptomatic employee should go to Employee Occupational Health Department for evaluation and treatment of acute symptoms

# Bloodborne Pathogens / Occupational Exposures

## Safe Handling of Needles and Sharps

- Use standard precautions
- Needle-safe products must be used if they are available for the task
- Never bend, break or remove a needle from the syringe
- Avoid recapping needles. Use a one-handed scoop method or recapping device when there is no alternative to recapping





# Bloodborne Pathogens / Occupational Exposures

## Safe Handling of Needles and Sharps

- Dispose of needles (and any sharp item that could cut or puncture skin) in marked puncture-resistant sharps containers (e.g. lancets, protective needle with sheath - even if needle is covered)
- Place sharps disposal containers close to the area of use
- Reusable sharps (including scalpels), should be placed in an approved puncture-resistant container for transport to the reprocessing area
- All sharps containers are handled as biohazardous waste
- Disposable sharps containers can be brought into areas without permanent puncture-resistant containers, for sharps disposal inside room (i.e. behavioral health areas)



## Bloodborne Pathogens / Occupational Exposures

Safe handling of biohazardous waste (infectious waste) requires any item or device that contains certain body fluids (e.g. spinal fluid, amniotic fluid, etc.), as well as liquid or expressible blood to be handled and disposed of in properly marked biohazardous waste containers

Red bags or labeled bags are used for biohazardous waste and must be handled and disposed of as biohazardous waste

Red bags cannot be used for any other purpose

**Note:** Chemicals and chemotherapeutic drugs must be handled and disposed of as hazardous waste (not biohazardous waste)



## Bloodborne Pathogens / Occupational Exposures

All other waste is regular waste and can be disposed of in clear bags. Examples include:

- Empty liners (from suction canisters) that do not contain bloody secretions
- Syringes without needles attached and no body fluid\*
- Dressings with fluids fully absorbed in the material
- Used gloves without blood

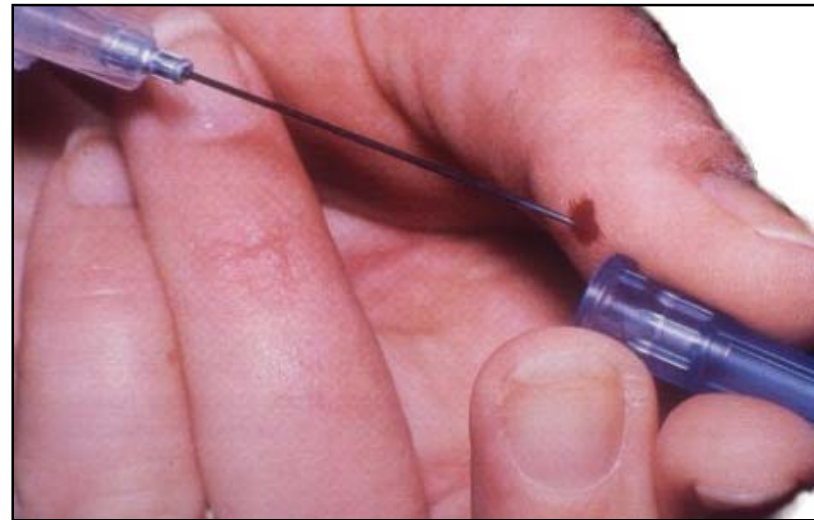


\*Syringes containing breast milk may be disposed of in regular trash

## Bloodborne Pathogens / Occupational Exposures

You may have been exposed to blood or body fluids if you:

- Sustained a needlestick or sharps injury with a contaminated sharp
- Received a splash of blood or other infectious body fluid to your mucous membranes (e.g. eyes, mouth)
- Have broken skin (i.e. cuts, nicks), which has come into contact with BBF





## Bloodborne Pathogens / Occupational Exposures

Immediately after exposure you should:

- Wash skin areas with soap and water. Rinse/flush eyes or mucous membranes with water or normal saline (if available)
- Report incident to your supervisor
- Go to Employee Occupational Health Department when open, within two hours of exposure. After hours, exposed staff should go to the Emergency Department or Urgent Care
- If medication is indicated, follow-up blood-work must be done to test for post exposure infection, which can occur weeks or months later

Click hotwords to view definitions.



# Bloodborne Pathogens / Occupational Exposures

## **YOUR** role in preventing Blood and Body Fluid Exposures

You are responsible for maintaining a safe work environment and exercising safe work practices. You are expected to:

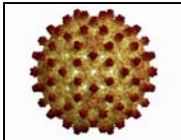
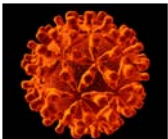
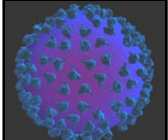
1. Possess the knowledge and skills to routinely demonstrate compliance with safe work practices (Injury & Illness Plan #18603.00)
2. You are personally responsible for using PPE. It's the law.
3. Report unsafe or unhealthful work situations
4. Report any exposure or near miss to your supervisor immediately and be evaluated by a medical practitioner within 2 hours of exposure
5. Understand that deliberate failure to follow safe work practices may result in counseling/corrective action

## Bloodborne Diseases

Transmission of bloodborne diseases can occur through:

- Sex with an infected person
- Contact from mother to infant at or before birth
- Sharing needles and syringes
- Occupational exposure to blood and body fluids
- Blood transfusion
- Acupuncture, tattooing or ear-piercing
- Sharing of personal hygiene items (i.e. toothbrushes, razors)

# Bloodborne Diseases\*

Disease	Description	Transmission Rate	Symptoms
<p><b>Hepatitis B</b></p> 	<p>Hepatitis B virus causes inflammation of the liver and can cause liver cancer and cirrhosis.</p>	<p>6-30%</p>	<ul style="list-style-type: none"> <li>• Acute symptoms include fatigue, loss of appetite, nausea, vomiting, joint aches, mild fever, rash, dark urine and jaundice (yellow skin and eyes).</li> <li>• It is possible to be infectious without exhibiting symptoms.</li> </ul> <p>“Sharp HealthCare provides a <u>free hepatitis B</u> vaccination program for employees who are at risk for exposure to infectious body fluids.”</p>
<p><b>Hepatitis C</b></p> 	<p>Hepatitis C virus causes inflammation of the liver and is associated with cirrhosis and chronic liver failure.</p>	<p>1.8%</p>	<ul style="list-style-type: none"> <li>• Usually is a chronic disease without acute symptoms.</li> <li>• If infected you can feel well but still have abnormal lab test results (elevated liver enzymes), and still be infectious.</li> </ul>
<p><b>HIV</b></p> 	<p>HIV is a virus that attacks the immune system, leaving the body vulnerable to other illnesses that can be fatal.</p>	<p>0.3%</p>	<ul style="list-style-type: none"> <li>• A positive HIV test usually occurs within 2-8 weeks of exposure.</li> <li>• The time between exposure and the development of AIDS varies.</li> <li>• HIV positive (primary infection) includes fever, fatigue, swollen lymph nodes.</li> <li>• AIDS (Acquired Immune Deficiency Syndrome) includes fever, weight loss, diarrhea and infections.</li> </ul>

3D models-NIH.org accessed 10/09

\*CDC Bloodborne Pathogens 2007



## Device Associated Infections - CLABSI

In the United States, approximately 80,000 Central Line – Associated Blood Stream Infections occur in ICU patients of which nearly 28,000 die

### Strategies to reduce the risk of CLABSI include:

1. Use of proper technique during insertion and maintenance of line
2. Adherence to central line insertion “bundle” measures:
  - hand hygiene
  - site selection
  - skin preparation with 2% chlorhexidine
  - maximal sterile barrier precautions during insertion
  - discontinuation of procedure if any element of the bundle is not followed



## Device Associated Infections - CLABSI

### Strategies to reduce the risk of CLABSI (cont'd):

3. Avoid routine replacement of central venous catheters as a strategy to prevent infection
4. Change site dressing using sterile technique every 6 days or when dressing is not clean, dry and intact
5. Place an antimicrobial impregnated sponge at insertion site and ensure contact of impregnated side with skin
6. Perform hand hygiene prior to accessing the line
7. Clean the IV connectors with antiseptic solutions and friction before accessing the line
8. Perform and document a daily assessment of line necessity – request order to remove central lines that do not meet criteria

*Guidelines for the Prevention of Intravascular Catheter-Related Infections 2002 and FAQ CA-BSI CDC 2008*

## Device Associated Infections - VAP

Ventilator associated pneumonia accounts for approximately 15% of all hospital associated infections usually occurring in the ICU.

### Strategies to reduce risk of VAP include:

1. Perform hand hygiene before and after patient contact or contact with anything in the patient's environment
2. Perform hand hygiene before donning gloves and after glove removal
3. Elevate the head of the bed at least 30 degrees

## Device Associated Infections - VAP

### Strategies to reduce risk of VAP (cont'd):

4. Implement a comprehensive oral-hygiene program (that might include the use of an antiseptic agent)
5. Drain and discard any fluid that collects in the tubing of a mechanical ventilator-draining it away from the patient
6. Removing devices and tubes from patients when no longer needed
7. Perform screening for vaccine eligibility (pneumococcal pneumonia, influenza, etc.)



## Device Associated Infections - UTI

The urinary tract is the most common site of infection in the hospital affecting an estimated 600,000 patients per year

### Strategies to reduce the risk of UTI's include:

1. Perform hand hygiene before and after contact with the patient or the urinary catheter
2. Insert catheters only when necessary and remove them as soon as possible
3. Adhere to sterile technique when inserting urinary catheter
4. Use other methods to collect urine such as an external catheter, using a temporary catheter to drain urine, etc...
5. Avoid disconnecting the catheter from the drainage bag
6. Secure the catheter to prevent movement and trauma to the urethra
7. Keep the drainage tubing straight and the collection bag below the level of the bladder

*CDC.gov accessed 10/09*



## Surgical Procedure Associated Infections - SSI

Approximately 500,000 surgical site infections occur each year resulting in longer hospital stays and higher medical costs

### Strategies to reduce risk of SSI's include:

1. Follow hospital policy on surgical hand antisepsis
2. Use clippers to remove hair
3. Perform pre-operative shower or bath with antimicrobial soap
4. Wear hair covers, masks, gowns and gloves to keep the surgery suite area clean
5. Administer antibiotics within 60 minutes of the start of surgery. Most antibiotics should be stopped 24 hours post operative
6. Keep patient warm during and after surgery
7. Monitor patient blood sugar as indicated

*Preventing Surgical Site Infections: A Surgeon's Perspective, Nichols Tulane University School of Medicine, New Orleans, Louisiana, CDC 2001; CDC/SHEA FAQ Prevention of Surgical Infections 2008*



## Transmission Based Precautions

**There are FOUR categories of Transmission-Based Precautions:**

1. Airborne
2. Droplet
3. Enhanced Droplet
4. Contact

**For placement of any patient into precautions:**

1. Place appropriate precaution sign on outside of door or inside of room (entity specific)
2. If using a chart sticker, place it on front of patient's chart and check off personal protective equipment (PPE) to be worn
3. If using an electronic medical record ensure that the correct precautions are charted
4. Provide information sheets and education to the patient and visitors



## Transmission Based Precautions - Airborne

Some microorganisms can stay suspended in air for long periods and travel on air currents. Examples include Pulmonary tuberculosis (TB), TB positive draining abscesses, measles\*, chickenpox\* and shingles\* (herpes zoster disseminated (present on several body areas) or localized (in immune compromised patients))

**Patients are placed in Airborne Infection Isolation (All) rooms with:**

- Negative air flow (air flows into room)
- At least 12 air exchanges per hour
- Door remains closed at all times
- Patient remain confined to room unless essential services are required elsewhere
- Patient will wear standard mask during transportation

**\*Do not enter, even with appropriate PPE, unless you have had the illness or have been vaccinated**



## Transmission Based Precautions - Airborne

Special mask (N95 respirator) or PAPR (positive air pressurized respirator) shall be worn by all personnel entering room

- All personnel must wear an N95 and be fit tested annually (to ensure a tight seal can be obtained).
- A PAPR is available to staff who are unable to pass respirator fit-test and can be requested through SPD.

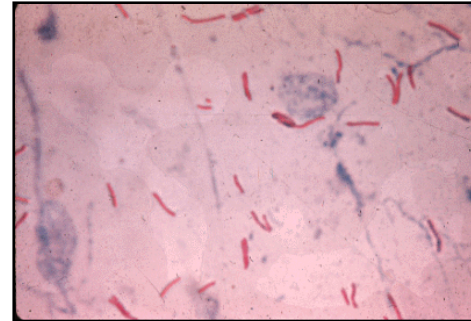


*Mask fit testing-CDC.gov*

# Airborne Infection Precautions- Tuberculosis (TB)

## What is it?

TB is caused by a bacterium called *Mycobacterium tuberculosis*



*Mycobacterium tuberculosis* (red rods), Acid-fast stain  
CDC.org

## How is TB spread?

TB travels through the air and is spread when people who are infected with TB cough, sneeze or talk, causing the bacteria to get into the air where it can be inhaled by others. A large open draining wound may also be a source of TB

**Note:** TB is not spread by casual contact, on tabletops, food trays or bedpans. It is not transmitted on clothes or through hand contact with a patient with TB

## Symptoms:

Cough lasting longer than three weeks, lack of appetite, weight loss, night sweats, coughing up blood, fever, fatigue

A person with active TB may have some or all of these symptoms



## Airborne Infection Precautions- Tuberculosis (TB)

Refer to SHC policy 05200, Tuberculosis Exposure Control Plan for complete information on managing TB in the hospital setting

### **Some Essential Points:**

- Precautions for TB may be discontinued when physician has ruled out TB or when patient has 3 negative sputum smears; (one sample every 8 hours, one to be an early morning specimen)
- Precaution signs shall remain posted and door closed for the designated period of time after an infectious patient is discharged
- Personnel may safely enter room (i.e. EVS for cleaning) during that time period if N95 is worn
- Discharging patients with TB must be approved by County Health Department on the day of discharge to ensure follow-up and completion of treatment



## Airborne Infection Precautions- Tuberculosis (TB)

In accordance with SHC policy 05200, Tuberculosis Exposure Control Plan and SHC policy 3202, Employee Physicals:

**TB screening** is required for all Sharp HealthCare employees as a condition of employment and annually thereafter

### **Employees with documented positive tuberculin skin test:**

- Must be alert to symptoms of TB at all times
- Will be required to respond to a questionnaire each year asking about the possible presence of symptoms
- Will be required to respond to a questionnaire regarding symptoms following any exposure





## Airborne Infection Precautions- Tuberculosis (TB)

**A post-exposure follow-up is required** if it is determined that you were possibly exposed to TB in the facility

You will receive a notice via your Manager to go to EOHD to determine if you were infected. The follow-up and any required treatment is managed through the Employee Occupational Health Department

**If you know or suspect that you have TB**, notify Employee Occupational Health Department immediately so that you can receive proper evaluation and treatment

Your condition will be kept confidential

You may continue to work if you are not considered contagious

# Airborne Infection Precautions- Tuberculosis (TB)

## Testing

### What does a positive skin test mean?

A positive TST does NOT mean that a person has active TB

It means that the person has been exposed to TB at some time in their life and has been infected

In the event of a positive skin test of a person who was previously negative, the person should be evaluated for preventive treatment





## Transmission Based Precautions - Contact

### Contact Precautions

Precautions required for patients who have a disease transmitted by direct or indirect contact with the patient or the patient's environment

#### Contact precautions are used for:

- Scabies
- Pediculosis (Lice)
- Clostridium *difficile*
- \*Zoster (Shingles), localized in immune compromised
- Multiple-drug resistant organisms (MDRO):  
MRSA; VRE; Acinetobacter *baumannii*; ESBL; Drug resistant Gram Negative Rods

*\*Do not enter, even with appropriate PPE, unless you have had the illness or have been vaccinated.*



## Transmission Based Precautions- Contact

### Contact Precautions:

- Hand hygiene before and after patient contact/glove use
- Private Room or cohort patient with the same organism/disease (consult with Administrative Liaison or Infection Prevention)
- Door may remain open

**SGH, SCOR and SCVMC only**: Single use gowns and gloves will be worn upon entry into the room, regardless of activity

- Dedicate equipment to one patient
- If equipment must be used between patients it must be cleaned with the hospital approved disinfectant wipe and allowed to dry before next use





## Transmission Based Precautions - Contact

### *SMH and SMBHWN only*

#### **Non-C. diff patient room:**

Gloves worn upon entry to room regardless of activity; gown worn during contact with patient, bed or linen

#### **C. diff patient room:**

Gloves *AND* gown worn upon entry to room, regardless of activity

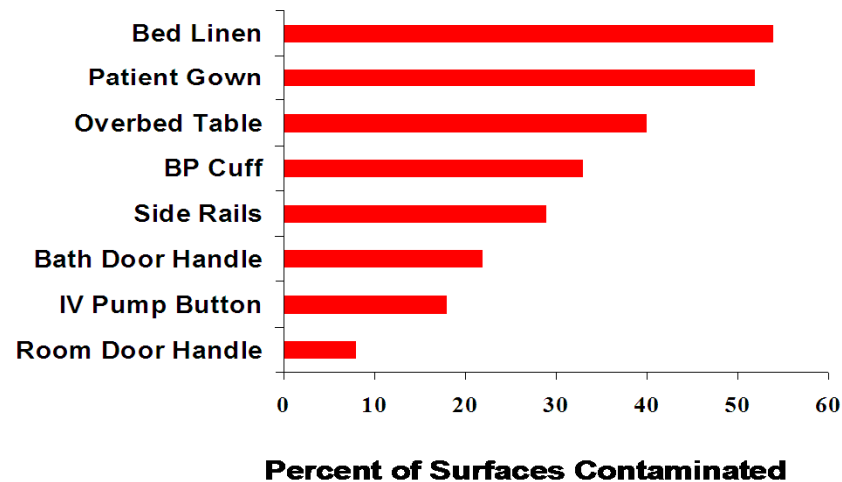
- Dedicate equipment to one patient
- If equipment must be used between patients it must be cleaned with the hospital approved disinfectant wipe and allowed to dry before next use

# Transmission Based Precautions - Contact

Adhering to transmission based precautions can prevent contamination of hands and clothing.

## Activities and Hand Contamination Among Healthcare Workers

**Frequency of Environmental Contamination of Surfaces in the Rooms of Patients with Methicillin-Resistant *S. aureus* (MRSA)**



- Resistant bacteria on patients often contaminate items in the immediate vicinity.

- Healthcare workers can contaminate their hands by touching environmental surfaces.

## Transmission Based Precautions - Contact

### Multi-drug resistant organisms (MDRO)

In general, bacteria that are resistant to one or more classes of antimicrobial agents and usually are resistant to all but one or two commercially available antimicrobial agents

### Examples include:

- Methicillin-resistant *Staphylococcus aureus* (MRSA)
- Vancomycin-resistant *Enterococcus spp* (VRE)
- Intrinsically resistant gram negative bacilli (GNR)
  - *Pseudomonas aeruginosa*; *Acinetobacter baumannii*
- Extended-spectrum beta-lactamase (ESBL)-producing gram negative bacilli
  - *Klebsiella pneumoniae*; *Escherichia coli*

## Transmission Based Precautions - Contact

### MRSA:

- Gram positive cocci, resistant to all currently available  $\beta$ -lactam antibiotics (penicillins, cephalosporins)
- Accounts for majority of *S. aureus* infections in healthcare settings
- Common hospital infections include pneumonia, wound and blood

### VRE:

- Gram positive cocci that inhabit the digestive and genital tracts and are resistant to the antibiotic, *Vancomycin*
- Normally benign but can cause life-threatening infections in high-risk people
- Difficult to control with antibiotics
- Common infections include urinary tract and wound



## Transmission Based Precautions - Contact

### ***Acinetobacter baumannii*:**

- Gram-negative bacilli commonly found in soil and water
- Easily becomes resistant to antibiotics
- Ability to survive for prolonged periods on environmental surfaces
- Common infections include pneumonia, bloodstream, surgical wound and soft tissue infections

### **Extended-spectrum $\beta$ -lactamase producing bacteria (ESBL):**

- Gram-negative bacilli that produce an enzyme that causes resistance to  $\beta$ -lactam antibiotics: Penicillins; cephalosporins; carbapenems; monobactams
- Most common *Klebsiella pneumoniae*; *E. coli*
- Hospital-acquired infections caused by ESBLs are usually associated with ICUs; oncology and burn units
- Most common infections are urinary tract and wound
- Common to Long Term Acute Care facilities

# Transmission Based Precautions - Contact

## ***Clostridium difficile* (C diff)**

- Bacteria that produces toxins and can cause disease
  - Diarrhea is the most common symptom
  - Usually associated with antibiotic therapy
- Can cause pseudomembranous colitis, toxic megacolon, colonic perforation, sepsis, and ileus
- C diff is found in feces
  - Transmitted when a person touches a contaminated surface, then touches his/her mouth and spreads the bacteria to themselves and other patients

The bacteria also has the capacity to form spores that can persist in the environment indefinitely



CDC Image Library



## Transmission Based Precautions - Contact

### Treating *Clostridium difficile* associated disease:

- Discontinuation of any unnecessary antibiotics
- Flagyl or Vancomycin are currently recommended as first-line therapies

### Caring for patients: implement Contact Precautions:

- Private room
- Dedicated equipment
- Use of gloves/gowns upon entry into the room
- Wash hands with soap and water after contact with the patient and/or environment and after glove use

Alcohol based hand rubs are not recommended for these patients because it does not kill the spore

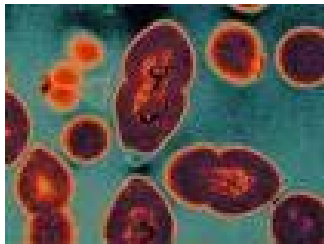
# Transmission Based Precautions - Contact

## Communication:

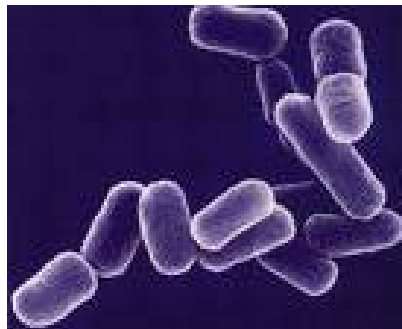
Lab will notify nursing if patient has positive test results  
Patients with known history of resistant organism infection will have a flag in the IC field of the admitting face sheet or on the patient care summary of the electronic record



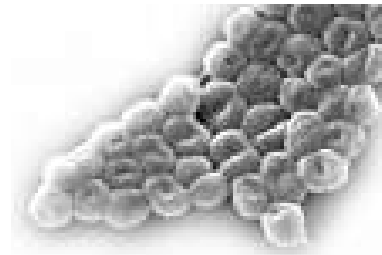
Methicillin-resistant *Staphylococcus aureus*



Vancomycin-resistant enterococcus



ESBL



*Acinetobacter baumannii*



# Transmission Based Precautions: Droplet

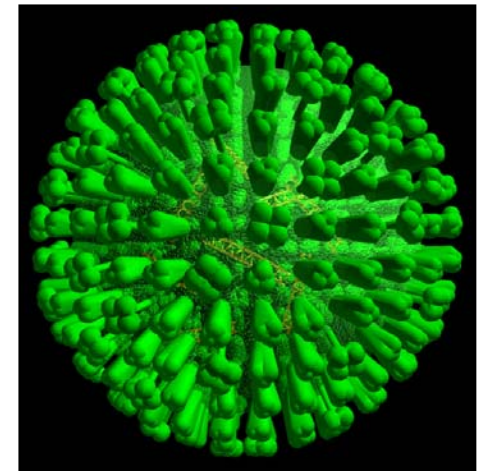
## Diseases Spread by Droplet Method:

- Rubella\*
- Mumps\*
- Meningococcal disease
- Pertussis
- Pneumonic plague
- Respiratory Syncytial Virus (RSV)
- Influenza (seasonal)

## Precautions include:

- Private room
- Door closed (exception SMH, door may remain open)
- Regular mask
- Regular mask on patient for transport

\*Do not enter, even with appropriate PPE, unless you have had the illness or have been vaccinated



3D Model of Influenza A Virus

# Transmission Based Precautions: Enhanced Droplet

## Novel Viruses

Examples of a new or 'novel' virus is SARS and the 2009 H1N1 (swine) influenza. H1N1 is causing illness in people and first identified in the United States in April 2009. This virus is spreading from person-to-person worldwide.

### Precautions include:

- Private room
- Door closed (except SMH)
- N95 respirator or PAPR (positive air pressurized respirator)
- Regular mask on patient for transport

### For aerosol-generating procedures:

- N95 respirator or PAPR &
- Eye protection
  - Gloves
  - Gown

# Transmission Based Precautions: Droplet or Enhanced Droplet

## Signs and symptoms of any Influenza Virus include:

- fever of 100.0 F or greater plus either cough or sore throat

## Other symptoms may include:

- runny or stuffy nose
  - body aches
  - headache
  - chills
  - fatigue
- 
- A significant number of people who have been infected with the novel influenza virus H1N1 also have reported diarrhea and vomiting
  - There are more than 36,000 deaths per year related to complications from Seasonal Influenza
  - Severe illnesses and death has occurred as a result of illness associated with H1N1 influenza virus



## Transmission Based Precautions: Droplet

### Take these everyday steps to protect your health:

- Cover your nose and mouth with a tissue when you cough or sneeze. Throw the tissue in the trash after you use it
- Wash your hands often with soap and water, especially after you cough or sneeze. Alcohol-based hand cleaners are also effective
- Avoid touching your eyes, nose or mouth
- Try to avoid close contact with sick people
- If you are sick with flu-like illness, and you're a healthcare worker ill with the infection you may be required to stay home for 7 days
- Keep away from others as much as possible to keep from making others sick



Center for Disease Control & Prevention

*Flu.gov accessed on 10/09*



## Exit

To review the content of this course click on menu for specific sections.

Click the **Take Test** button on the left side of the screen when you are ready to complete the requirements for this course.

Choose the **My Records** button to view your transcript.

Select **Exit** to close the Student Interface.



# Review Question Feedback

Your answer is correct! Hand hygiene should be done before putting on and after removing gloves **and**:

- a. Before and after caring for a patient, **and**
- b. After accidentally touching any body fluid.

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## Review Question Feedback

Your answer is incorrect. **Hand hygiene** should be done:

- a. After removing gloves.
- b. Before and after caring for a patient.
- c. After accidentally touching any body fluid.

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## Hot word - Standard Precautions



### **Standard Precautions**

means preventing contact with the blood or body fluids of every patient by using personal protection such as gloves, masks, gowns or goggles, when needed to protect yourself and reduce the risk of transmission of infectious agents to others.

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## Hot word – Latex Protein

Latex allergy occurs when the body's immune system reacts to proteins found in natural rubber latex. Natural rubber latex is a processed plant product derived almost exclusively from the sap of the tree *Hevea brasiliensis* found in Africa and Southeast Asia.

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## Hot word - Occupational Exposures

### Post exposure

The Center for Disease Control now recommends the use of two and possibly three drugs for prophylaxis following a significant body fluid exposure.

Administration of drug should begin as soon as possible (ideally within 2 hours).

Studies show this reduces the risk of HIV infection by 79%.



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## Hot word - Acute

### acute

Pronunciation: æ-'kyüt

Function: *adjective*

**2 a** : characterized by sharpness or severity <*acute* pain>  
<an *acute* infection> **b (1)** : **having a sudden onset, sharp rise, and short course** <an *acute* disease> <an *acute* inflammation>

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## Hot word - Chronic

### chron-ic

Pronunciation: 'krän-ik

Function: *adjective*

**1 b** : suffering from a disease or ailment of long duration or frequent recurrence <a *chronic* arthritic>.....

**2** : having a slow progressive course of indefinite duration -- used especially of degenerative invasive diseases, some infections, and inflammations <*chronic* heart disease> <*chronic* arthritis> <*chronic* tuberculosis> -- ...**b** : infected with a disease-causing agent (as a virus) and remaining infectious over a long period of time but not necessarily expressing symptoms <*chronic* carriers may remain healthy but still transmit the virus causing hepatitis B>

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