

## Module 7 – Infection Control

### HANDOUT 1: VOCABULARY

<b>Asepsis</b>	A condition free from germs.
<b>Biohazard</b>	Anything that is harmful or potentially harmful to humans, other species, or the environment.
<b>Bloodborne</b>	Carried by the blood or found in the blood.
<b>CDC</b>	Centers for Disease Control and Prevention, located in Atlanta, GA.
<b>Contact</b>	Direct or indirect transmission of a communicable disease from the host to a healthy person.
<b>Contaminated</b>	To no longer be clean or sterile.
<b>Decontamination</b>	The use of physical, chemical, or other means to remove, inactivate, or destroy harmful microorganisms from persons, spaces, surfaces, or objects.
<b>Droplet</b>	Extremely small drops of liquid, such as occurs with a sneeze. Can carry infectious organisms.
<b>Exposure</b>	To be in contact with an infected person or agent.
<b>Germ</b>	A microorganism, especially one that causes disease.
<b>Gloves</b>	A protective covering for the hands.
<b>Gown</b>	Covering made of cloth or paper used to protect the clothing of the caregiver from contamination.
<b>Hand washing</b>	A technique used by health care personnel to clean the hands of transient germs and dirt.
<b>Health care-associated infections (HAIs)</b>	infections people get while they're receiving health care for another condition; occurs in any health care setting including hospitals, nursing homes, ambulatory surgical centers, and homes.
<b>Hepatitis</b>	An inflammation of the liver most caused by one of five hepatitis viruses. Can also be caused by other viruses, bacteria, parasites, drugs, alcohol, and chemicals.
<b>Host</b>	The organism from which a parasite obtains its nourishment.
<b>Infectious</b>	Producing an infection.
<b>Isolation</b>	The separation of infected persons from others.
<b>Microorganism</b>	A small living organism not seen by the naked eye. Some examples are bacteria, yeasts, molds, and viruses. May or may not cause disease.

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<b>Nutrients</b>	Elements or chemical compounds necessary for the body's proper functioning. Examples are vitamins, minerals, proteins, carbohydrates, fats, and water.
<b>Nutrition</b>	The process by which the elements and compounds necessary for the creation, maintenance, and restoration of the cells are made available to the body from food.
<b>Nosocomial</b>	Infection acquired in a hospital. (Noso is Greek for disease.)
<b>Pathogen</b>	A microorganism or substance capable of producing a disease.
<b>Portal</b>	The avenue through which infectious organisms exit or enter the body.
<b>Precaution</b>	Taking steps to prevent an unwanted outcome.
<b>Reservoir</b>	Any person, animal, plant, soil, or substance in which an infectious agent normally lives and multiplies, and where it reproduces itself in a way that allows transmission to a susceptible host.
<b>Resident</b>	Living in one place. Resident bacteria are those that live on or in the human host and cannot be removed from the skin by washing.
<b>Sharps</b>	Medical objects that may cause punctures or cuts to those handling them, including all broken medical glassware, syringes, needles, scalpel blades, suture needles, and disposable razors.
<b>Sterilize</b>	To destroy all organisms.
<b>Susceptible</b>	Likely to be infected, as with an infection.
<b>TB</b>	(Tuberculosis) An infectious disease that is increasing in occurrence. It most commonly affects the lungs, but may affect the GI and genitourinary tracts, bones, joints, nervous system, lymph nodes, and skin as well. Three types exist: human, bovine (cow), and avian (bird). Humans may become infected by all three types, however in the U.S., the human type is most common.
<b>Trans</b>	A prefix meaning across, over, beyond, or through.
<b>Transient</b>	Not lasting. Transient bacteria are those that are acquired by direct or indirect contact. They can be removed from the skin by washing.
<b>Virus</b>	the Latin word for poison. The smallest organism that can be seen by an electron microscope. It can only live inside a cell where it reproduces itself. Viruses can cause disease immediately or can live in the cell for many years before becoming active.

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### HANDOUT 1A: FICTIONAL OBITUARY

# OBITUARY



John James Doe

On February 25, 2020, John James Doe passed away after a battle with hospital-acquired infections. He was loved by many and will be missed.

John was a veteran. He served our country in the Korean War. He was a loyal husband, father, and grandfather. He was a Deacon in the church and was loved by all.

He entered the hospital for a risky heart surgery. The surgery was successful, and it appeared that he was on the way to recovery. He soon developed signs of an infection. This infection was acquired during his hospital stay. The success of the operation and surgeon was quickly destroyed by the lack of basic infection control practices by the staff in the hospital.

Every year, many people die from infections that could have been prevented. Most of the time the loss occurs at the hands of those who either forget or just fail to wash their hands between patients.

John Doe was important to us. He was much more than just a patient identification number or someone who will be discussed at the infection control or patient safety meetings. He loved us and we loved him.

The family of John James Doe urges each and every health care worker to WASH YOUR HANDS. Please prevent unnecessary deaths.

*While this obituary is fictional, it does represent the many deaths associated with hospital-acquired infections that occur each and every day.*

## **HANDOUT 2: FACT SHEET**

### **Hand Hygiene Guidelines Fact Sheet**

- Improved adherence to hand hygiene (i.e. hand washing or using alcohol-based hand rubs), has been shown to terminate outbreaks in health care facilities, to reduce transmission of antimicrobial resistant organisms (e.g. methicillin resistant staphylococcus aureus (MRSA)) and reduce overall infection rates.
- CDC released guidelines to improve adherence to hand hygiene in health care settings. In addition to traditional hand washing with soap and water, CDC is recommending the use of alcohol-based hand rubs by health care personnel for patient care because they address some of the obstacles that health care professionals face when taking care of patients.
- Hand washing with soap and water remains a sensible strategy for hand hygiene in non-health care settings and is recommended by CDC and other experts.
- When health care personnels' hands are visibly soiled, they should wash with soap and water.
- The use of gloves does not eliminate the need for hand hygiene. Likewise, the use of hand hygiene does not eliminate the need for gloves. Gloves reduce hand contamination by 70% - 80%, prevent cross-contamination, and protect patients and health care personnel from infection. Hand rubs should be used before and after each patient just as gloves should be changed before and after each patient.
- When using 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. Note that the volume needed to reduce the number of bacteria on hands varies by product.
- Alcohol-based hand rubs significantly reduce the number of microorganisms on skin, are fast acting, and cause less skin irritation.
- Health care personnel should avoid wearing artificial nails and keep natural nails less than one quarter of an inch long.

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- When evaluating hand hygiene products for potential use in health care facilities, administrators or product selection committees should consider the relative efficacy of antiseptic agents against various pathogens and the acceptability of hand hygiene products by personnel. Characteristics of a product that can affect acceptance and therefore usage include its smell, consistency, color, and the effect of dryness on hands.
- As part of these recommendations, CDC is asking health care facilities to develop and implement a system for measuring improvements in adherence to these hand hygiene recommendations. Some of the suggested performance indicators include: periodic monitoring of hand hygiene adherence and providing feedback to personnel regarding their performance, monitoring the volume of alcohol-based hand rub used, monitoring adherence to policies dealing with wearing artificial nails and focused assessment of the adequacy of health care personnel hand hygiene when outbreaks of infection occur.
- Allergic contact dermatitis due to alcohol hand rubs is uncommon. However, with increasing use of such products by health care personnel, it is likely that true allergic reactions to such products will occasionally be encountered.
- Alcohol-based hand rubs take less time to use than traditional hand washing. In an eight-hour shift, an estimated one hour of an ICU nurse's time will be saved by using an alcohol-based hand rub.
- These guidelines should not be construed to legalize product claims that are not allowed by an FDA product approval by FDA's Over-the-Counter Drug Review. The recommendations are not intended to apply to consumer use of the products discussed.
- For more information: [www.cdc.gov](http://www.cdc.gov).

**HANDOUT 3: PROPER HAND HYGIENE TECHNIQUES**

Follow these instructions for washing with SOAP and WATER:

<b>Checkmark if completed correctly</b>	<b>Steps</b>
	1. Wet hands with warm, running water and apply liquid soap or use clean bar soap. Lather well.
	2. Rub hands vigorously together for at least 20 seconds. Create friction.
	3. Scrub all surfaces, including the backs of hands, wrists, between fingers, and under fingernails. Clean under fingernails by rubbing fingertips against palms of the opposite hand.
	4. Rinse well, keeping hands lower than the elbows and fingertips down.
	5. Dry all surfaces of hands, wrists, or fingers with a clean or disposable towel.
	6. Dispose of towel in waste container.
	<p>7. Use a towel to turn off the faucet, then dispose of towel in waste container.</p> <p><u>Tip for home care aides:</u> Bring agency approved hand soap and paper towels with you to each patient’s home. Many homes will not be able to supply these items. Never wash your hands with the patient’s bar soap or dry hands on the patient’s towels hanging in the kitchen or bathroom. These may be dirty or could have been hanging for several days.</p> <p><b>*Be prepared – bring your own supplies.</b></p>

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Follow these instructions for washing with ALCOHOL BASED HAND RUB:

<b>Checkmark if completed correctly</b>	<b>Steps</b>
	1. Apply hand rub to hands that are NOT visibly soiled. Follow product directions regarding amount to apply per usage.
	2. Rub hands together until they are dry. Do not shake them dry, blow on them to dry, or wave them in the air to dry. Hands must be rubbed until they are dry.  <u>Tip for home care aides:</u> Bring agency approved hand rub with you to each patient's home. Never use hand rub that belongs to the patient. It could be the incorrect strength or be expired. Always use your agency approved hand rub.  <b>*Be prepared – bring your own supplies.</b>

## **HANDOUT 4: CONFIDENTIAL SELF-ASSESSMENT**

**Directions:** This confidential self-assessment will help you assess how you feel about infection control and how you apply infection control principles when caring for residents. *It is not intended to make you feel guilty*; although sometimes a little guilt helps you keep the level of care where you really want it. The answers you give are not to be shared with anyone! The instructor will not take up this self-assessment. It is yours to keep.

- True/False I keep my fingernails short and I wash my hands before touching my patients.
- True/False I wash my hands after I complete my patient's care.
- True/False I wear gloves when I change incontinence pads.
- True/False I wash my hands after I remove my gloves.
- True/False I remove dirty gloves immediately after completing my task.
- True/False I use a paper towel to turn off the faucet after I wash my hands.
- True/False I change my gloves during care if they become dirty and put on new ones.
- True/False I truly understand how handwashing and other infection control activities really reduce the chance of infection.
- True/False I feel that I am a role model for new aides when it comes to infection control.
- True/False I wash my hands after I use the bathroom and I turn off the faucet with a paper towel.
- True/False I never think to myself that all this handwashing is not necessary.
- True/False I understand the importance of not wearing acrylic or artificial nails.
- True/False I often do not wear my gloves with patients I have had for a long time as I feel that I know they have no infections.
- True/False I feel that if I wear gloves, I do not have to wash my hands.
- True/False I answered all these questions honestly, even if I had to answer false because my nursing care needs improving, and I know it.

### **Scoring:**

13-15 True Answers: Congratulations! Your patient can trust that you will provide the safest, disease-free environment possible.

10-12 True Answers: You mean well but you need to be more consistent in applying what you know, and not let anything prevent you from giving the best care possible. Your patients are depending on you!

9 or Fewer True Answers: Sorry, but you have let unhealthy habits slip into your care. You really do not want to be a danger to yourself and your patients. It is never too late to raise your level of practice.



**HANDOUT 5: TRANSMITTING “BUGS”: A HANDS-ON ACTIVITY**

1. Mix some gel soap and a tube of glitter in a container.
2. Rub the mixture in your hands. The glitter represents germs.
3. Try wiping, then use hand rub, then wash off the germs with soap and water.

**Questions:**

1. What happens when you try to wash off the germs?
2. What is the recommended length of time required to properly wash your hands?  
\_\_\_\_\_ (seconds)
3. Were you able to wash all the germs off in the recommended amount of time?  
YES/NO
4. Why did you need to use friction when washing your hands?
5. What happens if you do not keep your fingertips pointed down during handwashing?
6. Can you see how easily germs are transmitted to other items (clothing, faucet, doorknob, etc.)? YES/NO
7. What is the single most important thing the home care aide can do to prevent the spread of infection?

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**Handouts 6 & 7 Chain of Infection and Breaking the Chain of Infection**

***See pages Module 7-31 & Module 7-32.***

**HANDOUT 8: SIMPLIFIED COMPARISON CHART BETWEEN  
STANDARD PRECAUTIONS AND TRANSMISSION BASED  
PRECAUTIONS**

<b><i>Standard Precautions</i></b>	<b><i>Transmission Based Precautions</i></b>		
	<b><i>Airborne</i></b>	<b><i>Droplet</i></b>	<b><i>Contact</i></b>
Wash hands for at least 20 seconds before and after touching a patient during routine care.	Use all precautions in first column	Use all precautions in first column	Use all precautions in first column
Wash hands for several minutes if blood or other body fluids touch your skin.	Use all precautions in first column	Use all precautions in first column	Use all precautions in first column
Wear gloves when there is a risk of contamination.	Use all precautions in first column	Use all precautions in first column	Wear gloves
Wash hands after taking off gloves (3-69% of gloves have holes).	Use all precautions in first column	Use all precautions in first column	Use all precautions in first column
Wash hands after taking off gown.	Use all precautions in first column	Use all precautions in first column	Use all precautions in first column
Protect yourself with masks, eye wear, gown, and gloves where there is risk of splashing of fluids. Protect yourself and your patient even if other people do not.	Wear mask	Wear mask	Wear gown - mask usually not needed

***Basic Rule: Use common sense! Protect yourself and your patient based on what the situation tells you. Remember that you are not at home!***

**Airborne** = disease can be carried on small droplets or dust particles that float in the air. (Chickenpox, measles, TB – if you have a patient with active TB, you will have to be fitted for a special mask called an N95 respirator. Surgical masks will not prevent transmission of TB. Your supervisor should give you specific instructions on the precautions to take.)

**Droplet** = disease can be carried on large droplets in the air and do not float. Droplets come from sneezing, coughing, and talking. (Meningitis, pneumonia, influenza, scarlet fever.)

**Contact** = disease can be transferred by direct contact (hand or skin-to-skin) or indirect contact (touching surfaces or items in the room). (Wound, MRSA.)

**HANDOUT 9: WHICH PRECAUTION WOULD YOU USE?**

Mumps: Mumps is spread by mucus from the nose or throat of an infected person, usually when a person coughs or sneezes.

Pink eye: Infectious forms of pink eye are highly contagious and are spread by touching the infected person or something the infected person has touched after rubbing the eyes.

TB: TB germs are put into the air when a person with TB disease of the lungs or throat *coughs, sneezes, speaks, or sings*. These germs can float in the air for several hours, depending on the environment. Persons who breathe in air containing these TB germs can become infected.