Longevity and Infection Control

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VCU
College of Health Professions
Gerontology

Learning Objectives

FAMILIARIZE	EVALUATE	UNDERSTAND	IDENTIFY	APPLY
become familiar with Infection Best Practices	strategies involved with Standard Precautions	basics of the Immune System, especially in older adults	the early signs of infection	knowledge to cases

What does infection prevention & control mean to me?

PERSON-CENTERED CARE: Infection Prevention & Control

As a caregiver, you must always remember that individuals to whom we give care are **unique**.
We are not just a diagnosis.
We treat individuals across the lifespan as individuals, with a plan of care that is unique to our preferences.

“A goal without a plan is just a wish.”

–Antoine de Saint-Exupéry

Developing a Plan

In order to help prevent infections, you need to know about the disease that causes it. Is it contagious and what strategies will ***PREVENT*** it?

Once an individual has the disease, you need to know strategies to prevent it from spreading from one person to another – this is called INFECTION ***CONTROL***.

Standard Precautions

Standard Precautions

"Standard Precautions are based on the principle that all blood, body fluids, secretions, excretions (except sweat), non-intact skin, and mucous membranes may contain transmissible infectious agents."

Lam, S.C. Universal to standard precautions in disease prevention: preliminary development of compliance scale for clinical nursing. *International Journal of Nursing Studies, 48,* 1533-1539.

The Magic of Handwashing

Hand Hygiene

Keep nails short and clean.

Do not wear fake nails, gel nails, or nail extensions.

Caregivers should be BARE to the elbow – no jewelry (rings, bracelets or wrist watches).

Wash your hands with soap and water OR

Rub your hands (hand rub) with an alcohol-based preparation (also referred to as a hand sanitizer)

Hand Hygiene

You perform hand hygiene ***before*** and ***after***:

- contact with a care recipient
- between care recipients
- treating a cut or wound for anyone

Hand Hygiene

You perform hand hygiene ***before***:

- Preparing or eating food
- Touching your eyes, nose, or mouth
- Putting on glasses
- Handling/Administering medication
- Insertion of invasive devices

Information taken from the VDH “Protecting Employees from Blooddborne Pathogens: Module 2

Hand Hygiene

You perform hand hygiene ***after***:

- contact with blood, body fluids, mucous membranes, secretions, excretions, or non-intact skin
- removing gloves
- touching surfaces or objects that may be contaminated with blood or body fluids
- handling garbage
- using the restroom
- blowing your nose, coughing, or sneezing

Information taken from the VDH “Protecting Employees from Bloodborne Pathogens: Module 2”

Personal Protective Equipment (PPE)

- Gloves
- Gown
- Mask, Face shield, Eye Protection/Goggles
- Resuscitation Devices (CPR):
  - Mouthpiece
  - Resuscitation bag
  - Ventilation devices

Care of the Environment

An important strategy of infection prevention and control is cleaning the environment. This consists of routine care, cleaning and disinfecting environmental surfaces, especially frequently touched areas where we live, eat, and relax.

Respiratory Hygiene & Cough Etiquette

Helps to decrease the transmission of respiratory infections like influenza (flu) and the common cold by educating care workers, residents, and visitors through education regarding the transmission and prevention of respiratory illnesses, proper hand hygiene, and covering your mouth and nose when you sneeze and cough.

In Addition to Standard Precautions

- Contact Precautions
- Droplet Precautions
- Airborne Precautions

Contact Precautions

- Reduces the risk of transmitting germs by direct or indirect contact.
- Methicillin-resistant Staphylococcus aureus(**MRSA**) can be spread to others by contact with items in the environment. Salmonella and Clostridium difficile are found in the stool.
- Wear gown and gloves **whenever** in contact with individuals or potentially contaminated areas or objects in the environment.
- Dedicate the use of non-critical equipment like a blood pressure cuff to a single use or use single-use equipment for those who are infected.
- Don’t forget to use hand hygiene after removing your gloves.

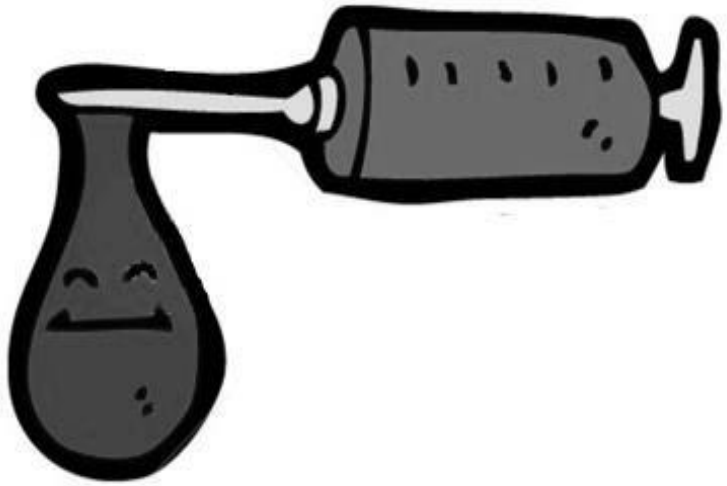
Droplet Precautions

- Droplets spread from one person to another by speaking, sneezing, or coughing .
- Infections that can be transmitted by droplets are influenza and the common cold. A few bacteria such as pertussis, meningococcus, and streptococcus are also transmitted by droplets.
- The germs in the droplets can pass through the air for approximately 3-6 feet, being breathed into the nose or mouth of another person.
- A mask must be used by EVERYONE who enters the room of a resident on droplet precautions.
- Must use HAND HYGIENE to avoid spreading the germs.

Airborne Precautions

- TB
- Measles
- Chicken Pox
- Covid-19

Bloodborne Pathogens Standard



More Trainings

Virginia Department of Health

Virginia Department of Human Resource Management

VCU Department of Gerontology's Personal Care Aide Training Program

Most Common Bloodborne Pathogens

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

Hepatitis B

There is a Hepatitis B Vaccine to **PREVENT** the disease.

Hepatitis C

There is NO vaccine available at this time.

Human Immunodeficiency Virus (HIV)

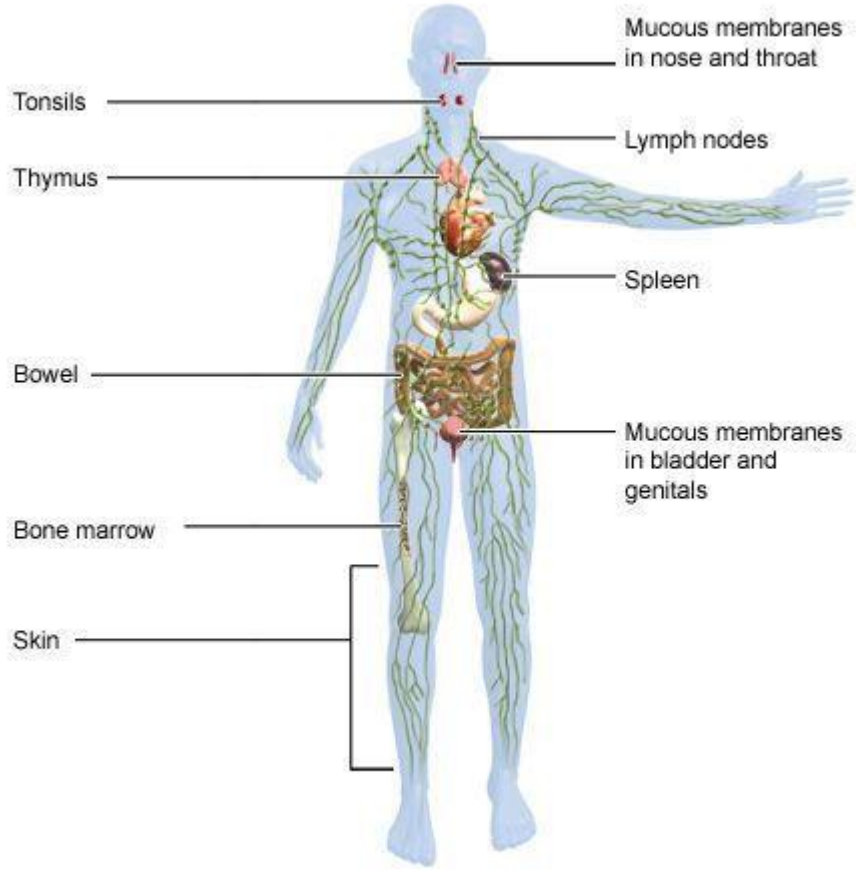
There is NO CURE at this time.

The Immune System

What Does the Immune System Do?

It protects us against disease and infection

Parts of the Immune System



Did You Know?

The side effects of some medications can weaken the immune system and put us at risk for a fungal infection!

Actions to Help Support a Compromised Immune System

Get annual flu vaccines, periodic tetanus boosters, pneumonia & shingle vaccines. Check with your physician as to which vaccines are appropriate.

Maintain a healthy diet.

Exercise regularly.

Limit exposure to smoke and dust.

Vaccines

“Vaccines are a critical component to decrease the spread of infections.”

Stefanacci, RG, Haimowitz, D. (2012). Infectious disease in assisted living: Controlling the enemy is in our hands. *Geriatric Nursing*, *33*(1), 57.

How Vaccines Work

A vaccine imitates an infection which helps the body develop immunity

Recommended Vaccines (2016) by the CDC for Adults 60 Years and Older

Influenza (flu)

Tetanus, diphtheria, pertussis (Td/Tdap)

Zoster (shingles)

Varicella

Pneumococcal (recommended at 65 years and older)

Germs

A DISEASE
is NOT
ONE SIZE
FITS ALL!

Elders may express themselves differently both physically and cognitively when reacting to a disease.

What causes an infection?

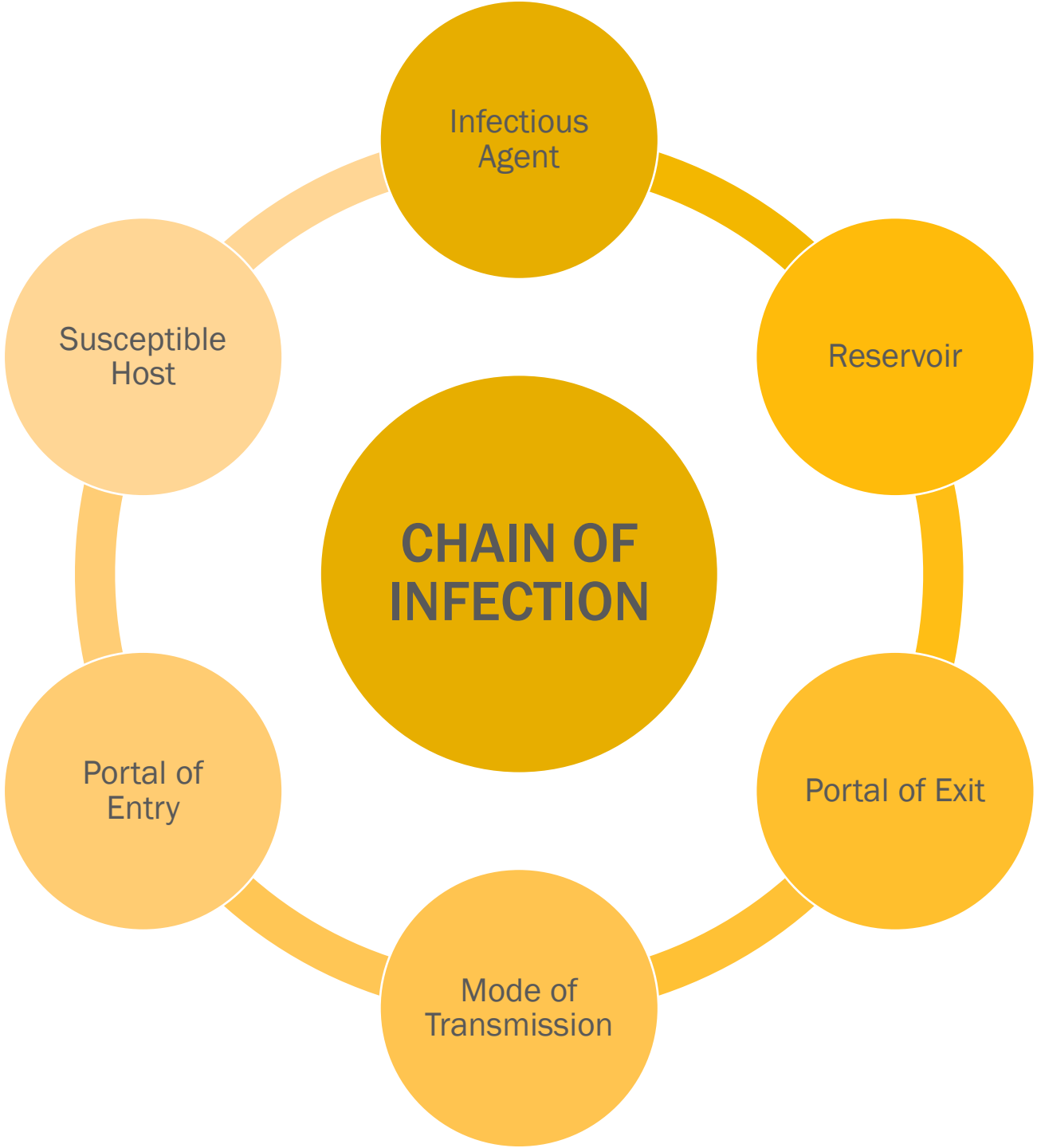
An infection is caused by a germ (**pathogen**) that enters the body and multiplies, causing mild to deadly symptoms.

bacteria **viruses** **fungi** **parasites**

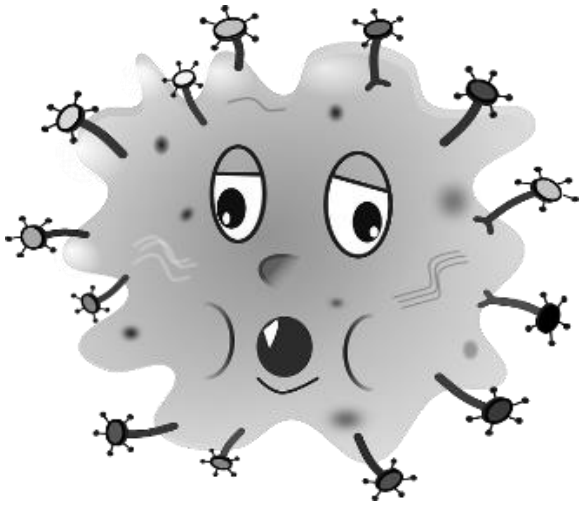
What is a contagious infection?

It’s an infection that can be transmitted from one person to another by **direct** or **indirect contact**.

Transmission Chain of an Infectious Agent

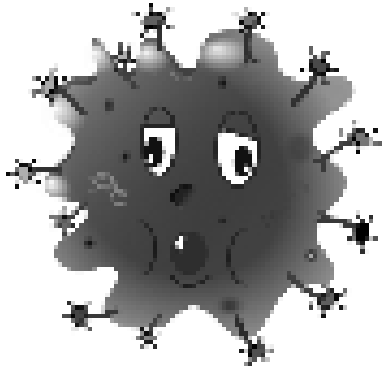


Infectious Agent/Disease



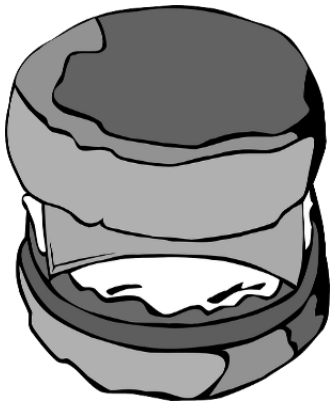
An infectious agent can be any germ such as:

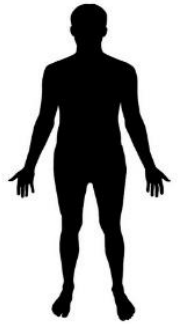
- Bacteria
- Virus
- Fungus
- Parasite



A pathogen can cause an infection because of its ability to:

- Multiply and grow
- Enter tissue
- Cause disease



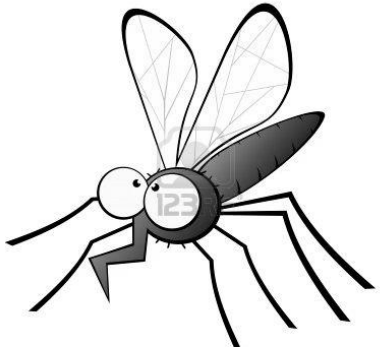


A Reservoir

The place where the **infectious agent** lives, thrives, and reproduces such as food, water, door knobs, and HUMANS!

Portal of Exit

The place where the infectious agent leaves the reservoir such as food, water, human feces, door knobs, and body fluids.



Mode of Transmission

It’s a means by which germs transfer from one carrier to another either by **direct** or **indirect contact.**

Portal of Entry

The opening where the infectious agent enters the host's body: an open wound, mucous membranes, a catheter into the bladder, or an injection

Susceptible Host

A susceptible host is a person who is at risk for developing an infection from the disease that has entered his body.

Physical Risk Factors

1. Aging of the immune system
2. Not receiving annual flu vaccine
3. Not receiving the recommended immunizations by age and by health condition
4. Poor nutrition & hydration
5. Lack of mobility
6. Thinning of the skin, especially in older adults
7. Incontinence of urine and stool
8. Decrease in gastric acid secretions
9. Poor hygiene
10. Chronic diseases

Psychological Risk Factors

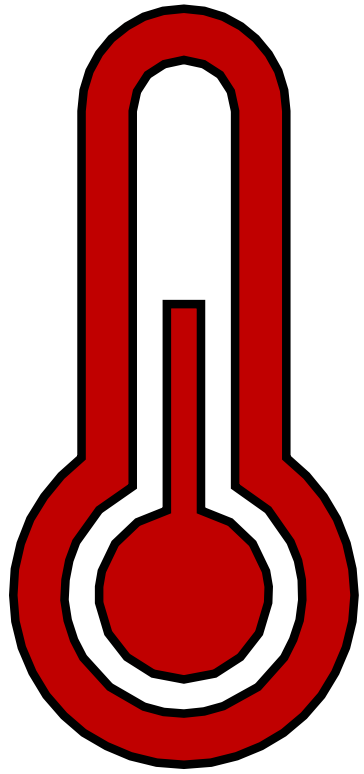
- Significant stress and fatigue
- The possible decreased ability to express to our care provider how we feel regarding symptoms
- Depression
- Dementia

Early Detection of Infection

Early Detection of Infection: Elevated Temperature

An elevation in body temperature of **2 degrees Fahrenheit (1.1 Degrees Centigrade)** from normal body temperature is considered a febrile, or usual, response.

Fevers higher than **101 Degrees Fahrenheit (38.3 Degrees Centigrade)** indicate a more severe infection. A physician should consulted as soon as possible.

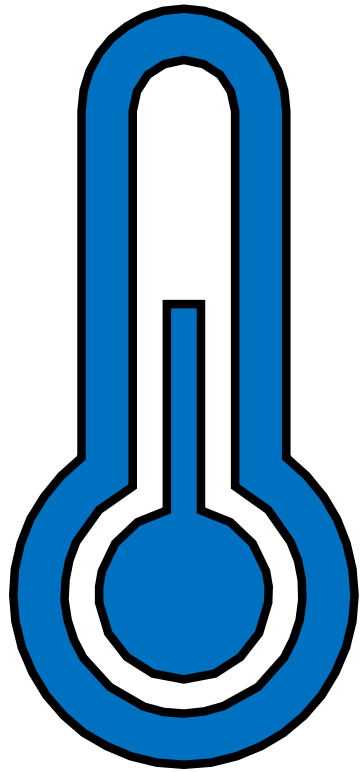


Early Detection of Infection: Decreased Temperature

Hypothermia is a body temperature **less than 97 Degrees Fahrenheit** (less than 36 Degrees Centigrade)

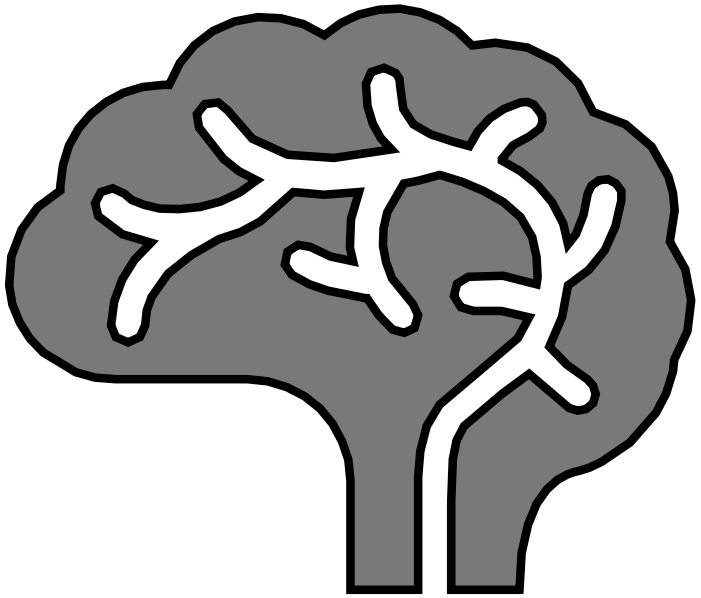
Older persons tend to have greater changes in mental status with hypothermia than older persons who have a fever.

They also may have central nervous system dysfunction and circulatory shock and are at an increased risk of death.



Early Detection of Infection: Cognitive Impairment

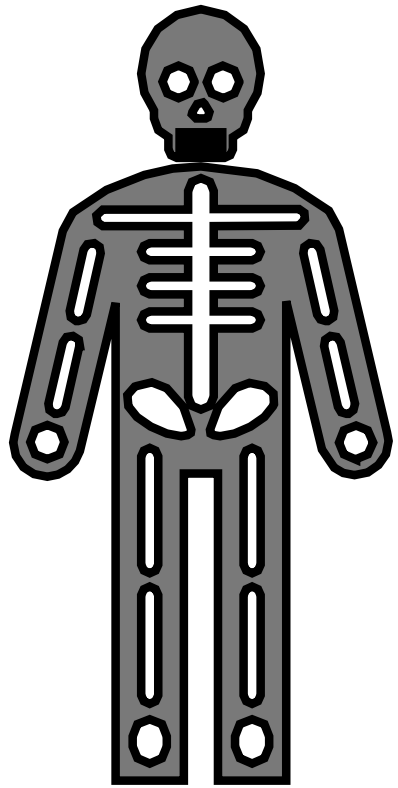
- The inability to perform tasks that the resident could previously perform.
- Mood changes
- Sudden delirium – this affects 50% of elders with infections



Early Detection of Infection
Physical Changes

Physical changes caused by an infection in our seniors are subtle. As a result, they may have nonspecific complaints, which is your only clue that there may be an infection. Some of these nonspecific complaints are:

- Discomfort
- Restlessness
- Lethargy
- Decreased mobility
- Aggressiveness
- Confusion
- Loss of appetite



Case Study

You are working as a volunteer at your daughter's Sadie Hawkins dance. Like other parents, you are performing multiple tasks. Hanging decorations, taking tickets, serving punch and cleaning up discarded plates, napkins and such. It's flu season, and you notice that several students appear ill; coughing and blowing their noses. Yikes!

You are reminded of a class in Infection Prevention and Control you took.

What do you do to protect yourself and others?

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