Understand nurse aide role in infection control
There is *intentional repeat* of some HSII course content in *Nursing Fundamentals*.

Academic and skill competence must be *maintained* at a *very high level* for direct resident care.
• Research has shown that after reaching a high level of performance during an initial training period, additional training can lead to substantial improvements in long-term retention.

• This additional repetitive training is called overlearning.

Nurse aides have a responsibility to understand and follow the facility’s infection control policies and procedures.
BAD GERMS make people sick!
SOOOOO...

GERM  SPREAD!
**GERMS** are called **MICROORGANISMS**

Can only be seen by using a microscope
MICROORGANISMS

Can Be BAD

OR

Can Be GOOD
MICROORGANISMS

Can Be BAD

May cause
• illness
• infection
• disease
MICROORGANISMS

Can Be Bad

Germs that start infection, illness, or disease in the body and make you sick are called PATHOGENS.
Infection

• invasion of the body by microorganisms
• invading microorganisms:
  – use the host’s resources to multiply
  – interfere with normal function
  – 3rd leading cause of death in the U. S.
INFECTION

LOCAL

SYSTEMIC
Local infection

• only a specific *portion of the body* is infected
  – pain
  – redness
  – heat at the site
  – swelling
  – pus
  – foul smelling drainage
Systemic infection

• affects the entire body
  – fever
  – aches
  – chills
  – nausea
  – vomiting
  – weakness
Another way to classify INFECTION…

- **Endogenous** *(endo- inside; genous- type or kind)*
  - type or kind of infection or disease that originates from within the body

- **Exogenous** *(exo- outside; genous- type or kind)*
  - type or kind of infection or disease that originates outside the body
REPORT ANY SIGNS OR SYMPTOMS OF INFECTION THAT YOUR RESIDENT MAY HAVE!
Residents with systemic infection may become confused or exhibit behavioral changes.
MICROORGANISMS

Benefit us by maintaining a balance in our environment and in our body.

Can Be GOOD
MICROORGANISMS

Require certain elements to survive:

- **oxygen** – aerobic
- **no oxygen** – anaerobic
- **warm temperatures**
- **moisture**
- **dark area to grow**
MICROORGANISMS

Require certain elements to survive: (CONT.)

• food
  dead tissue – saprophytes
  living tissue – parasites
Human Body Defenses against MICROORGANISMS

External natural defenses

- skin as mechanical barrier
- mucous membrane
- cilia – fine microscopic hairs in nose
- coughing and sneezing
- hydrochloric acid in stomach
tears
Human Body Defenses against MICROORGANISMS

Internal defenses:
✓ Phagocytes –
✓ Inflammation –
✓ Fever –
✓ Immune response –
Human Body Defenses can only do so much!
SOOOOOO...

GERM SPREAD!

break the-chain-of-infection
Causative Agent

- Bacteria
- Viruses
- Fungi
- Protozoa
Reservoir of the Causative Agent

- Human with active cases of disease or those that carry disease without having symptoms
- Animals/insects
- Fomites
- Environment
Causative Agent Portals of EXIT

- Tears (slight risk)
- Saliva/respiratory tract secretions
- Urine
- Feces
- Wound drainage
- Reproductive tract secretions
Causative Agent Portals of ENTRY

- Cuts/break in skin
- Openings in the mucous membranes
- Respiratory system
- Gastrointestinal system
- Urinary system
- Reproductive system
- Mother to fetus
Mode of Transmission

Contact
- direct – person to person
- indirect – fomite to person
- droplet – common cold

Common vehicle
- salmonella in food
Mode of Transmission
(continued)

Airborne
tuberculosis

Vectorborne
mosquito harbors malaria parasite
Host

**Individual** who harbors the infectious organisms
Host

Susceptibility may be caused by poor diet, fatigue, inadequate rest, stress, or poor health.
Elderly are at a higher risk for infection!

The elderly have a higher risk for infection because of:

• weakened immune systems
• decreased circulation
• slow wound healing
• malnutrition
• dehydration
• limited mobility
Chain of Infection Buster!

Aseptic Control

Antisepsis - Disinfection - Sterilization
Aseptic Control

Antisepsis effective in preventing or inhibiting the growth of pathogenic organisms, but not spores or viruses safe to be used on skin
Aseptic Control

**Disinfection**

- destroys pathogenic organisms that are already present
- not effective against spores or viruses
- chemicals are used
- NOT used on skin
- Used on THINGS

Nursing Fundamentals 7243 3.01
Aseptic Control

Sterilization

– kills all microorganisms, including spores and viruses

– methods

  • steam under pressure
  • gas
  • radiation
  • chemicals

– not used on skin
STOPPING THE SPREAD OF INFECTION IS CALLED

MEDICAL ASEPSIS

The practice used to remove or destroy pathogens and to prevent their spread from one person or place to another person or place; clean technique
ALWAYS CLEAN FROM THE LEAST SOILED TO THE MOST SOILED AREA WHEN CARING FOR RESIDENTS
MEDICAL ASEPSIS

Is accomplished by using

ASEPTIC TECHNIQUE
ASEPTIC TECHNIQUE
Includes:

1. Proper handwashing (hand hygiene)
2. Employee being clean and neat
3. Proper handling of all equipment
4. Using sterile procedure when necessary
5. Using proper cleaning solutions
6. Following Standard Precautions
Aseptic Technique #1

Hand
Hygiene
HAND HYGIENE

the single-most effective way to prevent the spread of infection
Nurse Aide Nails

- Short; ¼ inch
- Clean
- Smooth
- No artificial nails, No extenders, No overlays. These harbor bacteria
Hand Hygiene

Hand WASH

Hand RUB
When to Wash Hands

Anytime when the hands are visibly soiled!
When to Wash Hands

- Before and after contact with a resident and/or resident’s belongings
- Before and after eating
- After using the bathroom
- After handling any contaminated fluid or object
- After touching body fluids, even if wearing gloves
- Before and after wearing gloves
- Between tasks and procedures on the same resident to prevent cross-contamination of different body sites
Wash the resident’s hands before meals
Training Lab Assignment
Engage in the Skill Acquisition Process for:

SKILL 3.01A
Wash Hands
HandRUB

The following slides outline the steps (learning targets) for hand hygiene using handrub products.
RUB HANDS FOR HAND HYGIENE!

1. Apply a palmful of the product in a cupped hand

2. Rub hands palm to palm
RUB HANDS FOR HAND HYGIENE!

3. Right palm over left dorsum (back of hand) with interlaced fingers and vice versa

4. Palm to palm with fingers interlaced
5. Backs of fingers to opposing palms with fingers interlocked

5. Rotational rubbing of left thumb clasped in right palm and vice versa
7. Rotational rubbing, backwards and forwards with clasped finger of right hand if left palm and vice versa

8. Once dry, your hands are safe
Training Lab Assignment
Engage in the Skill Acquisition Process for:

SKILL 3.01B Handrub

http://www.who.int/gpsc/5may/How_To_HandRub_Poster.pdf
Aseptic Technique #2

• Bathe, wash hair and brush your teeth on a regular basis
• Wear clean uniform
• Stay well!

Come to work clean, neat, and well.
Adhere to facility policy regarding staying home when sick. If you are contagious, stay home.
Aseptic Technique #3

Proper handling of all equipment and supplies
MULTIPLE-USE RESIDENT CARE EQUIPMENT

- Commonly used equipment or supplies (stethoscope, etc.) must be cleaned and disinfected after use or when soiled
- Single-use equipment is preferred and must be discarded properly
Care of supplies and equipment

Cleaning **non-disposable equipment**

1. Rinse in cold water to remove organic material
2. Wash with soap and hot water
3. Scrub with a brush if necessary
4. Rinse and dry equipment
5. Sterilize or disinfect equipment
Care of supplies and equipment

Direct cleaning away from your body and uniform
Care of supplies and equipment

Wash cooking and eating utensils with soap and water after each use.
Care of supplies and equipment

Do not transport equipment from one resident’s room to another without cleaning.
Care of supplies and equipment

• Avoid shaking linen
• Damp dust furniture
Proper handling of all equipment

DO NOT REUSE DISPOSABLE ITEMS!
Aseptic Technique #4

Use proper cleaning solutions

When cleaning resident’s unit or cleaning reusable equipment after use
Aseptic Technique #5

Sterile Procedure

The Nurse Aide I does not perform sterile procedures but should be able to avoid contamination of a sterile field or procedure.
Aseptic Technique #6

Follow Standard and Transmission based Precautions

2007 CDC Guidelines
Standard Precautions PLUS

**CDC** procedures to control and prevent infections.

Contains **two tiers** of precautions:

- Transmission Based
- Standard

3.01
Standard Precautions

Transmission Based

Standard
Standard Precautions

Used on **ALL** patients

**Includes:**

- Hand washing
- Personal Protective Equipment (PPE)
  - Gloves
  - Gowns
  - Masks and eye protection
- Needle stick safety
- Sharps
- Spills and splashes
- Resuscitation devices
- Waste and linen disposal
- Injuries

Used on **ALL** patients

3.01 Nursing Fundamentals 7243 72
Standard Precaution

a newer component
Standard Precaution
a newer component

Tuberculosis Standard

OSHA Standard to reduce occupationally transmitted/acquired TB

Requires FIT tested and training in the use of specific respiratory PPE

PPD aka TST skin test annually
Two-step Tuberculin Skin Testing (TST) is useful for the initial skin testing of adults who are going to be retested periodically, such as health care workers or nursing home residents. This two-step method can reduce the likelihood that a boosted reaction to a subsequent TST will be misinterpreted as a recent infection. 

_CDC / TB / Fact Sheets_
Standard Precautions

Hand Hygiene

Hand WASH

Hand RUB
Standard Precautions

Personal Protective Equipment (PPE)

1. Gloves
2. Gown
3. Masks and eye protection
Standard Precautions

GLOVES

**Wear gloves** (clean, nonsterile gloves) **when:**

- touching blood, body fluids, secretions, excretions, and contaminated items
- before touching mucous membranes and non-intact skin
Sterile gloves are more expensive and NOT needed for routine resident care.
Standard Precautions

GOWN

• Wear a gown:
  – during procedures and resident care activities that are likely to generate splashes of blood, body fluids, secretions or excretions
  – remove soiled gown as soon as possible and wash hands
Standard Precautions

MASK, EYE PROTECTION, FACE SHIELD

• Wear a mask and eye protection or a face shield:
  – to protect mucous membranes of the eyes, nose, and mouth
Standard Precautions
MASK, EYE PROTECTION, FACE SHIELD
(continued)

• Wear a mask and eye protection or a face shield (continued):
  – during procedures and resident care activities that are likely to generate
  splashes or sprays of blood, body fluids, secretions, and excretions.
Standard Precautions ~PPE Summary~

Personal Protection Equipment (PPE)

1. Gloves
2. Gown
3. Masks and eye protection
Standard Precautions

Needlestick safety

Sharps
Be very vigilant in watching for needles and other sharps in residents’ beds.

Discard these items in a puncture-resistant biohazard container.
Report to your supervisor if sharps are found in the resident's bed.
Standard Precautions

Spills and splashes
When pouring contaminated liquids into sinks or toilets; do not splash.
Cleaning Spills

Many facilities use special clean-up kits for spills. Follow manufacture directions when using these kits.
Guidelines: Cleaning Spills involving Blood, Body Fluids, or Glass

G Apply gloves before starting. In some cases, industrial-strength gloves are best.
First, **absorb the spill** with whatever product is used by the facility. It may be an absorbing powder.

Scoop up the absorbed spill, and dispose of in a designated container.
Guidelines: Cleaning Spills involving Blood, Body Fluids, or Glass

Apply the proper disinfectant to the spill area and allow it to stand for a minimum of 10 minutes.
Clean up spills immediately with the proper cleaning solution.

Do not pick up any pieces of broken glass no matter how large, with your hands. Use a dustpan and broom or other tools.
Guidelines: Cleaning Spills involving Blood, Body Fluids, or Glass

Waste containing broken glass, blood, or body fluids should be properly bagged. Waste containing blood or body fluids may need to be placed in a special biohazard container. Follow facility policy.
Standard Precautions

Resuscitation devices MUST BE SINGLE USE
Standard Precautions

- Waste and linen disposal

DETERMINE IF CONTAMINATED WITH BLOOD OR BODY FLUIDS THAT CONTAIN BLOOD. IF SO, HANDLE AS BIOHAZARDOUS MATERIAL.
Standard Precautions

LINEN

• Handle, transport, and process used linen soiled with blood, body fluids, secretions, and excretion
  – in a manner that prevents skin and mucous membrane exposures and contamination of clothing
Hold linens away from uniform.
Standard Precautions

LINEN
(continued)

• Handle, transport, and process used linen soiled with blood, body fluids, secretions, and excretion (continued):
  –in a manner that prevents transfer of microorganisms to other residents and environments
Standard Precautions
RESIDENT PLACEMENT

• Place resident who contaminates environment or who does not, or cannot be expected to assist in maintaining appropriate hygiene or environmental control, in private room.
Standard Precautions
RESIDENT PLACEMENT
(continued)

• If a private room is not available, consult with infection control professionals regarding resident placement or other alternatives
Standard Precautions

TRANSPORT OF INFECTED RESIDENTS

- Appropriate barriers (masks, impervious dressings) are worn
- Personnel in area to which resident is taken are notified of arrival and precautions to take
Standard Precautions
TRANSPORT OF INFECTED RESIDENTS
(continued)

• Inform residents in ways they can assist in prevention of transmission
Injuries

1. Wash the area immediately
2. Complete a facility incident report
3. Follow procedures for testing and treatment
Bloodborne Pathogen Standard

PATHOGENS found in the BLOOD
Bloodborne Pathogen Standard

- Applies to all occupational exposure of blood or other potentially infectious material.
- Blood = human blood, blood components, blood products
Bloodborne Pathogen Standard

In an emergency when you cannot identify body fluids or tell whether they contain blood, treat all body fluids as potentially infectious.
BLOODBORNE PATHOGENS:

- Human Immunodeficiency Virus (HIV)
- Hepatitis B Virus (HBV)
Human Immunodeficiency Virus (HIV)

- Persons infected with HIV may carry virus without developing symptoms for several years.
- HIV infected persons will eventually develop AIDS (Acquired Immune Deficiency Syndrome).
Human Immunodeficiency Virus (HIV) (continued)

- Persons infected with HIV may develop AIDS-related illnesses including neurological problems, cancer, and other opportunistic infections
- Persons infected with HIV may suffer flu-like symptoms, fever, diarrhea, weight loss and fatigue
Human Immunodeficiency Virus
(HIV)
(continued)

• Brain of persons infected with HIV may be affected, causing confusion, memory loss, depression or motor dysfunction

• Although drugs may delay symptoms, there is no known cure for AIDS
Hepatitis B Virus (HBV)

- About one third of persons infected do not show symptoms
- Another one third have mild flu-like symptoms which go away
- The last one third experience abdominal pain, nausea and fatigue; skin and eyes jaundiced and urine dark
Hepatitis B Virus (HBV) (continued)

• Six to ten percent of HBV infected persons become chronic carriers (may or may not have active infection, few or no symptoms, but can transmit disease)

• HBV preventable with use of HBV vaccine
Bloodborne Pathogens
Modes of Transmission

• Sexual contact
• Sharing contaminated needles
• Receiving blood transfusions
• Pregnant mother to unborn baby
• Nursing mother to baby through breast milk (for HIV, not HBV)
Bloodborne Pathogens
Modes of Transmission
(continued)

- Puncture wounds from sharps
- Mucous membrane contact
- Contact of infectious substances (urine, feces, saliva) with non-intact skin
- Contaminated surfaces (for HBV, not HIV)
Nurse Aide has possible exposure to blood or fluids containing **BLOOD**.
Bloodborne Pathogens Exposure Control Plan

- Post-exposure evaluation and follow-up
  - Wash the area immediately
  - Complete a facility incident report
  - Follow procedures for testing and treatment
Bloodborne Pathogens
Exposure Control Plan

• Copy must be available at workplace
• Mandated by OSHA
• Identifies employees at risk of exposure by tasks performed
Bloodborne Pathogens
Exposure Control Plan

• Specific measures to decrease risk to exposure
  – Administrative controls
  – Work practice controls
  – Engineering controls
  – Housekeeping
  – HBV vaccine
Standard Precautions

~Summary~

Used on ALL patients

• Includes:
  – Hand washing
  – Personal Protective Equipment (PPE)
    • Gloves
    • Gowns
    • Masks and eye protection
  – Needle stick safety
  – Sharps
  – Spills and splashes
  – Resuscitation devices
  – Waste and linen disposal
  – Injuries
Training Lab Assignment:
Engage in the Skill Acquisition Process for

Skills related to Standard Precautions...
Training Lab Assignment
Engage in the Skill Acquisition Process for:

**SKILL 3.01C**

Don & Remove Complete PPE
Transmission based precautions

Transmission Based

Standard
Standard Precautions PLUS

+ **Airborne Precautions**

+ **Contact Precautions**

+ **Droplet Precautions**
Standard Precautions PLUS

aka

Transmission-based precautions
Airborne Precautions
In addition to Standard Precautions, use Airborne Precautions, or the equivalent, for resident known or suspected to be infected with microorganisms transmitted by airborne droplets that remain suspended in the air and can be widely dispersed by air currents.
Transmission Based Precautions
AIRBORNE PRECAUTIONS
(continued)

• RESIDENT PLACEMENT: Private room. Negative air pressure in relation to the surrounding areas. Keep doors closed at all times and resident in room.
Transmission Based Precautions

AIRBORNE PRECAUTIONS (continued)

• GLOVES: Same as Standard Precautions
• GOWN OR APRON: Same as Standard Precautions
Transmission Based Precautions
AIRBORNE PRECAUTIONS
Mask and Eyewear

• For known or suspected pulmonary tuberculosis:
  – Mask N-95 (respirator) must be worn by all individuals prior to entering room
Transmission Based Precautions
AIRBORNE PRECAUTIONS

Mask and Eyewear
(continued)

• For known or suspected airborne viral
disease (e.g., chickenpox, or measles)
  – Standard mask should be worn by
    any person entering the room unless
    the person is not susceptible to the
    disease
  – When possible, persons who are
    susceptible should not enter room
Transmission Based Precautions
AIRBORNE PRECAUTIONS
Handwashing

- Hands must be washed before gloving and after gloves are removed
- Skin surfaces must be washed immediately and thoroughly when contaminated with body fluids or blood
Transmission Based Precautions
AIRBORNE PRECAUTIONS
Resident Transport

• Limit transport of the resident for essential purposes only
• Place a mask on the resident, if possible
Transmission Based Precautions
AIRBORNE PRECAUTIONS
Resident Care Equipment

• When using equipment or items (stethoscope, thermometer), the equipment and items must be adequately cleaned and disinfected before use with another resident.
Droplet Precautions
• **Droplet precautions**
  
  – Used when large-particle droplets are expelled during coughing, sneezing, talking or laughing

  – *Specific PPEs* -
    
    • *mask if working within 3 feet of patient*
Transmission Based Precautions

DROPLET PRECAUTIONS

In addition to Standard Precautions, use Droplet Precautions, or the equivalent, for a resident known or suspected to be infected with microorganisms transmitted by droplets that can be generated by the resident during coughing, sneezing, talking, or the performance of procedures that induce coughing.
Transmission Based Precautions

DROPLET PRECAUTIONS

(continued)

• RESIDENT PLACEMENT: Private room or with resident with same disease.

• GLOVES: Must be worn when in contact with blood and body fluids.
Transmission Based Precautions
DROPLET PRECAUTIONS
(continued)

• GOWNS: Must be worn during procedures or situations where there will be exposure to body fluids, blood, draining wounds, or mucous membranes.
• MASKS AND EYEWEAR:
  In addition to Standard Precautions, wear mask when working within three feet of resident (or when entering resident’s room).
Transmission Based Precautions
DROPLET PRECAUTIONS
(continued)

• HANDWASHING:
Hands must be washed before gloving and after gloves are removed.
TRANSPORTING: Limit the movement and transporting of the resident from the room for essential purposes only. If necessary to move the resident, minimize resident dispersal of droplets by masking the resident, if possible.
Transmission Based Precautions
DROPLET PRECAUTIONS
(continued)

• RESIDENT-CARE EQUIPMENT: When using common equipment or items, they must be adequately cleaned and disinfected.
Transmission Based Precautions

CONTACT PRECAUTIONS

In addition to Standard Precautions, use Contact Precautions, or the equivalent, for specified residents known or suspected to be infected or colonized with important microorganisms.
These microorganisms can be transmitted by direct contact with the resident (hand or skin-to-skin contact that occurs when performing resident-care activities that require touching the resident’s dry skin) or indirect contact (touching) with environmental surfaces or resident-care items in the resident’s environment.
Transmission Based Precautions

CONTACT PRECAUTIONS

(continued)

• RESIDENT PLACEMENT: Private room (if not available, with resident with same disease).

• GLOVES: Wear gloves when entering the room and for all contact of resident and resident items, equipment, and body fluids.
Transmission Based Precautions
CONTACT PRECAUTIONS
(continued)

• GOWN: Wear a gown when entering the room if it is anticipated that your clothing will have substantial contact with the resident, environmental surfaces, or items in the resident’s room.
Transmission Based Precautions

CONTACT PRECAUTIONS

(continued)

• MASKS AND EYEWEAR: Indicated if potential for exposure to infectious body material exists.
• HANDWASHING: After glove removal while ensuring that hands do not touch potentially contaminated environmental surfaces or items in the resident’s room.

• TRANSPORTING: Limit the movement and transporting of the resident.
Transmission Based Precautions

CONTACT PRECAUTIONS
(continued)

- RESIDENT-CARE EQUIPMENT: When possible, dedicate the use of non-critical resident care equipment to a single resident.
NEVER ISOLATE A RESIDENT EMOTIONALLY!
Training Lab Assignment
Engage in the Skill Acquisition Process for:

**SKILL 3.01D**

Disposition of equipment from resident unit using Transmission based precautions.
Training Lab Assignment
Engage in the Skill Acquisition Process for:

SKILL 3.01E

Collect specimen from resident using Transmission based precautions.
How do nursing facilities control infection
Quality Assurance and Infection Control

• Purpose of Infection Control Programs
  – Prevent cross infection
  – Prevent re-infection
  – Environmental control
Quality Assurance and Infection Control
(continued)

• Role of the Quality Assurance Committee
  – Reviews infections
  – Recommends policies and procedures to prevent infections
  – Made up of members from all disciplines
Quality Assurance and Infection Control (continued)

• Role of the Quality Assurance Committee
  – Monitors infection control program
  – All facilities required to have Infection Control Program as part of Quality Assurance Committee
Understand nurse aide role in infection control.