

Infectious Diseases in Long-Term Care Facilities

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CEUs

This course is good for:

6 CEU's for RCFE Administrators

6 CEU's for ARF Administrators

6 CE's for SNF Administrators

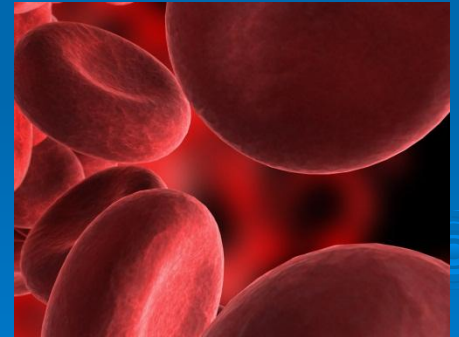
6 CE's for Nurses and CNAs

Course Objectives

- ❑ Discuss universal precautions and bloodborne pathogens
- ❑ Bugs - the different types, symptoms and treatments
- ❑ DSS Regulations for RCFE's

Universal Precautions

When you provide personal care to the residents, you may come in contact with blood, urine, feces, soiled linens, soiled clothing, broken skin or cuts, or other **blood borne pathogens** or body fluids.



What's a “blood borne pathogen?”

Universal Precautions (cont'd)

Blood borne pathogens are microorganisms that are present in human blood or other potentially infectious material (body fluids) that can cause disease in humans.

In the world of blood borne pathogens, the most common is the Hepatitis B virus (HBV) and the most deadly is the human immunodeficiency virus (HIV).

Universal Precautions (cont'd)

OSHA considers the following potentially infectious materials:

Blood

Saliva

Semen

Urine is not considered a potentially infectious material unless it contains visible blood.

Universal Precautions (cont'd)

So because we may come in contact with bloodborne pathogens, you must practice **universal precautions**.

What does that mean?



Universal Precautions (cont'd)

Universal precautions means that you treat all human blood and body fluids as if they are infectious.

Because how do you really know by looking at someone if they have an infectious disease?

Universal Precautions (cont'd)

Specifically, universal precautions consist of the following four basic infection control guidelines:

1. Hand washing;
2. Wearing gloves;
3. Cleaning with disinfectants; and
4. Proper disposal of infectious materials



Universal Precautions – Hand washing

Hand washing:

1. When doing ADL's with the resident (incontinent care, bathing);
2. When handling food;
3. When coming into contact with bodily fluids;
4. After using the toilet;



Universal Precautions – Hand washing

Hand washing (cont'd):

- 5. Before and after treating and bandaging a cut;
- 6. After cleaning up spills, housekeeping;
- 7. After touching your hair or face;
- 8. After smoking.

Universal Precautions – Wearing gloves

Teach your staff how to properly put on and take off gloves.

ALWAYS have gloves available!

Universal Precautions (cont'd)

How to safely remove gloves:

1. With both hands gloved, peel one glove off until it comes off inside out.
2. With the bare hand, insert 2 fingers into the cuff of the remaining glove.
3. Pull down the glove so this glove also comes off inside out.
4. Dispose of both gloves properly and wash hands thoroughly.

Universal Precautions (cont'd)

Cleaning with disinfectants:

Bugs hate bleach. But so does your carpet....

So what should you use?

Universal Precautions (cont'd)

To summarize how to reduce the risk:

Cover any broken skin

Wear gloves

Use protective equipment

Wash your hands

Universal Precautions (cont'd)

Treat ALL blood, bodily fluids,
etc. as potentially infectious.

Bugs do not discriminate!

Universal Precautions (cont'd)

Blood borne pathogens may enter your body in a number of ways:

- When you touch a contaminated surface and then touch your eyes, nose, mouth, open wounds or inflamed skin; or
- By a sharp object that is contaminated by the virus when it cuts or punctures your skin (like a needle); or

Universal Precautions (cont'd)

Blood borne pathogens may enter your body in a number of ways (cont'd):

- When a contaminated object touches inflamed skin, acne or skin abrasions (examples are contaminated gloves, needles or clothes)

BUGS



BUGS



OK – let's talk more about those bugs.....

Hepatitis B
Hepatitis C
HIV/AIDS

MORE BUGS



Staph
MRSA
C. Diff
VRE
CRKP



Hepatitis B

First off.....HIV and Hepatitis are not transmitted by:

- ✓ touching an infected person;
- ✓ coughing or sneezing; or
- ✓ using the same equipment, materials, toilet, water fountain or shower as an infected person

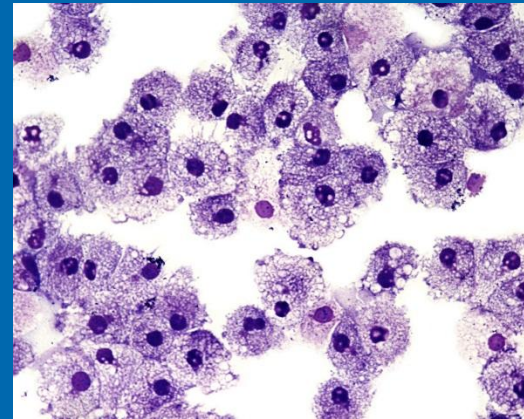
Hepatitis B

Hepatitis B Virus (HBV) –

- One of the most common, serious infectious diseases in the world.
- The virus attacks the liver.
- It lives in bodily fluids such as blood, saliva, semen and vaginal secretions.

Hepatitis B

Hepatitis B -



- HBV is up to 100 times easier to transmit than HIV because the Hepatitis B virus can live in dried blood up to 7 to 10 days!!!!

Hepatitis B

Hepatitis B –

Your chances of being infected from a single contaminated needle stick for HIV is 0.5 percent.

For HBV, your chance is 20-33%!!!!



Hepatitis B

Signs and symptoms of Hepatitis B:

- * Known as the “silent infection” because some carriers of HBV may not become noticeably sick and may not realize they have the disease.
- * Many people do not have symptoms when they are first infected.

Hepatitis B

Signs and symptoms of Hepatitis B:

After an incubation period of 40-140 days, about ½ of infected adults do experience some symptoms.



Hepatitis B

Signs and symptoms of Hepatitis B:

- Fatigue
- Loss of appetite
- Flu-like symptoms (may include mild fever, muscle and joint aches, nausea, vomiting and diarrhea)
- Jaundice (yellow skin and eyes)
- Acne
- Inflammation and ulcers of the colon
- Lung disease
- Inflammation of the liver

Hepatitis B

NOTE:

A person who shows no symptoms of Hepatitis B can still pass the disease to someone!



Hepatitis B

The HBV Vaccine:



This vaccine can prevent Hepatitis B.

Given in a series of 3 doses over the period of six months and includes a follow-up blood test.

Hepatitis B

I understand that due to my occupational exposure to blood or other potentially infectious materials I may be at risk of acquiring hepatitis B virus (HBV) infection. I have been given the opportunity to be vaccinated with hepatitis B vaccine, at no charge to myself. However, I decline hepatitis B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring hepatitis B, a serious disease. If in the future I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with hepatitis B vaccine, I can receive the vaccination series at no charge to me.

www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=10052&p_table=STANDARDS

Hepatitis B

Yikes! I may have been exposed. What do I do?

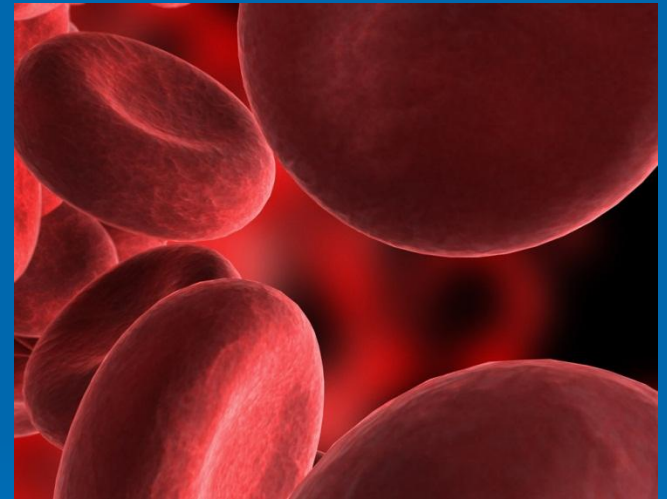
- ◆ Immediately report the incident to your supervisor – do not wait to tell them!
- ◆ Thoroughly wash the exposed area of your body with warm water, then scrub with soap and water.
- ◆ You will probably need to get a medical evaluation and follow-up treatment.

Hepatitis C

A viral disease that leads to swelling (inflammation) of the liver.

Spread by body fluids, shared needles, accidental needle sticks and maybe sexual contact.

It is not spread by shaking hands or casual contact.



Hepatitis C

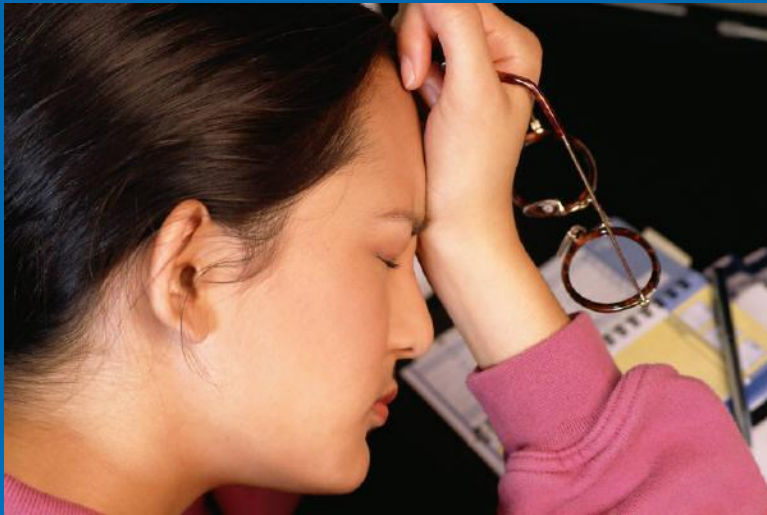
Many people who are infected with hepatitis C do not have symptoms.

If the infection has been present for many years, the liver may be permanently scarred, a condition called cirrhosis.

In many cases, there may be no symptoms of the disease until cirrhosis has developed.

Hepatitis C

Symptoms:



Loss of appetite

Fatigue

Abdominal pain

Dark urine

Jaundice

Low-grade fever

Hepatitis C

Who's at risk?

- Caregivers who have regular contact with blood at work
- Patients who have been on long-term kidney dialysis
- People who have unprotected sex with a person who has hepatitis C
- Received a blood transfusion before July 1992

Hepatitis C

Currently, there is no cure for Hep C but the virus can be suppressed by medications for quite a long time.

Treatments include either an injectable medication or a capsule that's taken twice a day.

Hepatitis C

Patients need to avoid consuming alcohol - even moderate amounts of alcohol speed up the progression of hepatitis C, and alcohol reduces the effectiveness of treatment.



Hepatitis C

We'll be discussing the new Hep C regulations later in this conference.

Change to Title 22, Section 87609 for RCFE's.

HIV/AIDS

Human Immunodeficiency Virus (HIV)

- HIV is the 2nd most common, serious infectious virus.
- This virus leads to the disease known as AIDS.

HIV/AIDS

Human Immunodeficiency Virus (HIV)

- HIV attacks the body's immune system, making the body less able to fight off infections.
- In most cases, these infections eventually prove fatal.
- NOTE: There is no vaccination to prevent HIV.

HIV/AIDS

HIV – How is it transmitted?

- Similar to Hepatitis B, HIV is transmitted through bodily fluids such as blood, semen, vaginal secretions and breast milk.
- However, there is **no** evidence that HIV is transmitted through saliva, tears or sweat.
- HIV is not transmitted by touching, feeding or working around residents who carry the disease.

HIV/AIDS

HIV –

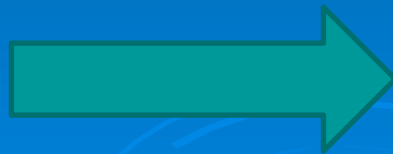
- The virus must be transmitted by direct contact with the bloodstream of another person.
- The virus cannot enter through contact with the skin UNLESS contact is made with an open wound and the virus is able to enter into the bloodstream.

HIV/AIDS

HIV –

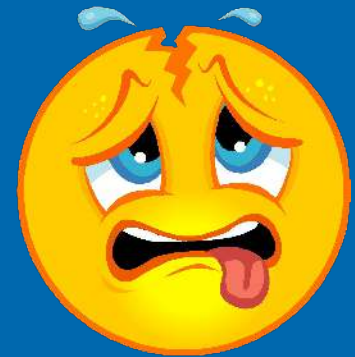
- HIV is a virus that cannot survive outside of the body.
- It cannot be transmitted by coughing or sneezing.

NO



HIV/AIDS

What are the symptoms of HIV?



weakness

nausea

fever

headaches

diarrhea

weight loss

sore throat

swollen lymph glands

a white coating on the tongue

HIV/AIDS

NOTE:

A person who shows no symptoms of HIV can still pass the disease to someone!



HIV/AIDS

Yikes! I may have been exposed. What do I do?

- ◆ Immediately report the incident to your supervisor – do not wait to tell them!
- ◆ Thoroughly wash the exposed area of your body with warm water, then scrub with soap and water.
- ◆ You will probably need to get a medical evaluation and follow-up treatment.

Staph Infection

Caused by a Staphylococcus (or "staph") bacteria.



About 25% of people normally carry staph in their nose, mouth and on their skin and they're usually harmless.

The infection often begins with a little cut, which gets infected with bacteria.

Staph Infection



Staph Infection

Staph infections range from a simple boil to antibiotic-resistant infections to flesh-eating infections.

The difference between all these is the strength of the infection, how deep it goes, how fast it spreads, and how treatable it is with antibiotics.....or not!

Staph Infection

Anyone can get staph.

At risk:

seniors

those with compromised immune systems

patients in hospitals and long-term care facilities

patients with indwelling catheters, etc.



Staph Infection

**Staph infections
are contagious!**



Direct contact with an infected wound or sore, or with personal-care items such as a razor, are common routes of transmission.

Staph Infection

Casual contact such as shaking hands or hugging does not pose a great risk for transmission *if there is no direct contact with the infected area.*

But because staph bacteria are so hardy, they can live on inanimate objects such as towels long enough to transfer to the next person who touches them. And heat may not kill them.

Staph Infection

There are more than 30 species in the staph family of bacteria, and they can cause different kinds of illnesses — for example, one kind of staph can cause urinary tract infections.

But most staph infections are caused by the species *Staphylococcus aureus* (S. aureus).

Staph Infection

While 25% to 30% of people are **colonized*** in the nose with staph, less than 2% are colonized with MRSA.

***Colonized** means that a person carries the organism/bacteria but shows no clinical signs or symptoms of infection. For Staph, the most common body site colonized is the nose.



Staph Infection

S. aureus most commonly causes skin infections like folliculitis, boils, impetigo and cellulitis that are limited to a small area of a person's skin.

S. aureus can also release toxins (poisons) that may lead to illnesses like food poisoning or toxic shock syndrome.

Staph Infection

Infections caused by *S. aureus* can occasionally become serious.

This happens when the bacteria move from a break in the skin into the bloodstream.

This can lead to infections in other parts of the body, such as the lungs, bones, joints, heart, blood and central nervous system.

Staph Infection

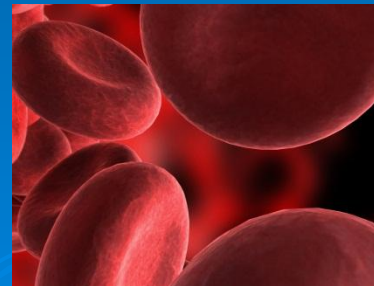
Symptoms of staph of the skin:

- abscess or boil with drainage or pus
- affected area may be red, swollen and painful



Symptoms of staph in the blood:

- high fevers
- chills
- low blood pressure



Staph Infection

Most common staph skin infection: **Cellulitis**

- an infection involving the skin and areas of tissue below the skin surface.
- most common on the legs but can affect any area of the body.
- begins as a small area of redness, pain, swelling, and warmth on the skin and as this area begins to spread, a person may feel feverish and ill.

Staph Infection



Cellulitis

Staph Infection

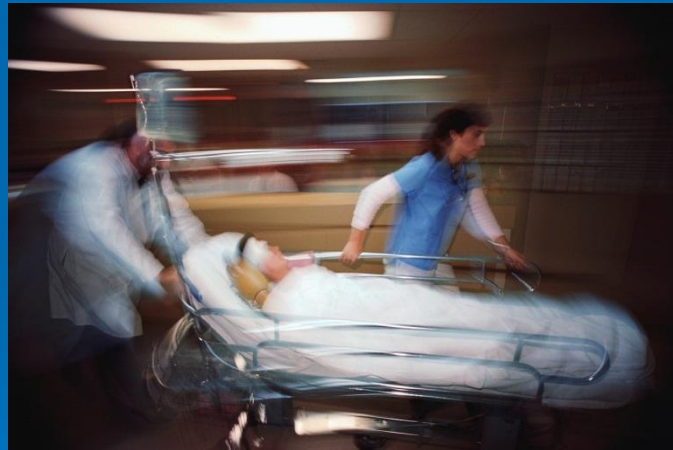
Staph can cause life-threatening diseases such as:

pneumonia

sepsis

meningitis

toxic shock syndrome



Staph Infection

How do I protect myself?

- Wear gloves
- Wash hands **OFTEN!**
- Shower/bathe daily
- Cover cuts or open wounds
- Don't share towels or clothing with someone who has staph
- Try to limit your time around a resident with staph



Staph Infection

How is it treated?

Antibiotics. Penicillin was the drug of choice until the 1980's, and then the bugs started to become resistant.

Intravenous antibiotics are used to treat serious and life-threatening infections.

Staph Infection

Why aren't antibiotics working anymore?

- Patients aren't finishing the entire course of the antibiotics and this allows some stronger bacteria (those with a higher tolerance to the antibiotic) to multiply and gradually acquire resistance.
- Bacteria can also gain resistance when antibiotics are given to patients who do not need them to begin with.

MRSA



Methicillin-resistant *Staphylococcus aureus*

MRSA



MRSA

The most feared type of staph infection because it can be **antibiotic resistant**.

It's resistant to: methicillin and other more common antibiotics such as penicillin and amoxicillin.

MRSA

The majority of MRSA infections are classified as CA-MRSA (community acquired) or HA-MRSA (hospital- or health-care-acquired).

In the community, most MRSA infections are skin infections.

MRSA

MRSA infections are transmitted from **person to person by direct contact** with the skin, clothing, or area (for example, sink, towel or bed) that had recent physical contact with a MRSA-infected person.



MRSA

At risk:

- ✓ Patients in hospitals
- ✓ Someone with open or broken skin
- ✓ Someone who's had surgery in the past year
- ✓ Someone with a compromised immune system
- ✓ Patients with catheters
- ✓ People who live in crowded living conditions

MRSA

Signs and symptoms of MRSA of the skin:

- Red bump or boil that may be full of pus (maybe it's a spider bite or a pimple???)
- Pain
- Swollen, tender and red skin lesion

MRSA

Signs and symptoms of
hospital-acquired MRSA:



Fever

Cough

Chest pain

Muscle aches

Chills

Rash

Shortness of breath

General fatigue

MRSA

How do they know it's MRSA??:

Culture of the boil/site

Blood culture

Urine culture

Sputum culture



MRSA

OK, it's MRSA. Now what do we do?

If it's the skin infection:

- a nurse or doctor will drain the infection

- the wound will be covered

- antibiotics may be prescribed

MRSA

While most MRSA infections are resistant to penicillin, they may prescribe:

Bactrim

Tetracyclines such as

Doxycycline

Amoxicillin



MRSA

Protecting ourselves:

- Wash your hands!!!!
- Clean surfaces with detergent-based cleaners or Environmental Protection Agency (EPA)-registered disinfectants.
- Sanitize linens – hottest water setting and bleach, if possible

C. diff

“Clostridium difficile”

A bacterium that can cause symptoms ranging from diarrhea to life-threatening inflammation of the colon.

Most commonly affects older adults in hospitals or in long term care facilities and typically occurs after use of antibiotic medications.

C. diff

Each year, tens of thousands of people in the United States get sick from C. diff, including some otherwise healthy people who aren't hospitalized or taking antibiotics.

The elderly and people with certain medical problems have the greatest chance of getting C. diff.

C. diff

More at-risk people:

- hospital patients
- children
- 65+ years of age. (The risk of becoming infected with C. diff is **10** times greater for people age 65 and older compared with younger people.)
- someone with a serious underlying illness or a weakened immune system as a result of a medical condition or treatment (like a colon disease)



C. diff

C. difficile bacteria can be found throughout the environment — in soil, air, water, and human and animal feces.

A small number of healthy people naturally carry the bacteria in their large intestine.

C. Diff

C. difficile bacteria are passed in feces and spread to food, surfaces and objects when people who are infected don't wash their hands thoroughly.

C. diff infection can spread from person-to-person on contaminated equipment and on the hands of doctors, nurses, other healthcare providers and visitors.

The bacteria produce hardy spores that can persist in a room for weeks or months.

C. diff

The most common symptoms of a **mild** C. diff infection include:

Watery diarrhea

Fever

Loss of appetite

Nausea

Stomach pain and tenderness



C. diff

The most common symptoms of a **severe** C. diff infection include:

Watery diarrhea 10-15 times a day

Severe abdominal cramping

Fever

Nausea and vomiting

Weight loss

C. Diff

- People in good health don't usually get sick from C. diff.
- The intestines contain millions of bacteria, many of which help protect the body from infection.
- When you take an antibiotic to treat an infection, the drug can destroy some of the normal, helpful bacteria as well as the bacteria causing the illness.
- Without enough healthy bacteria, C. diff can quickly grow out of control.

C. Diff

Bad news.....An aggressive strain of C. diff has emerged that produces far more toxins than other strains do.

The new strain is more resistant to certain medications and has shown up in people who haven't been in the hospital or taken antibiotics.

This strain of C. diff has caused several outbreaks of illness since 2000.

C. Diff

Prevention:

Hand washing

Wear gloves

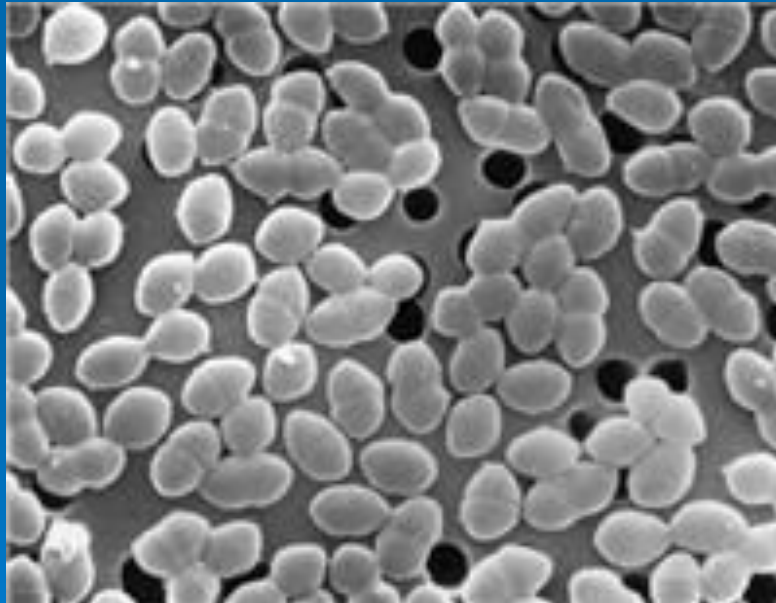
Thorough cleaning
with bleach

Avoid unnecessary use
of antibiotics



VRE

Vancomycin-Resistant Enterococci



VRE

Enterococci are bacteria that are normally present in the human intestines and in the female genital tract and are often found in the environment.

These bacteria sometimes cause infection.

They are resistant to several antibiotics, but in the past, physicians could rely on the drug vancomycin to effectively treat these infections. But.....

VRE

Vancomycin is an antibiotic that is used to treat some drug-resistant infections caused by enterococci.

In some instances, enterococci have become resistant to this drug and thus are called vancomycin-resistant enterococci (VRE).



VRE

Once in the bloodstream, VRE can cause meningitis, pneumonia, or infection of a heart valve (called endocarditis).

VRE may also be introduced directly into an open sore or wound, causing a wound infection.

VRE

At risk:

- ★ People who have been previously treated with the antibiotic vancomycin or other antibiotics for long periods of time.
- ★ People who are hospitalized, particularly when they receive antibiotic treatment for long periods of time.
- ★ People with weakened immune systems such as patients in intensive care units.
- ★ People who are colonized with VRE.
- ★ People with cancer or diabetes (compromised immune system).

VRE

How is it spread?

#1 – by caregivers who have contaminated hands.

VRE can also be spread directly to people after they touch surfaces that are contaminated with VRE.

VRE is **not** spread through the air by coughing or sneezing

VRE

Signs and symptoms vary according to the site of infection.

Invaded the bloodstream: fever, fast heart rate and feel very sick (aka sepsis).

Patients with urinary infections: burning with urination, back pain, or fever.

VRE

Treatments:

People with colonized VRE (bacteria are present, but have no symptoms of an infection) do not need treatment.

Most VRE infections can be treated with antibiotics other than vancomycin.

VRE

Typical antibiotic treatments include:

amoxicillin

ampicillin

vancomycin



VRE

Reduce transmission by:

washing hands

don't take antibiotics when not needed

cover sores, cuts, etc.

wear gloves

use alcohol-based disinfectants or simple household disinfectants

CRKP

The new superbug!

Stands for: *carbapenem-resistant Klebsiella pneumoniae*

After first surfacing in North Carolina, it has arrived on the West Coast. CRKP has now been reported in 36 US states

CRKP

Experts at the Center for Disease Control, CRKP has a 40% mortality rate for those who become infected.

March 2011 - more than 356 superbug cases of CRKP have been reported in Los Angeles County alone.

CRKP

CRKP is an enterobacterium, and is part of the same category as other killer bacteria like E. coli.

Most of the victims of CRKP have been women with an average age of 73.

Good news – your chance of getting it is remote.....for now....

CRKP

And that's good because....



CRKP is even scarier than MRSA because the new superbug is resistant to almost all antibiotics, while a few types of antibiotics still work on MRSA.

The one drug that treats this hardy bacteria is *Colistin*, which can cause severe kidney damage in some patients.

CRKP

How do you get it? You need to be exposed to the bacteria.

Who's most at risk?

hospital or long-term healthcare facility patients

elderly

people on ventilators or have IV's

CRKP

Symptoms:

CRKP presents itself as a variety of illnesses, most commonly pneumonia, meningitis, urinary tract infections, wound (or surgical site) infections and blood infections, symptoms reflect those illnesses, most often pneumonia.

CRKP

Preventing transmission:

wash hands with soap and water

use gloves

avoid sharing personal items

shower after using gym equipment

only take antibiotics when needed and finish
the entire course



Influenza

The Flu!



The flu is a contagious infection of the nose, throat, and lungs caused by the influenza virus.

Yes, it is contagious!

Influenza

Tens of millions of people in the United States get the flu each year.

Most get better within a week or two, but thousands become sick enough to be hospitalized.

About 36,000 people die each year from complications of the flu.

Influenza

Signs and symptoms:

Fever between 102 and 106

Body aches

Chills

Nausea

Vomiting

Lack of energy

Dry, hacking cough

Sore throat



Influenza

The most common way to catch the flu is by breathing in droplets from coughs or sneezes.

It can also be spread when you touch a surface such as a faucet handle or phone that has the virus on it, and then touch your own mouth, nose, or eyes.

Influenza

Symptoms appear 1 - 7 days later.

Because the flu spreads through the air and is very contagious, it often strikes a community all at once, causing an epidemic illness.

Influenza

Great, now you've got it in your community!

- ❑ Keep the resident away from other residents
- ❑ Urge them to rest
- ❑ Push the liquids
- ❑ Have them avoid alcohol and tobacco
- ❑ If the doctor prescribes antibiotics (which may not occur), make sure they take them on time and that they finish the entire course

Influenza

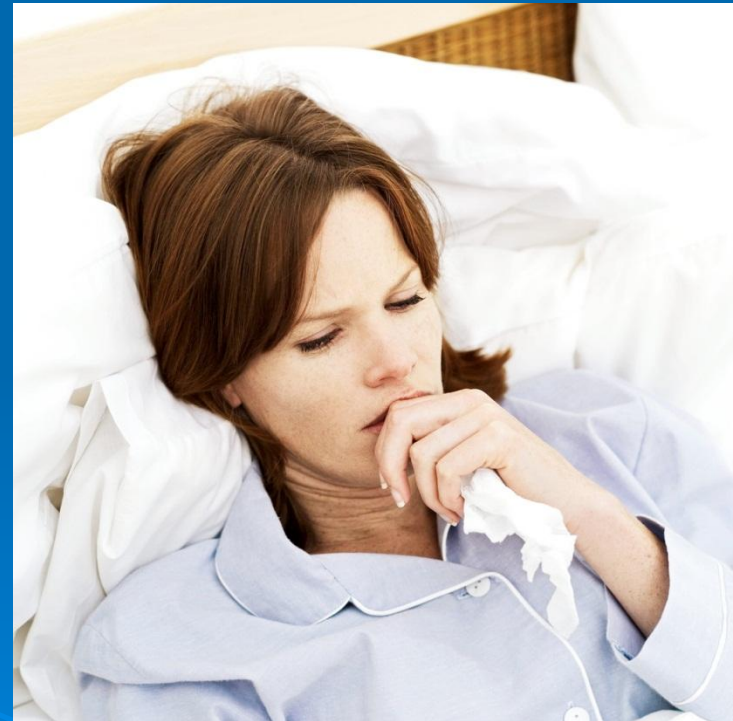
Complications can include:

Pneumonia

Bronchitis

Ear infections

Sinus infections



DSS Regulations

Regulations

87211 - Occurrences, such as **epidemic outbreaks**, poisonings, catastrophes or major accidents which threaten the welfare, safety or health of residents, personnel or visitors, shall be reported within **24 hours** either by telephone or facsimile to the licensing agency and to the local health officer when appropriate.

Regulations

RCFE's are now allowed to accept or retain residents with Hepatitis C!

Section 87609: ALLOWABLE HEALTH CONDITIONS

Regulations

Requirements:

1. Sufficient staff that's competent to provide services necessary to meet the residents;
2. Direct care staff are trained to meet health and safety requirements and any other procedures recommended by the appropriately skilled professional for the protection of the resident who has the virus, and other residents and staff;

Regulations

Requirements:

3. Proof that you have trained your staff on universal precautions;
4. Teach staff on how Hep C is transmitted; and
5. Use a sharps container, if needed.

Regulations

Section 87615(a)(4): Sometimes a resident may be known to be colonized but not infected with an antibiotic resistant bacterium. Colonization without infection is not prohibited in facilities, and so no exception is required to retain a resident who is colonized without infection.

However, colonized residents can transmit infection to others, and, therefore, universal precautions should be practiced with any resident who is known to be colonized with an antibiotic-resistant bacterium.

Regulations

Section 87615 - PROHIBITED HEALTH CONDITIONS for RCFE's

If a resident is diagnosed with a methicillin-resistant staphylococcus aureus or vancomycin-resistant enterococci infection, the resident must be relocated elsewhere, such as to an acute care hospital or a skilled nursing facility, until the infection is cleared.....

Conclusion

Thank you for attending our RCFE Course. We look forward to seeing you again!

The Assisted Living Education Staff

