2016 Healthcare In-Service

OSHA/INFECTION CONTROL & BLOODBORNE PATHOGENS

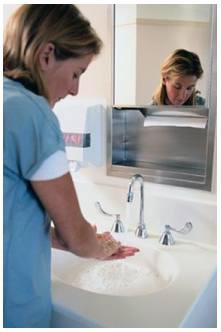
OSHA/INFECTION CONTROL & BLOODBORNE PATHOGENS

Introduction

Each year, an estimated 2 million patients get a hospital-related infection. It is also estimated that 90,000 patients will die from their infection.

Hand Hygiene

Hand washing is considered the most important single procedure for preventing nosocomial (hospital - acquired) infections. Hand washing is a basic form of sanitation and a required part of all infection control measures.



Always Wash Your Hands:

- between patient contacts
- before and after contact with wounds
- before manipulating invasive devices
- after touching excretions and secretions
- following glove removal
- after using the toilet
- after touching items/surfaces in the immediate patient care environment, even if you don't touch the patient

NOTE: If you use hand lotion, you should have your own container. "Shared use" bottles should not be used as they easily become contaminated. Use only water-based products and only those that are hospital-approved. Using lanolin or oil-based lotions before donning gloves will seriously weaken the gloves. This increases the risk that germs will pass through the glove. Just because a product washes off with water does not bean it is water-based.

When in doubt...wash your hands!

A. When decontaminating hands with an alcohol-based hand rub, apply product to palm of one hand and rub hands together, covering all surfaces of hands and fingers, until hands are dry. Follow the manufacturer's recommendations regarding the volume of product to use.

B. When washing hands with soap and water, wet hands first with water, apply an amount of product recommended by the manufacturer to hands, and rub hands together vigorously for at least 15 seconds, covering all surfaces of the hands and fingers. Rinse hands with water and dry thoroughly with a disposable towel. Use towel to turn off the faucet. Avoid using hot water, because repeated exposure to hot water may increase the risk o dermatitis.

C. Liquid bar, leaflet or powdered forms of plain soap are acceptable when washing hands with a non-antimicrobial soap and water. When bar soap is used, soap racks that facilitate drainage and small bars of soap should be used. Multiple-use cloth towels of the handing or roll type are not recommended for use in health-care settings.

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Hand Hygiene *(cont'd)*

Nail Hygiene

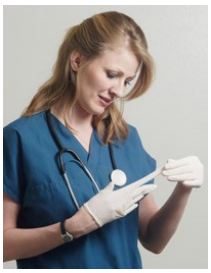
It is the clinician's duty to strictly adhere to all facility guidelines when it comes to hand hygiene. It is equally important to adhere to these guidelines when it comes to nail hygiene. Nails should be kept clean, trimmed and well groomed at all times. The CDC recommends that natural nail tips should be kept to 1/4 inch in length. In addition, the CDC recommends that artificial nails should not be worn when having direct contact with high-risk patients such as in the ICU.

SOURCE: Center for Disease Control

Personal Protective Equipment (PPE)

Personal Protective Equipment (PPE) is specialized clothing or equipment worn by an employee for protection against infectious material (OSHA, 2010). Different types of PPE include:

- Gloves - protect hands
- Gowns - protect skins and/or other clothing
- Masks/Respirators - Masks protect mouth and nose while respirators protect the respiratory tract from airborne infectious agents
- Goggles - protect eyes
- Face Shields



⇒ **Gloves**

Gloves **MUST** be worn when there is a possibility of contact withy blood and/or body fluids or contact with contaminated items. Remove and/or change gloves after use or task and whenever gloves become soiled or damaged. Turn the glove inside out when de-gloving and dispose of them in the proper receptacle.

Always was your hands thoroughly with soap and water after removing gloves. Never wear multiple layers of gloves in order to "peel off" layers between tasks. Never go from patient to patient even with only casual or minimal contact wearing the same pair of gloves. Always wear the right gloves for the job. Wear heavy work gloves for cleaning. Wear gloves that fit properly. Never wear latex gloves when caring for a patient with a latex allergy. Wear a synthetic glove such as vinyl.

⇒ **Gown**

Wear a gown during procedures that are likely to generate splashes/spraying of blood or bodily fluids. Remove a soiled gown as soon as possible and practice hand hygiene after removal of gown. As always, it is important to understand and follow facility specific protocols and guidelines regarding PPE.

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Personal Protective Equipment (PPE) *(cont'd)*

⇒ **Mask**

Wear a mask and eye protection or a face shield during procedures that are likely to generate splashes, sprays of blood or bodily fluids. A respirator should be worn to protect the respiratory tract from airborne infectious agents such as TB. As always, it is important to understand and follow facility specific protocols and guidelines regarding PPE.

⇒ **Goggles**

Goggles should be worn when there is a potential for splashes/spraying of blood/body fluids to the eye area.

⇒ **Face Shield**

Face shields should be worn when there is potential for splashing/spraying of blood/bodily fluids to the eye, mouth or nose.

Standard (Universal) Precautions

Universal Precautions were renamed to Standard Precautions in 1998 (HICPAC Guidelines). The HICPAC Guidelines help to protect the patient and the healthcare workers fr4om exposure to potentially infectious agents through the use of barriers (e.g. gloves, protective eyewear, masks) and practice (e.g. hand washing, proper cleaning of equipment, no recapping of needles). Patients are also protected, as Standard Precautions reduce the risk of cross contamination from one infected patient to another, when the caregiver consistently uses appropriate barriers and washes his/her hands. Standard Precautions should be used for all patients at all times.

All healthcare workers are required to follow Standard Precautions. We **MUST** treat all human blood and body fluids as if they are infected with HIV, HBV or any other pathogen.

Standard Precautions are not an option. OSHA and MIOSHA monitor hospitals for compliance with this regulation. Not only must personnel be observing these precautions, the hospital **MUST** have a mechanism in place for discipline for those found to be noncompliant.

Multi-Drug Resistant Organisms (MDRO)

What is VRE?

VRE stands for Vancomycin Resistant Enterococcus. Vancomycin is an antibiotic used to treat certain infections, including those caused by most strains of Enterococcus. It is an organism found normally in the intestinal tract and in females, in the vaginal tract. When Vancomycin is unable to kill this organism it is called VRE.

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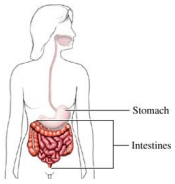
PATHOGENS Multi-Drug Resistant Organisms (MDRO) *(cont'd)*



Who gets VRE?

People who have been ill that have been taking many antibiotics or have weakened immune systems due to illness or age are at higher risk for VRE.

Where VRE may be found?

It is found most often in the stool, but it can be found in the blood, urine, and wounds, or wherever it can be carried by blood.

How can VRE be spread?

It can be spread to other people by contact between persons. To prevent this from happening, VRE precautions are used when VRE colonization or infection is identified. Everyone who comes into the hospital room of a patient with VRE will wear a gown and gloves. If it is in the spectrum of the respiratory tract, they will wear a mask.

Precautions

VRE is a very hardy organism. It can survive on hard surfaces for 7-10 days and on hands for hours. It is easy to kill with hand washing and a proper use of disinfectants.

1. Private room - necessary
2. Personal protective equipment

   a. GLOVES - MUST be worn by healthcare workers before or upon entry to patient's room. Hands MUST be washed following glove removal.

   B. MASKS - standard surgical mask necessary if organism is in the spectrum of the respiratory tract for close contact with patient, suctioning, and performance of other cough inducing procedures. (Close contact defined as within 2-3 feet of the patient).
3. HAND WASHING - hands MUST BE WASHED after removal of gloves, and before leaving the room.

MRSA (Methicillin Resistant Staphylococcus Aureus)

What is MRSA (Methicillin Resistant Staphylococcus Aureus)?

It is a strain of the germ. Staphylococcus aureus that has developed resistance to most of the antibiotics commonly used to treat Staphylococcus infections.

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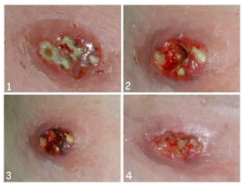
MRSA (Methicillin Resistant Staphylococcus Aureus) *(cont'd)*

How is MRSA transmitted?

MRSA is passed from person to person by contact with someone who has MRSA. A person who is infected or colonized with MRSA may have it in their nose as well as on their hands, and whenever they touch others, they can pass the germ along. MRSA can be transmitted from a person in contact with a MRSA patient to another patient. Therefore, it is **CRITICAL** that you wash your hands.



Precautions

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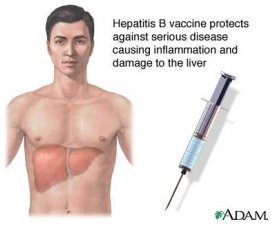
   c. GOWNS - **MUST** be worn by all persons having contact with patients or articles that the patient may come in contact with.
3. HAND WASHING - hands **MUST BE WASHED** after removal of gloves, and before leaving the room.

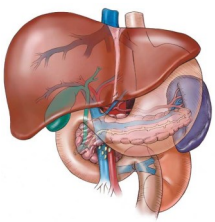
Hepatitis

What is hepatitis?

Hepatitis is a serious disease of the liver, an organ necessary for life. Hepatitis B and C, the two (2) most serious kinds of hepatitis, are similar kinds of liver infection that are caused by different viruses. Although there are fewer new Hepatitis C infections each year compared with Hepatitis B, there are move deaths in the long term due to Hepatitis C which is a more serious chronic disease. About 50% of Hepatitis B infections and 75% of Hepatitis C infections cause NO initial symptoms. When symptoms are present, they include:

- Jaundice
- Nausea
- Loss of appetite
- Abdominal pain
- Fatigue





Accurate detection techniques were develop for Hepatitis B in 1972, and for Hepatitis C in 1992. Before these dates, the virus could not be detected reliably, so some people received infected blood in blood transfusions. If you had a blood transfusion or organ transplant before these dates, ask a doctor to test you for the appropriate virus or viruses.

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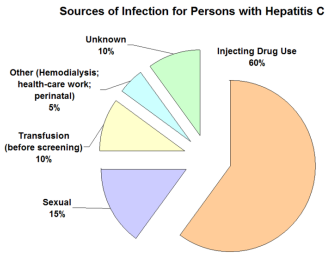
Hepatitis *(cont'd)*

How is hepatitis transmitted?

Hepatitis B and Hepatitis C viruses are transmitted through blood and body fluids. Infected blood can be transmitted from one person to another through openings in the skin or through contact by both individuals with a sharp tool.

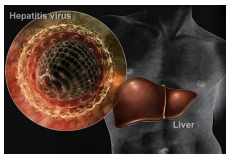


Methods of blood-borne transmission of both Hepatitis B and C include:

- Blood splashes from minor cuts and nosebleeds
- Procedures that involve blood (especially in healthcare)
- Hemodialysis (using kidney machines)
- Sharing personal items like nail clippers, razors, and toothbrushes
- Sharing needles for intravenous drug use
- Body piercing and tattoos

Hepatitis B and, to a lesser extent, Hepatitis C can also be transmitted as a result of:

- Close household contact with an infected person
- Unprotected sex with multiple partners
- Childbirth (from mother to baby)



About one third of Hepatitis C patients never find out how they contracted the virus.

Things to remember

- Hepatitis is a serious disease of the liver.
- Although Hepatitis C and, to a lesser extent, Hepatitis B may develop NO symptoms initially, both can lead to serious liver disease many years later.
- Hepatitis is transmitted through blood and body fluids. Persons most at risk for developing theses diseases are IV drug users, people with multiple sex partners, and people who have direct exposure to infected blood or body fluids. Body piercing needles, tattoo needles, and even sharing toothbrushes or razors can spread the disease.
- The risk of getting Hepatitis B and C is high in healthcare workers because they are frequently exposed to blood or body fluids. Even exposure to a small amount of blood from an infected person can cause hepatitis, and healthcare workers can transmit or receive the virus.
- Follow the rules of your facility, get vaccinated if you are not immune to Hepatitis B, and practice good personal hygiene to prevent the spread of hepatitis.

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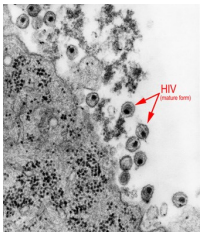
HIV/AIDS

What is HIV and AIDS?

HIV (Human Immunodeficiency Virus) is the virus that causes AIDS. Once this virus enters and infects the body, the person is said to be "HIV Positive". However, the person may be infected with the virus for up to ten (10) years or more before developing AIDS.

HIV in the US



- The CDC estimates that there are 1.1 million individuals living with HIV
- Approximately 56,300 new HIV infection occur each year
- 70% of new infections are in men and 30% are in women
- On-fourth of people infected with HIV do not know they are infected

HIV worldwide

- According to WHO for 2008, it is estimated that 31.3 million adults are living with HIV.
- 2.1 million of those infected with HIV are under the age of 15.

AIDS stands for Acquired Immune Deficiency Syndrome. Most people who are HIV positive will eventually develop AIDS.

AIDS worldwide

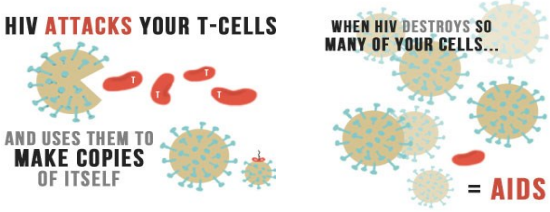
- In the year 2008 alone, there were two (2) million deaths resulting from AIDS.

AIDS or AIDS-related diagnosis

An HIV positive person may not feel sick or even know they have the virus for ten (10) or more years. During that time, the virus (a blood borne pathogen) can infect other people. A person may only know they are HIV positive by having specific blood tests.

A positive HIV test does not mean that a person has AIDS. A diagnosis of AIDS is made under either of two (2) conditions:

1. If the CD4 cell count (normally 800-1000/microliter of blood) falls below 200/microliter, whether or not symptoms of the disease are present.
2. If a person shows signs of having infections that healthy people are usually able to fight off such as tuberculosis, Kaposi8's Sarcoma, Pneumocystis Carinii Pneumonia.



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HIV/AIDS *(cont'd)*

Things to remember

HIV stands for Human Immunodeficiency Virus. It is the virus that causes AIDS and it spreads through contact with blood and other body fluids.

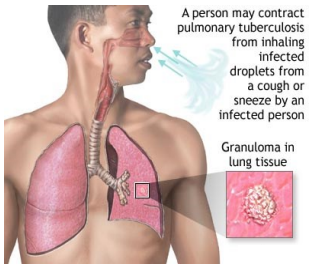
- AIDS stands for Acquired Immune Deficiency Syndrome. Caused by a virus (HIV), AIDS is a contagious disease that has no known cure.
- A person is said to be HIV positive when the virus is present in the body. The HIV positive stage may continue for over ten (10) years without a person feeling sick or knowing about it. During those years, HIV can be spread to others.
- The diagnosis of AIDS is made when the CD4 count drops to 200 or when the HIV-Positive person develops an opportunistic disease, such as Tuberculosis or Kaposi's Sarcoma.
- HIV is transmitted through unprotected sex, sharing contaminated needles, and other contact with infected blood and body fluids. No vaccine or drug will block the spread of HIV.
- No vaccine will prevent AIDS and no drug will cure AIDS. Some medications slow progression of the disease.

Tuberculosis

What is Tuberculosis?

Tuberculosis (TB) is a disease that affects the lungs and/or other parts of the body. It is the largest single cause of death among people with AIDS. Tuberculosis is curable, but it involves taking medication for a very long time.

Symptoms of TB include:



- Chest pain
- Prolonged productive cough
- Coughing up of blood
- Fever and chills
- Night sweats
- Weight loss
- Feeling run down or easily tired

Tuberculosis can be cured with medication.

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Tuberculosis *(cont'd)*

Latent TB

If a doctor decides a person with Latent TB should have treatment to prevent it from becoming Active TB, the usual prescription is a daily dose of isoniazid (INH). The person takes INH for six (6) months (up to a year for some patients), and should have periodic medical checkups.

About 90% of people infected with TB may not show signs of the disease even though the germ is present ion their bodies. This condition is referred to as LATENT TB. These people are most at risk of developing ACTIVE TB within two (2) years of the exposure. TB may also develop if they have (or develop) another disease that affects the immune system, such as AIDS.

Active TB

People with Active TB show symptoms of the disease. They may have to spend a short time in the hospital and can then continue taking medication at home. Sometimes the patient will not have to stay in the hospital at all. As long as they are taking the medication correctly, most patients can return to normal activities after a few weeks, and not have to worry about infecting others. However, it is VERY important that patients take the medicine correctly for the full length of treatment - usually six (6) to nine (9) months or longer.

Multi-Drug Resistant TB

Tuberculosis, a disease that was once considered to be almost eradicated, has become more widespread in recent years. One reason is that, in some instances, TB is resistant to the drugs normally used to treat the disease. Resistance may occur when people who are being treated start feeling better and stop taking their medication too soon. The TB germs are not completely destroyed and the person will start showing signs of the disease again. Drugs previously used will no longer be effective. This condition, referred to as Multi-Drug Resistant TB, is extremely difficult to cure.

Special Precautions for the treatment of TB patients:

- Place TB patients in private rooms.
- Place patient in a negative pressure ventilated room or an AIIR (Airborne Infection Isolation Room).
- Wear a special "fit-tested" mask such as an N-95 or greater to provide at least 95% efficiency. The healthcare provider should receive training on proper fitting and how to wear correctly.
- The N-95 or greater efficiency mask should be worn upon entrance into patients room and while in patients room.

- Explain to patients and visitors how to use special masks.
- Keep patients in their rooms as much as possible.
- Encourage patients to cough or sneeze directly into tissues and to dispose of them.
- Have patients wear masks when being transported to other areas of the hospital (for X-rays, etc.).

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Tuberculosis *(cont'd)*

Things to Remember

- Tuberculosis is a serious, contagious disease.
- Tuberculosis can be cured with medication, but it takes a very long time.
- TB is caused by airborne bacteria, and patients MUST be treated using Special Precautions.
- LATENT TB occurs when germs from exposure are present, but no signs of the disease are showing.
- ACTIVE TB occurs when definite signs of the disease are showing.
- Multi-drug resistant TB occurs when strains of TB become resistant to the usual medications.
- Anyone exposed to TB needs to have a PPD skin test of chest X-ray.
- Healthcare workers MUST apply Special Precautions, in addition to Standard Precautions, when treating patients with tuberculosis.

Respiratory Isolation

In addition to participating Standard Precautions:

1. Private Room - necessary: designated isolation room required for diseases listed below. Isolation room door **MUST** be closed.
2. For pulmonary TB patients, place patient in a negative pressure ventilated room or an AIIR (Airborne Infection Isolation Room).
3. Mask - for pulmonary tuberculosis (TB) and Varicella, a high efficiency mask (<1 micron) **MUST** be worn by all persons entering the room. For all other diseases, standard isolation masks **MUST** be worn.
4. Transporting patient - only if absolutely necessary. Patient **MUST** wear high efficiency mask (if medically feasible) for TB and Varicella: standard isolation mask for all other diseases listed. Transporter does not require respiratory protection.
5. **HANDS MUST BE WASHED** after touching the patient of potentially contaminated articles and after taking your gloves, mask, and/or gown off.

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Handling and Disposal of Infectious Wastes

Remember these simple points dealing with infectious materials/waste (e.g. blood and bodily fluids, human tissue, sharps, needles, scalpels, IV tubing):

1. All infectious waste is placed in closable leak proof containers or color coded, labeled or tagged with the biohazard symbol
2. Waste **MUST** be separated into appropriate containers
3. Biohazard bags are used for contaminated materials that are saturated with blood or other potentially infectious material
4. Sharps **MUST NOT** be recapped routinely
5. Sharps **MUST** be placed in approved puncture - resistant biohazard sharps container to the 3/4 full mark
6. Fluids **MUST** be emptied into sanitary sewer system
7. Fluid - filled container that cannot be emptied prior to disposal **MUST** be placed in biohazard receptacle
8. Always protect yourself by wearing personal protective equipment when handling infectious waste

Specimen Handling

Laboratory specimen from all patients should be handled with equal care. All non-blood containers **MUST** be securely closed before transport.

Blood specimens and other glass containers **MUST** be transported in a manner that reduces the risk of breakage and subsequent breakage.

Visible exterior soiling of specimen containers or lab tags **MUST** be handled before transport to the lab. If the lab tag becomes visibly soiled, issue a replacement tag for the specimen.

Transporting personnel should wash their hands after delivery of items to the lab. A glove may be worn on the hand used to carry the specimen(s) leaving the un-gloved hand free to opening doors, pushing elevator buttons, etc. A tray or box will facilitate the transport of multiple specimens.

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Handling and Disposal of Infectious Wastes *(cont'd)*

Don't Get Stuck!!!

All used sharps are considered contaminated, therefore:

Needles an other used sharps **MUST NOT** be bent, broken, or otherwise manipulated by hand after use.

- Contaminated needles should never be recapped
- Never carry a used sharp in a pocket
- Do not attempt to remove anything from a sharps disposal container
- Properly dispose of all sharp objects (e.g. syringes with needles, broken glass, scalpels) after use
- When possible, count the number of sharps when opened on a sterile field, place them where visible after use and count before clean-up minimize accidental injury from unseen sharps
- Dispose of sharps in designated sharps disposal containers
- Sharps disposal containers are to be sealed and removed when 3/4 full to avoid overflow
- If you do get stuck by a sharp object, please report it to your supervisor. A needle stick/blood and body fluid exposure report will be completed and you will be sent to Employee Health for follow up treatment

Crash Cart

It is the responsibility of every employee in any patient care area to know where the crash cart is located. Nurses, Monitor Techs, Unit Secretaries, Nurse Techs, Nursing Assistants and all other staff in the patient care areas **MUST** be able to locate and bring the crash cart to the bedside when requested.

It is the responsibility of each Registered Nurse to be familiar with the medications and equipment stored in the crash cart.

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POST TEST

1) Hand washing is considered the most important single procedure for preventing infections.

True _____ False _____

2) Wearing multiple layers of gloves is one way to prevent infection.

True _____ False _____

3) We must treat all human body fluids as if they are not infected.

True _____ False _____

4) Standard precautions should be used for all patients at all times.

True _____ False _____

5) Contaminated needles should ALWAYS be recapped.

True _____ False _____