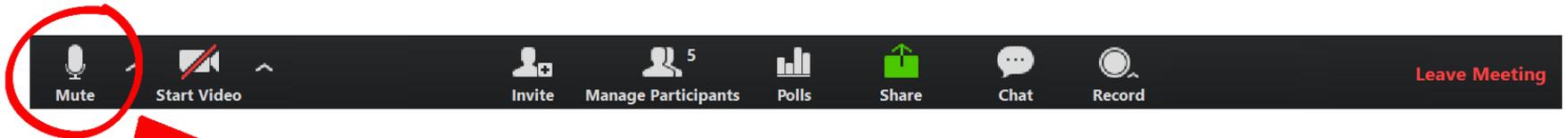


# Basic Health Training

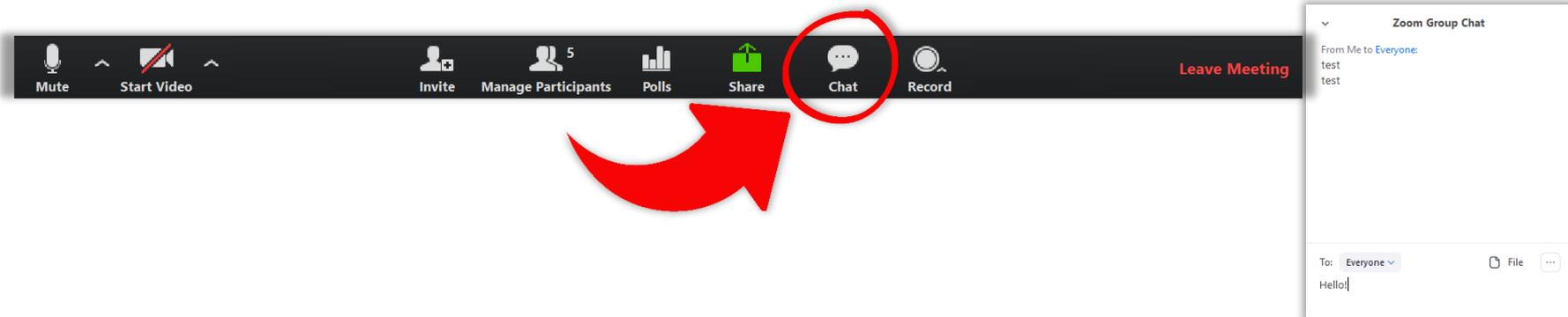
For TBHS Staff and TBHS  
Provider Network Residential Homes  
Michigan Department of Health and Human  
Services Curriculum  
(Revised 7/2020)



# TECHNOLOGY CONTROLS



- Find your menu bar (you may have to move your mouse for it to appear).
- Click the **Mute/Unmute** icon to mute or unmute your line. The **Start Video** icon next to it works the same way.
- To write in the chat box, click the chat icon and a window will pop up. I would like to test this function by having everyone chat their role in the community.



# Basic Health

3

## COVERED TOPICS

- Seizures
- Anaphylactic Shock
- Infection Control
- Communicable Diseases
- Universal Blood and Body Fluid Precautions
- Bloodborne Pathogens

# SEIZURES

## LEARNING OBJECTIVES

- Recognize seizure activity
- Steps for seizure first aid
- Documentation

# SEIZURES

- A seizure occurs as a result of abnormal electrical activity in the brain.
  - like a short circuit
  - as a result, a muscle or group of muscles in the body may contract and relax alternately for a short period of time.
- An individual usually has no control over the seizure activity.
- Any body movement that is controlled by the brain may respond abnormally to the electrical activity.
- Most seizures last from a few seconds to several minutes in time.

# SEIZURES

6

- Anyone can have a seizure due to an illness:
  - Central nervous system infections such as bacterial meningitis
  - High fever
  - Low blood sugar (hypoglycemia)
  - Alcohol withdraw
  - Electrolyte imbalance

# Epilepsy

Most common cause of seizures:

- Is a chronic disorder
- Recurrent, unprovoked seizures
- Many people with epilepsy have more than one type of seizure

May be related to a:

- Traumatic brain injury
- Family tendency
- Congenital
- Stroke
- Unknown cause (idiopathic)

# STAGES OF A SEIZURE

- Prodromal
- Aura
- Ictus
- Post Ictus

# PRODROMAL STAGE

- Indication that a seizure is coming
- Can start days before a seizure happens
- Can be:
  - Depression
  - Anger
  - Difficulty sleeping
  - Anxiety
  - Issues with GI or urinary

# AURA

10

- Initial sensation of a seizure
- Happens seconds to minutes before the seizure
  - Does not occur with all types of seizures
  - Varies per person
  - It is good to know a consumers particular Aura to help them prepare for a seizure
  - Examples:
    - Altered hearing or vision
    - Sudden anxiety
    - Feeling of dread
    - Déjà vu
    - Sudden weird smell or taste
    - Dizziness
    - Inability to speak

# Ictus

- Actual Seizure
- Typically lasts 1-3 minutes
- Always time the seizure
- A seizure lasting longer than 5 minutes or back-to-back seizures are known as Status Epilepticus.
  - Call 911

# POST ICTUS

- Recovery period after the seizure
- Time varies depending on the type of seizure
- The person may be:
  - Very tired
  - Confused
  - May have a headache
  - May have an injury such as a body injury or a bite to their tongue or cheek.

# Types of Seizures

Generalized



Focal



Credit: [Shutterstock.com](https://www.shutterstock.com)

# GENERALIZED ONSET

14

- Affects both sides of the brain and the person has impaired awareness.
  - Tonic seizures (causes a stiffening of the muscles)
  - Clonic Seizures (jerking or twitching)
  - Tonic-Clonic Seizures (Convulsive Seizure)
  - Absence Seizures
  - Atonic Seizures
  - Myoclonic

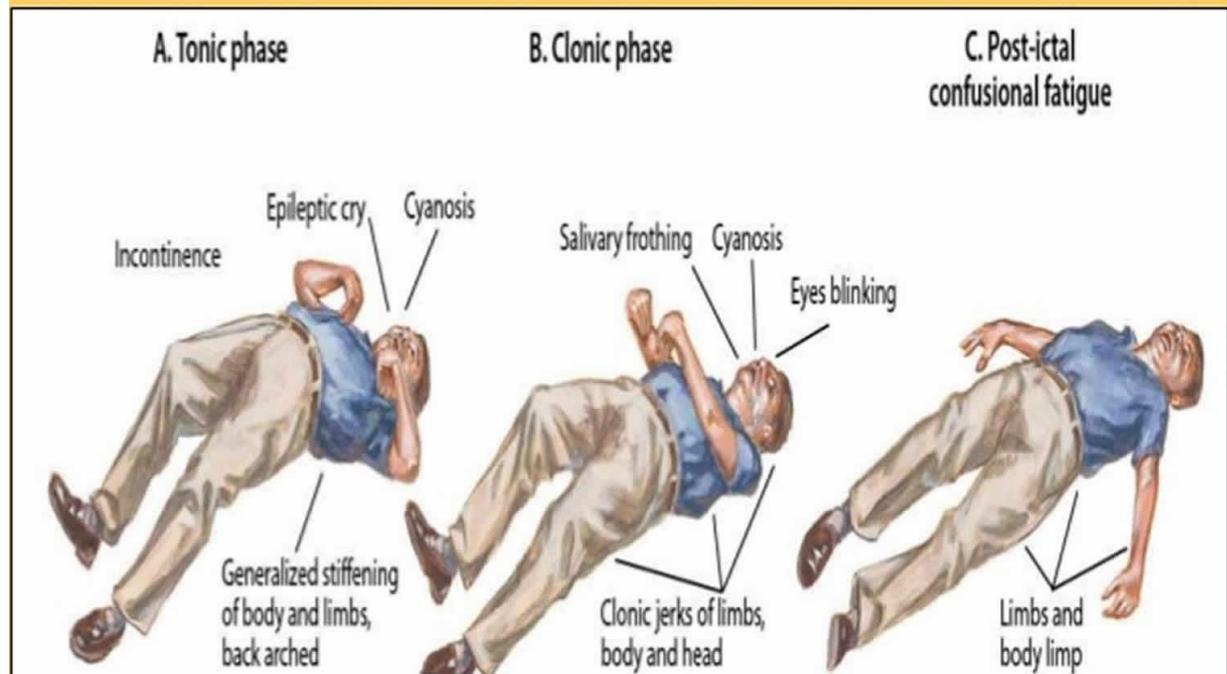
# FOCAL ONSET

15

- Formerly known as partial seizures
- Can start in one area or group of cells in one side of the brain
  - Focal Onset Aware Seizures
    - A person is awake and aware (formerly known as simple partial seizure)
  - Focal Onset Impaired Awareness Seizure
    - A person is confused or awareness is affected in some way (formerly known as partial complex seizure)

# TONIC-CLONIC SEIZURES

## GENERALIZED TONIC- CLONIC SEIZURE



16

- Formerly known as Grand mal seizure.
- Involves loss of consciousness and violent muscle contractions/convulsions)

# Convulsive Seizure

## **What It Looks Like:**

- Sudden cry, fall, rigidity, followed by:
  - Muscle jerks, frothy saliva on lips
  - Shallow breathing or temporary suspended breathing, bluish skin
  - Possible loss of bladder or bowel control
  - Usually lasts less than 5 minutes

## **Following the seizure:**

- Normal breathing starts again
- Following return of consciousness, the person may have some confusion and/or fatigue

## **Often Mistaken For:**

- Heart Attack or Stroke.

# First Aid for Tonic-Clonic Seizures: WHAT TO DO

18

- Remain calm.
- Begin timing the seizure.
- Ease person to the floor or to a safe, comfortable position.
- Place padding under head.
- Remove hazards from the area.
- Move person from area if clearly dangerous and unable to remove hazard.
- Remove tight clothing, loosen ties or shirt collars.
- Remove glasses.
- Assure mouth and nose are unobstructed, and refrain from placing/forcing an object into mouth.
- Turn on side to keep airway clear.
- Refrain from restraining person's body movements and let the seizure run its course.
- Look for medical identification.
- If others are present, offer a brief explanation, reassurance, and ways they can help.
- When they regain consciousness give reassurance.

**If it is a first time seizure, the person has multiple seizures, or if one seizure lasts longer than 5 minutes, follow emergency procedures and call 911.**

# First Aid for Tonic- Clonic Seizures

19

## **What NOT to Do:**

- Don't put anything in the mouth.
- Don't try to hold tongue. (It can't be swallowed.)
- Don't give liquids until person is awake.
- Don't use rescue breathing unless respirations are absent.
- Don't restrain.

# Absence Seizure

## **What It Looks Like:**

- A blank stare
  - May be accompanied by rapid blinking and/or some chewing movements of the mouth.
  - Temporary loss of consciousness typically 30 seconds or less.
- Following the seizure the person goes back to their normal activities, unaware that anything happened.
- Most common in children.
- May result in learning difficulties if not recognized and treated.

# Absence Seizure

21

## **Often Mistaken For:**

- Daydreaming
- Lack of attention
- Deliberate ignoring of adult instructions.
- What To Do:
- No first aid is necessary – document.

# Atonic Seizure (Drop Seizure)

22

- Can be either a focal seizure (affecting one area or side of the brain) or generalized (both sides of the brain).
- Atonic means “without tone”.

## **What It Looks Like:**

- Muscles suddenly become limp.
- The legs suddenly collapse.
- After 10 seconds to a minute, the person recovers, regains consciousness, and can stand and walk again.

# Atonic Seizure (Drop Seizure)

## **Often Mistaken For:**

- Clumsiness
- Lack of good walking skills.
- Normal “childhood” stage (in some children only their head drops suddenly).

## **What To Do:**

- No first aid needed unless the individual hurts self in falling.
- Contact guard/contact assist – pay attention when holding their gait belt, you and consumer could get hurt.

# Myoclonic Seizure

24

## **What It Looks Like:**

- Sudden brief, massive muscle jerks that may involve the whole body or parts of the body.
- May cause person to spill what they were holding or fall off a chair.
- Usually awake and able to think clearly

# Myoclonic Seizure

## **Often Mistaken For:**

- Clumsiness
- Poor coordination

## **What To Do:**

- No first aid needed.

# Focal Onset Aware Seizures

## Jacksonian Seizure

26

### **What It Looks Like:**

- Jerking begins in fingers or toes
- cannot be stopped by individual
- individual stays awake and aware.
- Jerking may proceed to arm and sometimes spreads to whole body and becomes a convulsive seizure.

### **Often mistaken for:**

- Acting out, bizarre behavior.

### **What To Do:**

- No first aid necessary, unless seizure become convulsive; then first aid as previously noted.

# Focal Onset Aware Seizures Sensory Seizure

27

## **What It Looks Like:**

- Individual experiences a distorted environment.
- May see or hear things that are not there; may feel unexplained fear, sadness, anger, or joy.
- May have nausea, or experience odd smells, and have a generally “funny” feeling in the stomach.
- May not be obvious to onlooker other than individual’s preoccupied or blank expression.

## **Often Mistaken For:**

- Hysteria
- Mental illness
- Psychosomatic illness
- Para psychological or mystical experience

## **What To Do:**

- No action needed other than reassurance and emotional support.

# Focal Onset Impaired Awareness Seizure

## **What it looks like:**

- Usually starts with blank stare, followed by chewing, followed by random activity.
- Person appears unaware of surroundings, may seem dazed and mumble.
- Unresponsive.
- Actions are clumsy, not directed.
- May pick at clothing, pick up objects, try to take clothes off.
- May run, appear afraid. May struggle or flail at restraint.
- Once a pattern is established, same set of actions usually occur with each seizure.
- Lasts a few minutes, but post-seizure confusion can last substantially longer.
- No memory of what happened during seizure period.

Focal  
Onset  
Impaired  
Awareness  
Seizure

29

**Often Mistaken For:**

- Drunkenness
- Intoxication or drugs
- Mental illness
- Indecent exposure
- Disorderly conduct
- Shoplifting

**What To Do:**

- Speak calmly and reassuringly to individual and others.
- Guide gently away from obvious hazards. Stay with individual until completely aware of environment.

# Focal Onset Impaired Awareness Seizure

## **What NOT to Do:**

- Don't grab hold unless sudden danger (such as a cliff edge or an approaching car) threatens.
- Don't restrain
- Don't shout
- Don't expect verbal instructions to be obeyed.

30

# Infantile Spasms

31

## What It Looks Like:

- Starts between 3 months and 2 years.
- If a child is sitting up, the head will fall forward, and the arms will flex forward.
- If lying down, the knees will be drawn up, with arms and head flexed forward, as if the baby is reaching for support.

# Infantile Spasms

## **Often Mistaken For:**

- Normal movements of the baby, especially if they happen when the baby is lying down.

## **What to do:**

- No first aid needed.

# UNDERSTANDING GENERALIZED SEIZURES

## Generalized Seizures Videos

- <https://youtu.be/4iq2dvyr5ls>

## Understanding Partial Seizures

- <https://youtu.be/Fp3zNzFY2Yg>



# What Sets Off Seizures

- Some people have more seizure activity than others.
- Some people have more seizure activity at certain stages in their lives.
- There appears to be some connection between epilepsy and heredity
  - Scientists seem to think that there is an inherited tendency to have a high seizure threshold or a low seizure threshold.

# What Sets Off Seizures

35

- The ***seizure threshold*** is the susceptibility of a person to have seizures.
  - A low threshold means that a person is more likely to have seizures.
  - Taking antiepileptic drugs helps to raise the seizure threshold.

# What Sets Off Seizures

36

- Emotional and/or physical stress can lead to lowering the seizure threshold.
- These factors are often referred to as ***seizure triggers***.
  - They do not *cause* seizures, but may lower the threshold so that the seizures can occur.
- Remember that different people find different things stressful.
- A person does not cause seizures to occur at will. They cannot consciously call up a seizure, or control one that is already in progress.

# What Sets Off Seizures

- You might be able to identify some particular triggers that lead to seizures by observing and recording seizures.
- You might be able to avoid those particular stresses, and also avoid the seizure.

37

# Seizure Triggers

38

## Factors Which May Lower the Seizure Threshold

- Lack of Sleep
- Drug Toxicity (Too much medication)
- Poor Nutrition (Eating too much junk food)
- Drug Abuse
- Fever, Colds, Infections, Illness
- Constipation
- Consumption of Large Amounts of Food or Drink
- Violent Movement, Fighting, Accidents
- Photosensitivity (Blinking/flashing lights)
- Anxiety, Embarrassment, Fear
- Menstruation
- Emotional Stress (Family Dysfunction, Marriage, Divorce, Death, New Baby)
- Low Blood Sugar
- Missed Medication Doses
- Extreme Fatigue
- Alcohol Consumption
- Extreme Heat or Cold
- Full Bladder (Putting off urinating)
- Caffeine, Sugar, Coffee
- Being Startled
- Hyperventilation
- Growth Spurts
- Hormonal Changes and Imbalances

# REPORTING & DOCUMENTING SEIZURE ACTIVITY

## Document

All seizures must be documented using appropriate form.

## Fill out

Always fill out a seizure report even if you did not witness.

Example:

- Consumer states they had a seizure.
- You notice behavior typical of after a seizure.

## Report

All seizures must be reported to the health care professional.

Report immediately:

- Any person having a seizure with no known history of seizure.
- Any change in frequency or type of seizure.



# IMPORTANT NOTES REGARDING SEIZURES

- Vitals after a seizure are not normal, if concerned call the nurse.
- You do not need to take vitals unless medications were given.
- Make sure you time the seizure.
- Diastat (diazepam rectal gel) is Valium given for Tonic-clonic longer lasting seizures or back to back seizures.
- Ativan – if it is an oral pill, the consumer must be awake. May also be a liquid which is dropped into the cheek.

# IMPORTANT NOTES REGARDING SEIZURES

- All orders are specific to each individual – know their orders.
- If Diastat is ordered, take it everywhere with the consumer, as a seizure can occur anytime.
- Follow home disposal policy/procedure to properly dispose extra Diastat.
- Diastat comes in a twin pack. If you use one or both, request replacement immediately.

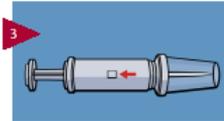
## CHILD ADMINISTRATION INSTRUCTIONS



1 Put person on their side where they can't fall.



2 Get medicine.



3 Get syringe. Note: seal pin is attached to the cap.



4 Push up with thumb and pull to remove cap from syringe. Be sure seal pin is removed with the cap.



5 Lubricate rectal tip with lubricating jelly.



6 Turn person on side facing you.



7 Bend upper leg forward to expose rectum.



8 Separate buttocks to expose rectum.



9 Gently insert syringe tip into rectum. Note: rim should be snug against rectal opening.

10 SLOWLY...

COUNT OUT LOUD TO THREE... 1...2...3



10 Slowly count to 3 while gently pushing plunger in until it stops.



11 Slowly count to 3 before removing syringe from rectum.



12 Slowly count to 3 while holding buttocks together to prevent leakage.

13 ONCE DIASTAT® IS GIVEN



13 Keep person on the side facing you, note time given, and continue to observe.

**DIASTAT® Indication**  
DIASTAT® AcuDial™ (diazepam rectal gel) is a gel formulation of diazepam intended for rectal administration in the management of selected, refractory patients with epilepsy, or stable regimens of AEDs, who require intermittent use of diazepam to control bouts of increased seizure activity for patients 2 years and older.

**Important Safety Information**  
In clinical trials with DIASTAT®, the most frequent adverse event was somnolence (23%). Less frequent adverse events reported were dizziness, headache, pain, vasodilation, diarrhea, drowsiness, respiratory depression, asthma, rash, abdominal pain, nervousness, and rhinitis (1%-5%).

D955-0308

**CALL FOR HELP IF ANY OF THE FOLLOWING OCCUR**

- Seizure(s) continues 15 minutes after giving DIASTAT® or per the doctor's instructions.
  - Seizure behavior is different from other episodes
  - You are alarmed by the frequency or severity of the seizure(s)
  - You are alarmed by the color or breathing of the person
  - The person is having unusual or serious problems
- Local emergency number: \_\_\_\_\_ Doctor's number: \_\_\_\_\_  
(Please be sure to note if your area has 911)  
Information for emergency squad: Time DIASTAT® given: \_\_\_\_\_ Dose: \_\_\_\_\_

**Diastaf**  
(diazepam rectal gel)

**Diastaf AcuDial™**  
(diazepam rectal gel)

DISPOSAL INSTRUCTIONS ON REVERSE SIDE

Diastat packet insert is included in the package of medicine

# Diastat Packet Insert

**Diastat**  
(diazepam rectal gel)

**Diastat AcuDial™**  
(diazepam rectal gel)

## CHILD ADMINISTRATION AND DISPOSAL INSTRUCTIONS

### IMPORTANT

#### Read first before using

To the caregiver using DIASTAT®:

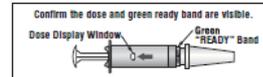
Please do not give DIASTAT® until:

1. You have thoroughly read these instructions
2. Reviewed administration steps with the doctor
3. Understand the directions

To the caregiver using Diastat® AcuDial™:

Please do not give DIASTAT® AcuDial™ until:

1. You have confirmed:
  - Prescribed dose is visible and if known, is correct
  - Green "ready" band is visible



2. You have thoroughly read these instructions
3. Reviewed administration steps with the doctor
4. Understand the directions

Please do not administer DIASTAT® until you feel comfortable with how to use DIASTAT®. The doctor will tell you exactly when to use DIASTAT®. When you use DIASTAT® correctly and safely you will help bring seizures under control. Be sure to discuss every aspect of your role with the doctor. If you are not comfortable, then discuss your role with the doctor again.

#### To help the person with seizures:

- ✓ You must be able to tell the difference between cluster and ordinary seizures.
- ✓ You must be comfortable and satisfied that you are able to give DIASTAT®.
- ✓ You need to agree with the doctor on the exact conditions when to treat with DIASTAT®.
- ✓ You must know how and for how long you should check the person after giving DIASTAT®.

#### To know what responses to expect:

- ✓ You need to know how soon seizures should stop or decrease in frequency after giving DIASTAT®.
- ✓ You need to know what you should do if the seizures do not stop or there is a change in the person's breathing, behavior, or condition that alarms you.

If you have any questions or feel unsure about using the treatment, **CALL THE DOCTOR** before using DIASTAT®.

#### Where can I find more information and support?

For information on DIASTAT® and DIASTAT® AcuDial™:

Call 1-877-361-2719 or visit [www.diastat.com](http://www.diastat.com)

#### Additional resource:

Epilepsy Foundation (EF). You can reach EF by calling 1-800-EFA-1000 or [www.efa.org](http://www.efa.org).



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When to treat. Based on the doctor's directions or prescription

#### Special considerations

DIASTAT® should be used with caution:

- In people with respiratory (breathing) difficulties (eg, asthma or pneumonia)
- In the elderly
- In women of child bearing potential, pregnancy, and nursing mothers

Discuss beforehand with the doctor any additional steps you may need to take if there is leakage of DIASTAT® or a bowel movement.

Patient's DIASTAT® dosage is: \_\_\_\_\_ mg

Patient's resting breathing rate \_\_\_\_\_ Patient's current weight \_\_\_\_\_

Confirm current weight is still the same as when DIASTAT® was prescribed \_\_\_\_\_

Check expiration date and always remove cap before using. Be sure seal pin is removed with the cap.

#### TREATMENT 1

Important things to tell the doctor

Date	Seizures before DIASTAT®			Seizures after DIASTAT®		
	Time	Seizure type	No. of seizures	Time	Seizure type	No. of seizures
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

#### Things to do after treatment with DIASTAT® AcuDial™

Stay with the person for 4 hours and make notes on the following:

- Changes in resting breathing rate \_\_\_\_\_
- Changes in color \_\_\_\_\_
- Possible side effects from treatment \_\_\_\_\_

#### TREATMENT 2

Important things to tell the doctor

Date	Seizures before DIASTAT®			Seizures after DIASTAT®		
	Time	Seizure type	No. of seizures	Time	Seizure type	No. of seizures
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

#### Things to do after treatment with DIASTAT® AcuDial™

Stay with the person for 4 hours and make notes on the following:

- Changes in resting breathing rate \_\_\_\_\_
- Changes in color \_\_\_\_\_
- Possible side effects from treatment \_\_\_\_\_

**DISPOSAL INSTRUCTIONS FOR DIASTAT® AcuDial™**

**14a**

Plunger

TIP

**14b**

SEAL ON TOP

This step is for DIASTAT® AcuDial™ users only.

At the completion of step 14a:

- Pull on plunger until it is completely removed from the syringe body
- Point tip over sink or toilet
- Replace plunger into syringe body, gently pushing plunger until it stops
- Flush toilet or rinse sink with water until gel is no longer visible

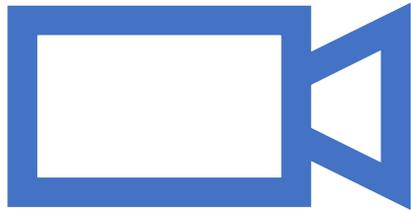
At the completion of step 14a:

- Discard all used materials in the garbage can
- Do not reuse
- Discard in a safe place, away from children

At the completion of step 14b:

- Discard all used materials in the garbage can
- Do not reuse
- Discard in a safe place, away from children

Adult administration instructions available for download at [diastat.com](http://diastat.com)



# DIASTAT GEL ADMINISTRATION VIDEO

[http://www.youtube.com/watch?v=R6gVnyi34\\_g](http://www.youtube.com/watch?v=R6gVnyi34_g)



# Medical Emergencies

## **OBJECTIVES FOR ANAPHYLACTIC SHOCK**

Recognize signs and symptoms

Identify correct responses

Identify common causative agents

# ANAPHYLACTIC SHOCK

- Anaphylactic shock is a medical emergency.
  - It can start from an allergic reaction to an allergen, such as
    - Food
    - Insect or snake bite
    - A medication.
- Anaphylactic shock is a generalized systemic reaction
  - Is frequently fatal
  - Usually **occurs within minutes** after contact with an allergen.



## ANAPHYLACTIC SHOCK

48

- Signs and Symptoms include:
  - Respiratory Problems
    - Rapidly progressive respiratory distress
    - Sneezing or coughing
    - Tightness of chest
    - Wheezing
    - Cyanosis (turning blue)
  - Skin Symptoms:
    - Sense of warmth
    - Flushing of the skin
    - Generalized itching
    - Hives

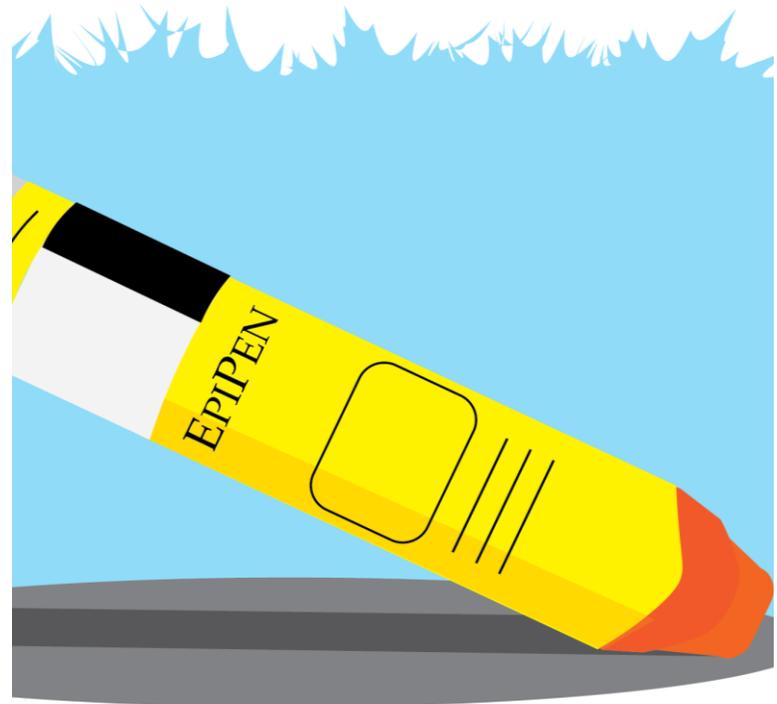
# ANAPHYLACTIC SHOCK

- Signs and Symptoms include:
  - Cardiovascular Signs:
    - Pulse changes (becomes weak and thready)
    - Skin becomes pale
    - Blood pressure falls
    - Circulatory failure can lead to coma and death
  - Gastrointestinal Signs:
    - Nausea and vomiting
    - Abdominal pain



# ANAPHYLACTIC SHOCK

- There is a rapid progression of symptoms.
- Drugs usually used for treatment are:
  - In the home - Adrenalin (epinephrine) – Epi Pen
  - Emergency Room Setting – Hydrocortisone
    - If emergency medications are not working do not hesitate to call 911.



## ANAPHYLACTIC SHOCK

51

- Preventative Measures:
  - Always know allergies of the person to whom you are administering medications.
  - Some individuals are more prone to allergic reactions
    - Individuals with hay fever, asthma, and food allergies.
  - Always be prepared for allergic and anaphylactic reactions. **REMEMBER** – they can occur anytime even if the person has never exhibited previous allergies.

# ANAPHYLACTIC SHOCK

- Agents associated with anaphylactic shock
  - Any drug can cause allergic shock, but the most common drugs are antibiotics.
  - Other causes may be insect bites, some vaccines, blood and blood products, allergy tests and injections, and some foods, such as
    - Eggs
    - Nuts (brazil nut, black walnut, pecan, hazel nut, hickory nut, pistachio, chestnut, English walnut, almond)
    - Legumes (peanut, chickpea, pinto bean, soybean, kidney bean)
    - Fish
    - Shellfish
    - Seeds (sesame, cottonseed, flax seed, poppy seed, sunflower seed, caraway)

# Infection Control

---

## OBJECTIVES FOR INFECTION CONTROL

- Identify links of the “chain of infection”
- Process to prevent spread of infection
- Proper hand washing technique
- Cleaning techniques to limit spread of infection
- Signs and symptoms of common infections.



# INFECTION CONTROL

- **Communicable Diseases** are diseases caused by:
  - Bacteria
  - Virus
  - Fungus
  - Parasites
- The majority of “germs” are harmless to human beings, but many do cause illness.
- “Germs” are found everywhere:
  - in the ground
  - in the air
  - on the skin
  - in the mouth and nose
  - in the large bowel
- They are transmitted (spread) from one person to another, or from an animal to person, by either direct or indirect contact.
- “Indirect” means from one person to another person through the air, water, food, surfaces, or insects.



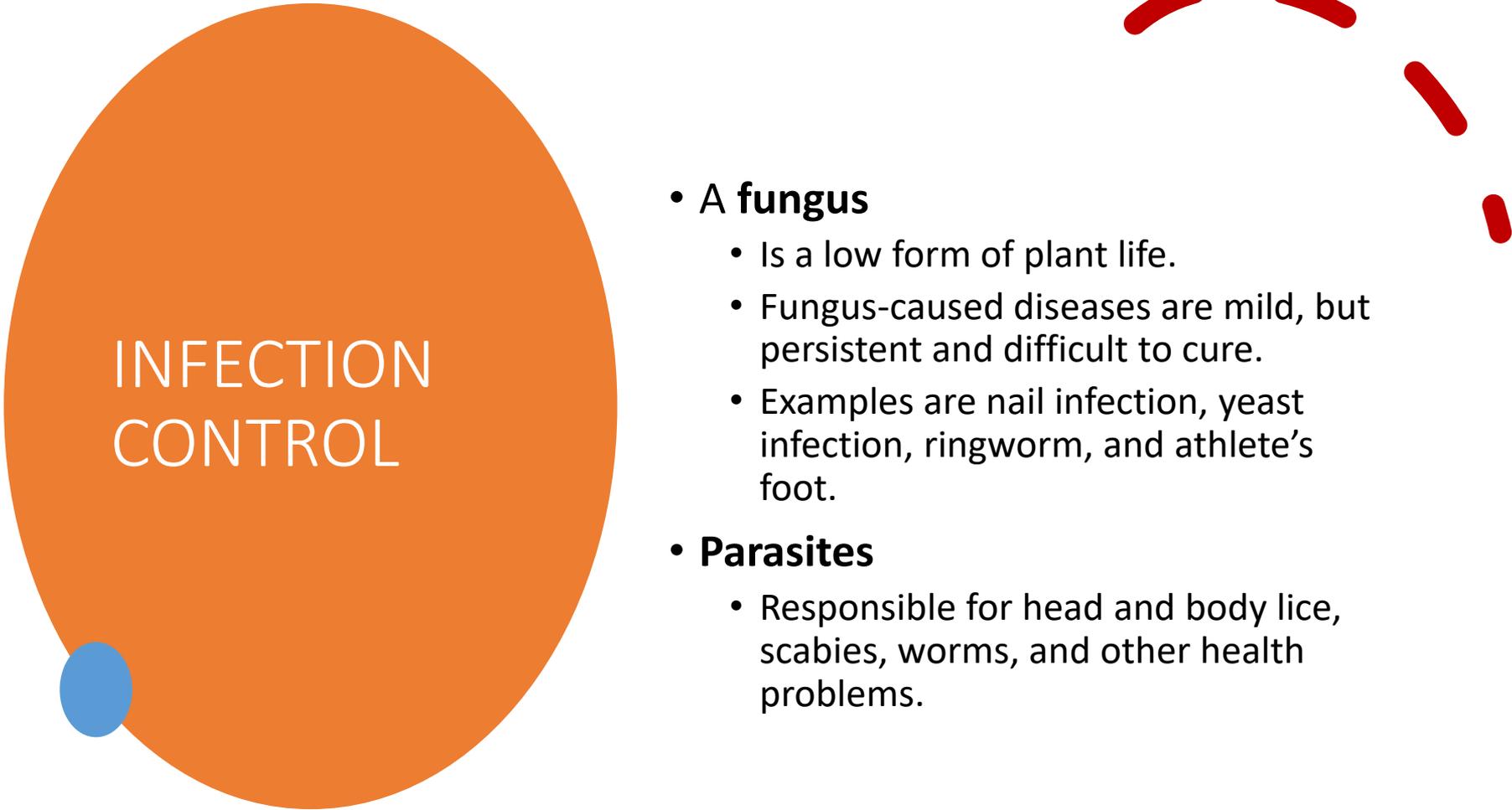
# INFECTION CONTROL

- **Bacteria**

- Very small, one cell, organisms (living things) which cause infections.
- Examples: staph infection, strep throat, and tonsillitis.

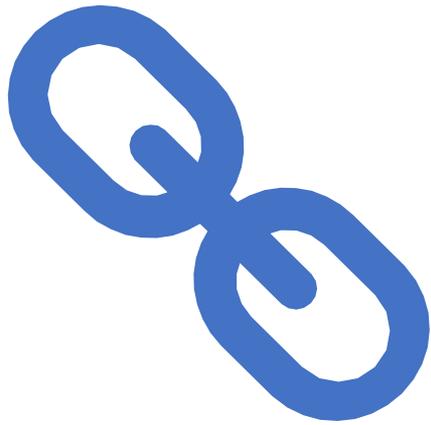
- **A virus**

- Is smaller than bacteria.
- Examples: common cold, flu, polio, mono, hepatitis, chicken pox, herpes simplex (cold sores), and shingles.



# INFECTION CONTROL

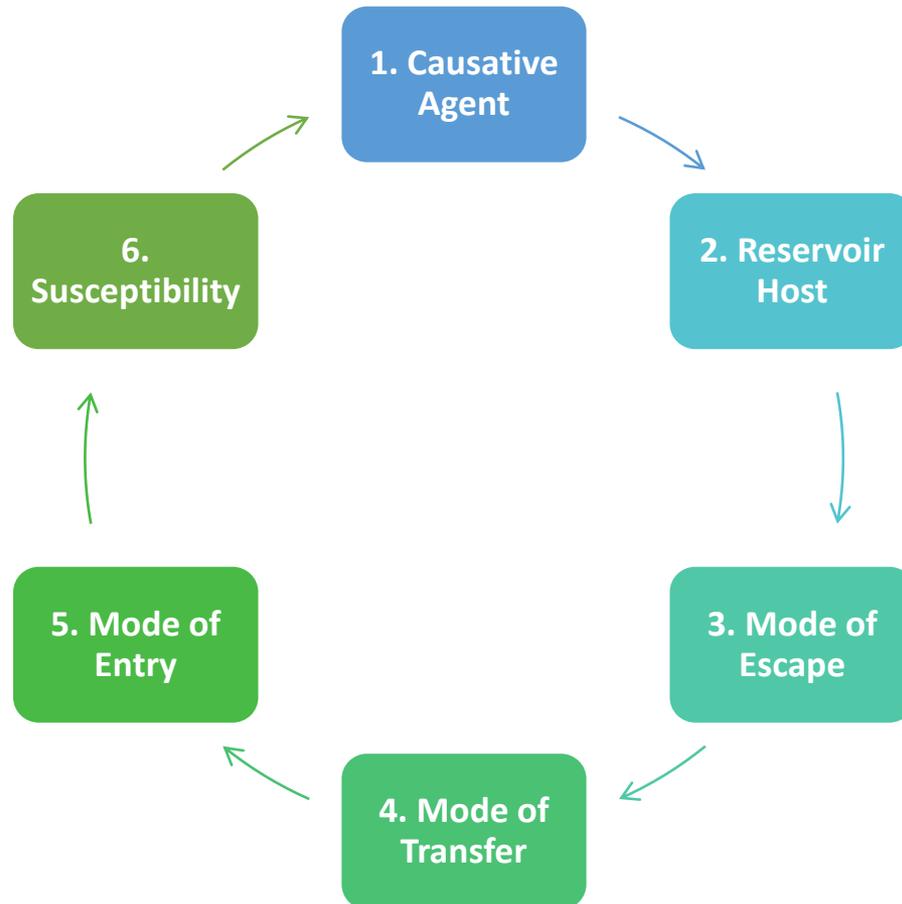
- **A fungus**
  - Is a low form of plant life.
  - Fungus-caused diseases are mild, but persistent and difficult to cure.
  - Examples are nail infection, yeast infection, ringworm, and athlete's foot.
- **Parasites**
  - Responsible for head and body lice, scabies, worms, and other health problems.



## INFECTION CONTROL

- Chain of Infection = A series of factors or events that are necessary for the transmission of communicable diseases.
- Each link of the chain must be present in logical sequence to produce disease.

# CHAIN OF INFECTION



# CHAIN OF INFECTION EXAMPLES

- **Causative Agent**
  - Fungus
  - Virus
  - Bacteria
  - Parasites
- **Reservoir (storage site)**
  - People, animals and plants
  - Water, food, and soil
  - Clothing
  - Environmental surfaces: floors, countertops, bed linens, etc.



# CHAIN OF INFECTION EXAMPLES

- **Mode of Escape** (ways the disease can leave the reservoir)
  - Feces and urine
  - Saliva
  - Mucus from nose and throat
  - Skin lesions
  - Animal excreta
  - Pus or discharge from any body opening
  - Perspiration and tears
  - Semen
  - Blood

- **Mode of Transfer** (ways the disease can transfer by direct contact)
  - Hands of others and hands of self
  - Environmental surfaces
  - Polluted water and food
  - Flies
  - Coughing and sneezing
  - Kissing and sexual intercourse
  - Bites and scratches

# CHAIN OF INFECTION EXAMPLES

- **Mode of Entry** (ways the disease can enter a new host)
  - Breathing of droplets, spray, contaminated air
  - Eating contaminated food or drinking contaminated water
  - Absorption through the skin
  - Body openings: mouth, ears, nose, vagina, rectum
  - Touching hands to mouth
  - Breaks in the skin

- **Susceptible Host**
  - People
  - Animals
  - Insects
  - Birds
  - Plants

# INFECTION CONTROL

- Certain conditions and circumstances may increase the likelihood of “catching” an infectious disease:
  - Sociologic conditions - like crowding or closeness
  - Biologic conditions – like lowered resistance to infection
  - Physical condition of person such as being overworked, overtired, or under a great deal of stress

After acquiring the infectious microbe, the person becomes infected and may become ill.

**Incubation Period** = The time period between acquiring the infection and developing the symptoms of the illness.

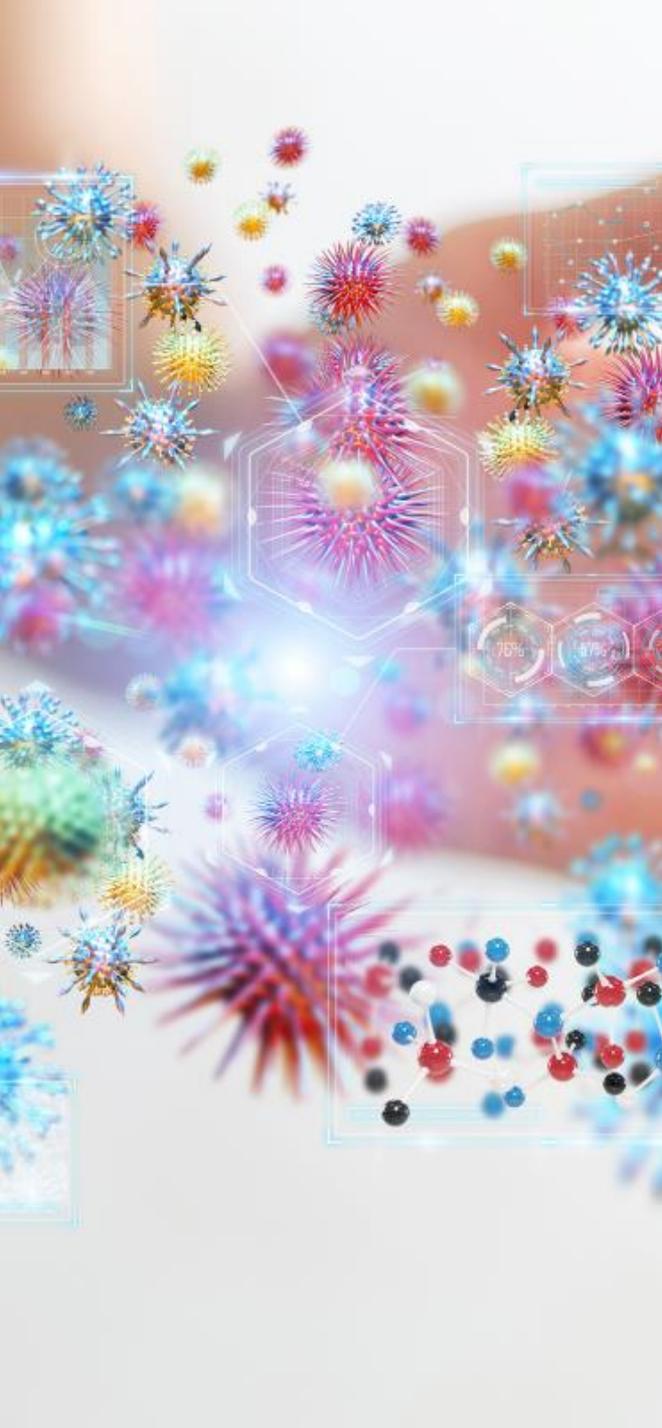
- This period may range from several hours to several days to even months or years before symptoms of the disease become apparent.
- Each disease has its own incubation period.



## INFECTION CONTROL

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If a person passes the disease to another person or animal, he/she is said to be **infectious**, and the persons exposed to the infection are called **contacts**.



# INFECTION CONTROL

A **carrier** is a person who:

- Harbors a specific “pathogen” without observable signs or symptoms of the disease; and
- Has the potential to spread the organism to others.

# INFECTION CONTROL

66

Signs/Symptoms of a likely or possible communicable disease are:

- Red or runny eyes
- Sneezing or nasal discharge
- Cough, particularly if persistent or productive
- Sores or crusts on the ears, scalp, face or body, particularly if red and swollen or draining
- Any rash or break in the skin
- Sore throat
- Swelling and tenderness of lymph nodes

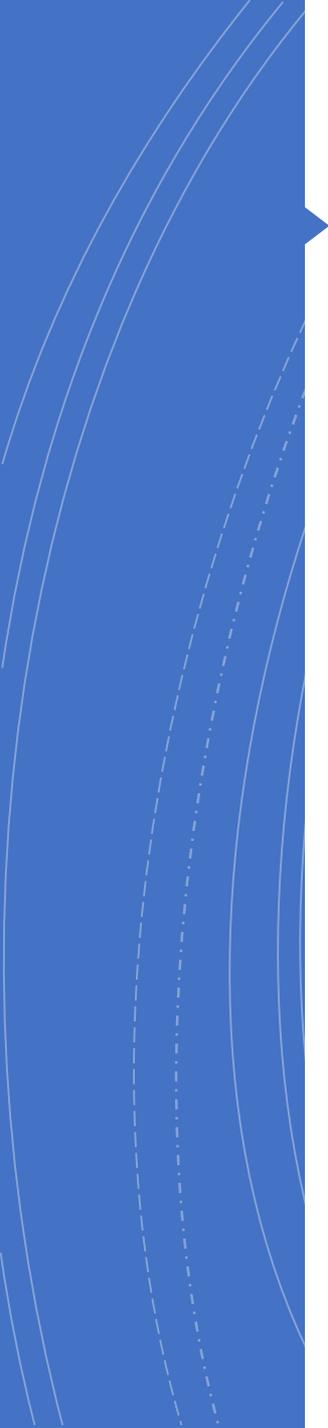
# INFECTION CONTROL

Signs/Symptoms of a likely or possible communicable disease are continued:

- Fever, suggested by hot, flushed face
- Nausea and/or vomiting
- Pain and stiffness of neck
- Headache
- Jaundice (yellowing or whites of eyes and/or skin)
- Diarrhea and/or persistent abdominal pain
- Sudden or drastic change in behavior, especially in nonverbal persons.

# INFECTION CONTROL

- Cleanliness is the best weapon to fight infections. Cleanliness measures are:
  - Hand washing.
  - Washing linens and clothing in hot soapy water.
  - Washing, vacuuming, and damp dusting all surfaces.
  - Hair brushes, toothbrushes, and drinking glasses should not be shared.
- Most disease causing germs are transferred by hand contact.
- Proper hand washing technique is something that must be practiced by all.



# INFECTION CONTROL

- Everyone must be particularly careful to wash their hands:
  - Whenever body contact occurs
  - After handling personal articles
  - Before and after food preparation
  - Before and after eating
  - After using a handkerchief or tissue
  - After using the toilet
  - Before/after smoking

# INFECTION CONTROL

- **Everyone must use proper hand washing techniques.**
- Always rub hands thoroughly (friction).
- Always wash and rinse hands under running water. Do not fill sink bowl.



# INFECTION CONTROL

## HOW TO WASH YOUR HANDS:

1. Wet Hands.
2. Apply soap thoroughly. Get under nails and between fingers and fingertips.
3. Use rotating frictional motion. Rub hands together while you count to 20.
4. To wash fingers and spaces between them, interlace the fingers and rub up and down.
5. Rinse well under running water from the wrist area to the ends of your fingertips.
6. Dry thoroughly.
7. Turn water off with towel.



# INFECTION CONTROL

It is important that you know about the several common communicable diseases.

# BACTERIAL INFECTION IMPETIGO

73

## Description of Condition:

- Impetigo is a contagious skin infection
- Spreads most easily among infants and the elderly.
- It is often mistaken for fever blisters or cold sores.
- Risk of impetigo is increased by poor hygiene, anemia, and malnutrition.
- Spread by direct contact, and spreads quickly.
- Usually a staph or strep bacteria.

# BACTERIAL INFECTION IMPETIGO

74

## Signs and Symptoms:

- Small red area which progresses to pus-filled area.
  - Itching
  - Burning
  - Pain
- Enlarged lymph glands in skin lesion area.
- When pus-filled areas break, areas become crusty.



BACTERIAL INFECTION  
IMPETIGO

# BACTERIAL INFECTION

## IMPETIGO

### Staff Action:

- Universal precautions.
- Good hand washing technique.
- Give medications as ordered (usually antibiotics).
- Frequent baths or soaks as ordered to remove crusts.
- Use antiseptic soap.
- Discourage scratching, as this spreads impetigo.
- Keep nails short and clean
- Do not share personal articles
- Observe other persons closely to detect impetigo on their skin

# BACTERIAL INFECTION IMPETIGO

## Staff Documentation:

- Medication, baths and soaks as ordered
- Appearance of lesions and rash

BACTERIAL  
INFECTION  
GASTROENTERITIS

78

Description of Condition:

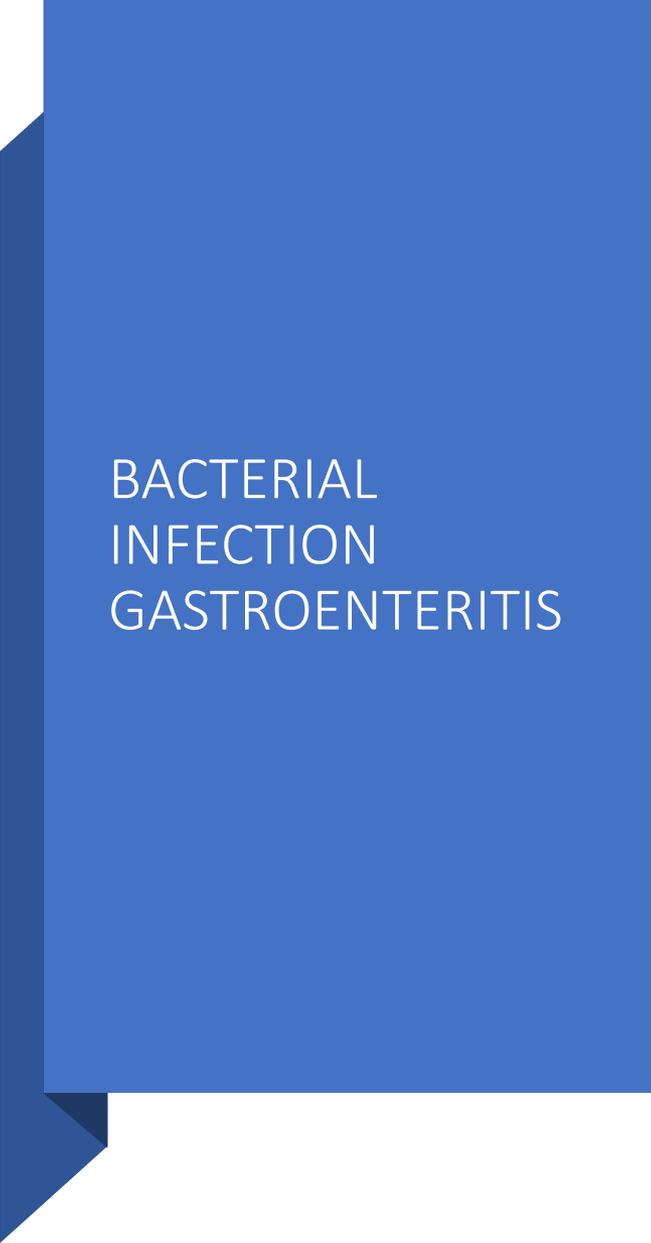
- Gastroenteritis may be caused by bacteria, virus, parasites, drug reactions, and food allergies.
- Bacterial causes include staphylococcus, salmonella, and shigella.
- Gastroenteritis may follow eating contaminated or inadequately processed foods, or food that has not been handled properly.
- It can be caused by contact with infected animals or persons.

# BACTERIAL INFECTION GASTROENTERITIS

79

## Signs and Symptoms:

- Fever
- Abdominal pain
- Nausea and vomiting
- Headache
- Chills
- Loss of appetite



BACTERIAL  
INFECTION  
GASTROENTERITIS

Staff Action:

- Universal precautions – always wash hands often and after contact with persons.
- Teach infected person to follow proper hand washing, especially after using bathroom and before eating.

# BACTERIAL INFECTION GASTROENTERITIS

## Staff Documentation:

- Accurate record of intake and output
- Record signs and symptoms
- Record vital signs

VIRAL  
INFECTION  
HERPES  
SIMPLEX I

Description of Condition:

- Herpes Simplex I is commonly known as cold sores and fever blisters.
- Transmitted by oral and respiratory secretions and drainage from lesions.
- Herpes viruses are extremely contagious

# VIRAL INFECTION HERPES SIMPLEX I

83

## Signs and Symptoms:

- Tingling and itching at site
- Fever
- Sore throat
- Eruptions of vesicles on tongue, gums, cheeks and lips

# VIRAL INFECTION HERPES SIMPLEX I



# VIRAL INFECTION HERPES SIMPLEX I

## Staff Action:

- Give medication per physician's orders.
- Use Universal Precautions.
- Teach person importance of proper hand washing.
- Advise person with cold sores to avoid kissing anyone.
- Oral lesions – have person use a soft toothbrush, eat a soft diet and rinse mouth with a saline solution. Observe closely for eye lesions – notify health professional immediately if eye lesion noted.
- Teach person to keep hands away from lesions.

# VIRAL INFECTION HERPES SIMPLEX I

## Staff Documentation:

- Record appearance of lesions and orders as carried out.
- Record teaching.

86

# VIRAL INFECTION SHINGLES

## Description of Condition:

- Reactivation of herpes virus that has laid dormant since a previous episode of chicken pox.

# VIRAL INFECTION SHINGLES

88

## Signs and Symptoms:

- Fever
- Malaise (feeling of weakness and discomfort)
- Severe deep pain
- Itching
- Numbness, prickling, tingling
- Small red lesions which quickly fill with clear fluid or pus
- Pain

# VIRAL INFECTION SHINGLES



# VIRAL INFECTION SHINGLES

## Staff Action:

- Follow physician's orders for lotion, pain medications, antibiotics.
- Keep person clean.
- Give pain medication per physician's orders.
- Observe for signs of additional lesions.

# VIRAL INFECTION SHINGLES

## Staff Documentation:

- Record medication and treatments.
- Record appearance of lesions.

91

# VIRAL INFECTION

## CHICKEN POX

92

### Description of Condition:

- Chicken Pox (common and highly contagious) can occur at any age, but most common in 2-8 year olds. Transmitted by direct contact with secretions from the respiratory tract and less often from skin lesions.

VIRAL  
INFECTION  
CHICKEN  
POX

93

## Signs and Symptoms:

- Slight fever.
- Feelings of weakness and/or discomfort.
- Loss of appetite.
- Rash progresses to lesions filled with fluid which break and form scabs.
- Itching.

VIRAL  
INFECTION  
CHICKEN  
POX



# VIRAL INFECTION CHICKEN POX

## Staff Action:

- Discourage scratching which spreads lesions to other areas.
- Keep nails short and clean.
- Encourage proper hand washing.
- Follow physician's orders for dealing with itching.
- Take temperature if person is warm to touch.
- Do not send person to day program, work, or school.

# VIRAL INFECTION CHICKEN POX

## Staff Documentation:

- Document medications and treatments when given.
- Record appearance of rash and symptoms of person.
- Record temperature.

# VIRAL INFECTION RUBELLA

97

## Description of Condition:

- Rubella (German measles) is a disease which produces a three-day rash and enlarged lymph glands.
- The virus is transmitted by contact with blood, urine, stools, mucus, or contaminated articles.
- Incubation period is 16-18 days.
- Can spread to others 10 days before and 5 days after rash appears.
- If contacted during first 3 months of pregnancy serious birth defects may develop.
- Immunization is available for prevention.

# VIRAL INFECTION

## RUBELLA

98

### Signs and Symptoms:

- Rash on face spreading to trunk and extremities.
- Loss of appetite.
- Low grade fever (99-101).
- Enlarged lymph glands.
- Feeling of weakness.
- Runny nose.
- Headache.

# VIRAL INFECTION RUBELLA



# VIRAL INFECTION

## RUBELLA

### Staff Action:

- Give medications as ordered.
- Avoid exposing pregnant women.
- Notify health professional who will notify health department.
- Do not send person to school, day program, work, etc.
- Pregnant staff should not be in home at this time.
- Take person's temperature if warm to touch.

# VIRAL INFECTION

## RUBELLA

### Staff Documentation:

- Record signs and symptoms.
- Record medications given.
- Record temperature.

# VIRAL INFECTION RUBEOLA (MEASLES)

102

## Description of Condition:

- Rubeola (measles) is caused by a virus and spreads easily by breathing contaminated droplets sprayed into the air by a person with the disease sneezing and coughing.
- Incubation period is 10-14 days.
- About five days after the rash appears, other symptoms disappear and the person is no longer contagious.
- Measles are one of the most common and serious communicable childhood diseases. The disease is becoming more prevalent in adolescent and adults.
- Serious and even fatal complications can occur.

VIRAL  
INFECTION  
RUBEOLA  
(MEASLES)

103

Signs and Symptoms:

- Fever
- Sensitivity to light
- Weakness
- Loss of appetite
- Red eyes
- Hacking cough
- Spots in mouth
- Elevated temperature
- A rash that itches



## Measles (rubeola)

Rash usually begins  
on face and spreads  
to trunk and  
extremities.



# VIRAL INFECTION RUBEOLA (MEASLES)

# VIRAL INFECTION RUBEOLA (MEASLES)

## Staff Action:

- Take temperature
- Give medications as ordered
- Encourage bed rest
- Encourage fluid intake
- Darken room and provide sunglasses
- Notify licensed personnel if condition worsens.
- Licensed professional will notify the health department.
- Do not send person to school, day program, or work.



# VIRAL INFECTION RUBEOLA (MEASLES)

## Staff Documentation:

- Record temperature.
- Record signs and symptoms.
- Record medications given.

# PARASITES SCABIES

107

## Description of Condition:

- Scabies – skin infection caused by itch mite.
- Spread by skin or sexual contact.
- All members of household should be examined if one member has scabies.

# PARASITES SCABIES

## Signs and Symptoms:

- Itching – worse at night
- Rash

108

# PARASITES SCABIES



# PARASITES

## SCABIES

### Staff Action:

- Use prescribed medications.
- Keep nails clean and short.
- Discourage scratching.
- Have person bathe thoroughly.
- All contaminated clothing and linens must be washed in hot water or dry cleaned. Good hand washing technique.
- Report any signs or symptoms of infection.



# PARASITES SCABIES

## Staff Documentation:

- Treatment given.
- Appearance of rash.
- Amount of scratching.
- Signs and symptoms of infection.

# PARASITES

## LICE

112

### Description of Condition:

- Head and body lice lay their eggs in body hair or clothing fibers. After the eggs hatch, they feed on human blood.
- Anyone coming in contact with a person who has lice can get lice.
- Indirect contact with personal items of the infected person may also spread lice to others.

# PARASITES

## LICE

113

### Signs and Symptoms:

- Mild to severe itching.
- Gray white eggs in hair.
- Rash



# PARASITES LICE

# PARASITES

## LICE

### Staff Action:

- Shampoo hair with special medicated shampoo.
- Scrub under fingernails with nail brush and the prescribed shampoo.
- Comb hair with a fine-toothed comb to remove the eggs.
- Bathe in warm soapy water and apply prescribed lotion or ointment to body.
- Clothing and linens should be washed in hot soapy water or dry cleaned.
- Keep nails short and clean.
- Discourage scratching.
- Brushes, combs, picks, etc. must be cleaned with the medicated shampoo.

# PARASITES

## LICE

### Staff Documentation:

- Signs and symptoms present.
- Treatment given.

# PARASITES PINWORMS

117

## Description of Condition:

- Pinworms are small roundworms which live in the lower digestive tract.
- Hand to mouth transmission occurs after contact with contaminated bed linens, clothing, toilet seats, food, etc. Continual re-infection is common.
- Usually all members of the house are treated at once to eliminate the disease.

# PARASITES PINWORMS

118

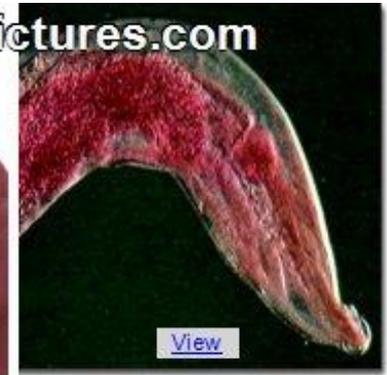
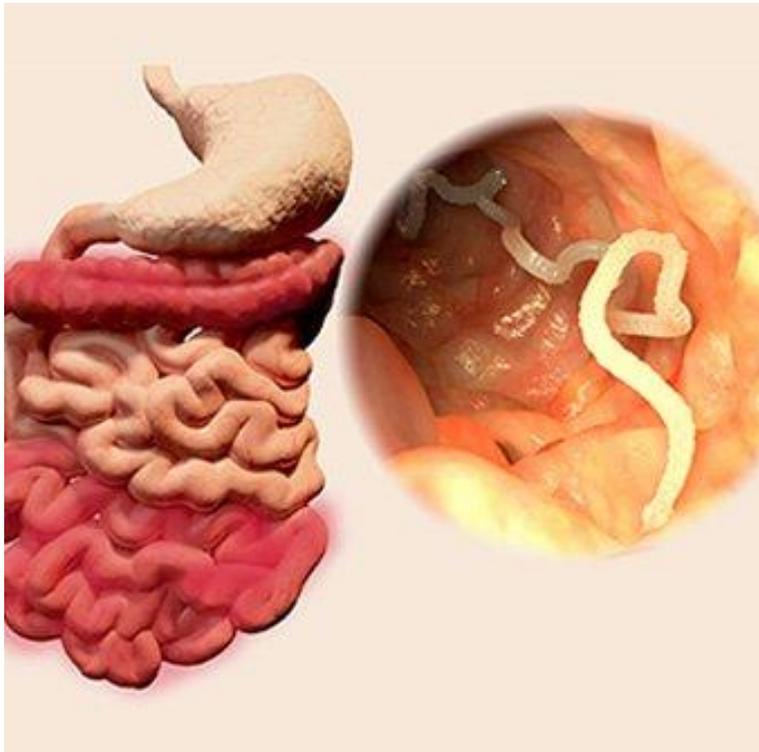
## Signs and Symptoms:

- Rectal itching especially at night.
- Disturbed sleep.
- Irritability.
- Skin irritation.
- Nausea.
- Loss of appetite and weight.

# PARASITES

## PINWORMS

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# PARASITES PINWORMS

## Staff Action:

- Good hand washing.
- Medication administered as ordered.
- Discourage nail biting and keep nails short.
- Report outbreaks to school or day programs.
- Daily washing of underwear and bed clothes.
- Do no shake linens.

# PARASITES

# PINWORMS

## Staff Documentation:

- Medication given.
- Note any side effects of drug.
- Record signs and symptoms.

# FUNGAL INFECTION RINGWORM

122

## Description of Condition:

- Ringworm may affect scalp, body, nails, feet, groin, and bearded skin.
- Transmitted by direct contact with lesions or indirectly by contact with contaminated articles (shoes, towels, shower stalls, etc.)

# FUNGAL INFECTION RINGWORM

123

## Signs and Symptoms:

- Lesions may be round or vary in appearance. These may progress to pus-filled lesions.
- Itching.

# FUNGAL INFECTION RINGWORM



# FUNGAL INFECTION

## RINGWORM

### Staff Action:

- Apply topical antifungal agent as ordered.
- Wet dressing as ordered for removal of scabs and scales.
- Observe for secondary infections.
- Teach person not to share clothing, hats, towels, pillows, etc.
- Keep lesions covered.
- Discourage scratching to prevent scarring and secondary infection.
- Keep nails short and clean.

# FUNGAL INFECTION RINGWORM

## Staff Documentation:

- Treatment as ordered and carried out.
- Appearance of lesions.
- Signs and symptoms noted.

# FUNGAL INFECTION ATHLETE'S FOOT

## Description of Condition:

- Athlete's foot is a fungus growth of the feet caused by excessive moisture, insufficient air circulation, or abrasion.
- The infections is usually between the toes and on the soles of the feet.

# FUNGAL INFECTION ATHLETE'S FOOT

## Signs and Symptoms:

- Rash on feet



### Interdigital Athlete's Foot

Infection is caused by *Trichophyton rubrum* and occurs between the toes. It causes red, scaly and flaky skin.



### Plantar Athlete's Foot

Also caused by *T. rubrum* and it occurs on the sole surface of the feet, and is characterized by very thick scales.



### Vesiculobulbous Athlete's Foot

It is caused by *T. mentagrophytes*. The eruptions are red and tend to form blisters and vesicles. It is often complicated by a bacteria; infection.

# FUNGAL INFECTION

## ATHLETE'S FOOT

### Staff Action:

- Soak feet with prescribed solution.
- Dry feet well, especially between toes.
- Apply prescribed medication to feet.
- Have person wear sandals or shoes that “breathe.”
- Feet should be washed daily and kept cool and dry.
- White cotton socks should be worn

# FUNGAL INFECTION ATHLETE'S FOOT

## Staff Documentation:

- Treatment as ordered and carried out.
- Appearance of feet.

UNIVERSAL  
BLOOD AND  
BODY FLUID  
PRECAUTIONS



# UNIVERSAL BLOOD AND BODY FLUID PRECAUTIONS

## The Occupational Safety and Health Administration (OSHA)

- Is part of the Department of Labor
- Issued standards to protect against bloodborne pathogens
- Protects employees who work in occupations where they are at risk of exposure to blood and other potentially infectious material

Universal Precautions – A system of infectious disease control which assumes that every direct contact with blood or body fluids is infectious.

- **Universal precautions** apply to blood and other body fluids containing visible blood.

# UNIVERSAL BLOOD AND BODY FLUID PRECAUTIONS

- Blood is the single most important source of
  - Human immunodeficiency virus (HIV)
  - Hepatitis B virus (HBV)
  - and other blood borne pathogens which cause disease in humans.
- Through certain practices and training, the risk of exposure can be reduced or prevented.



# UNIVERSAL BLOOD AND BODY FLUID PRECAUTIONS

- Protective clothing, equipment, and environmental controls can be used to prevent exposure.
  - Disposable gloves are to be worn during procedures where blood and body fluids are handled or when touching surfaces or equipment soiled by blood and body fluid.
  - Especially important if you have any abrasions, chapped hands or dermatitis.
  - Gloves are not a substitute for hand washing
  - Gloves are to be discarded after a single use, and not washed or reused.
  - Gloves are not to be used if they are peeling, cracked, discolored, or have tears or punctures.
  - Hands are to be washed before and after gloving.

# UNIVERSAL BLOOD AND BODY FLUID PRECAUTIONS

- Wear disposable gloves when handling soiled linen and clothing which has been grossly soiled by blood or body fluids.
- Wear gowns when splashes to skin or clothing with blood and/or body fluids are likely to occur.
- Masks and eye protectors are to be worn when splashes or a fine mist (aerosolization) of blood or body fluids are likely to occur.
- Wash hands between contacts with various persons in home and immediately if soiled with blood or body fluids.
  - Use a utility or bathroom sink, not a sink in the kitchen or where food is prepared.

# UNIVERSAL BLOOD AND BODY FLUID PRECAUTIONS

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- Hand washing may be the only precaution necessary for many contacts in the health care facility.
  - Gloves are not indicated when contact with a person is unlikely to result in exposure to blood or potentially infectious body fluids.

# UNIVERSAL BLOOD AND BODY FLUID PRECAUTIONS

- Gloves are to be removed as follows.



# UNIVERSAL BLOOD AND BODY FLUID PRECAUTIONS

- Gloves are to be disposed of in the biohazard container only if soiled with blood.
- Biohazard container is a container so labeled to minimize exposure to hazard (contaminated material).



# UNIVERSAL BLOOD AND BODY FLUID PRECAUTIONS

139

- Laundry and equipment soiled with blood or body fluids shall be handled as little as possible.
  - The laundry is to be bagged at the location and not sorted at this time.
  - Hot water and soap will kill HIV and Hepatitis B virus;
    - use standard laundry techniques using hot water and detergent to clean soiled laundry.
- Do not eat, drink, smoke, or touch your nose, mouth, or eyes when working in areas where exposure may occur.

# UNIVERSAL BLOOD AND BODY FLUID PRECAUTIONS

- Remove protective clothing for disposal or place in laundry bag for laundry.
  - Immediately following completion of procedure, wash hands.
- Reusable equipment soiled with blood or body fluids is to be disinfected immediately, using the solution approved by the health facility.
  - A solution of common household bleach and water, mixed according to the Center of Disease Control (CDC) policy, can be used.
  - This solution must be mixed daily, dated and discarded after 24 hours.

## UNIVERSAL BLOOD AND BODY FLUID PRECAUTIONS

141

- The environment and equipment is to be kept clean and orderly.
  - Follow your employer's written schedule for cleaning and decontamination.
- Spills are to be cleaned as soon as possible after a spill occurs.
  - Absorbent material, such as paper towel, can be used to clean the spill.
  - Soiled paper towels are to be placed in the biohazard container.
  - After absorbing the spill, flood the area with disinfectant solution and let stand for 20 minutes.
  - Use paper towel to absorb the disinfectant and place in the biohazard container for disposal.

# UNIVERSAL BLOOD AND BODY FLUID PRECAUTIONS

- Place disposable syringes and needles and other sharp items in puncture resistant biohazard containers for disposal.
  - The biohazard container should be located in an area where disposable items are commonly used.
  - Do not recap, bend, break, or remove needles from disposable syringes.
- Any needlestick, cut or exposure to blood or body fluids is to be washed immediately with disinfectant soap.
  - Immediately report this exposure to your employer and supervisor for follow up care and documentation.

# UNIVERSAL BLOOD AND BODY FLUID PRECAUTIONS

- OSHA requires that the employer make the Hepatitis B vaccination series available to all employees where the risk of exposure to blood or body fluids on the job exists.
  - There is no cost to the employee.
  - OSHA also requires post-evaluation of all exposures to blood or body fluid on the job.
- The employer is also required to provide disposable resuscitation masks for use in emergency situations.

# UNIVERSAL BLOOD AND BODY FLUID PRECAUTIONS

The Employer's Infection Control Plan must be posted at your work site.

You will be required to attend annual training and updates on universal blood and body precautions and procedures to be followed in providing care to individuals in your residential community.



# Bloodborne Pathogens



# BLOOD BORNE PATHOGENS

## I. Definitions

- Blood Borne Pathogens – Tiny organisms that are present in human blood and can cause disease in humans.
  - Examples:
    - Hepatitis B Virus (HBV) and Human Immunodeficiency Virus (HIV).
- Occupational Exposure – Higher risk of infection due to exposure of skin, eye, mucous membrane, or parenteral (outside the intestine) contact with blood or other potentially infectious materials that may result from performing your duties.

# BLOOD BORNE PATHOGENS

## I. Definitions Continued

- Other potentially infectious materials –
- human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, amniotic fluid, saliva in dental procedures.
  - Watch for situations where it may be difficult or impossible to tell the difference in the type of body fluids.
- Source Individual – Any individual, living or dead, whose blood or other potentially infectious material may be a source of occupational exposure to the employee.
- Exposure Incident – A specific eye, mouth, other mucous membrane, break in the skin, or parenteral contact with blood or other potentially infectious materials that result from the performance of employee duties.



# BLOOD BORNE PATHOGENS

## II. Significant Exposure – To Blood or Body Fluids

- Needlestick injury – (note: a needlestick injury with a non-contaminated needle – one that has had no contact with another individual – does not constitute an exposure).
- Prolonged contact with blood on hands which are chapped, abraded, or afflicted with dermatitis.
- Splashing of bloody secretions or other body fluids into eye or mouth.
- Exposure to non-bloody fluids does not constitute an exposure (examples: saliva, tears, sweat, urine).

# BLOOD BORNE PATHOGENS

## III. Significant Exposure Follow-Up

- If an employee suspects a significant exposure, the following procedures should be followed:
  - Immediately wash the exposed area of skin with soap/water, and rinse the exposed mucous membrane with warm water.
  - Notify immediate supervisor.
  - Follow responsible employer/agency policies and procedures.

# BLOOD BORNE PATHOGENS

- III. Significant Exposure Follow-Up
  - If a person is suspected of receiving significant exposure to blood or body fluids, the following procedures should be followed:
    - Notify the consultant RN working with that person and the home manager.
    - The incident will be addressed by the responsible team, or on an individual basis.
    - Documentation will be via Incident Report and/or Clinical Support Progress Note.

# BLOODBORNE PATHOGENS

- Hand washing
  - Hand washing is one of your best defenses against spreading infection.
  - Always wash your hands with non-abrasive soap and water at the end of your shift and after removing gloves.
  - Be sure to wash your hands and remove any protective clothing before: eating, drinking, smoking, applying cosmetics or lip balm, handling contact lenses.
  - Keep your hands away from your face and especially your nose, mouth, and eyes.

# HIV/AIDS

## I. Human Immunodeficiency Virus (HIV)

- Is the virus considered to be the cause of the disease Acquired Immunodeficiency Syndrome (AIDS).
  - The virus is found in body fluids (blood, semen, blood products, vaginal secretions, cerebrospinal fluid, synovial fluid, pericardial fluid and amniotic fluid) of infected individuals.
- Transmission is associated with coming in contact with these fluids from a person carrying the virus.
- HIV is not transmitted via the fecal/oral route or by casual contact.
- HIV is a sexually-transmitted virus.



# HIV/AIDS

- Infection with HIV causes destruction of the body's immune system.
- As the presence or absence of the virus in body fluids cannot always be known, all individuals are considered capable of transmitting HIV.
- Universal precautions must be practiced by all who have the potential for contact with body fluids.
- Following universal precautions can reduce the risk of transmission of HIV/AIDS.

# HIV/AIDS

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## Definitions

- HIV – Human Immunodeficiency Virus – the virus capable of producing AIDS.
- AIDS – Acquired Immunodeficiency Syndrome – an illness characterized by the following:
  - Failure of the immune system to defend against other diseases, leading to severe opportunistic infections and tumors.
  - The virus' direct attack on nerve cells.

# HIV/AIDS

## Definitions Continued

- HIV Antibody
  - The antibody develops within 1-6 months as a result of the presence of HIV in the bloodstream.
  - The virus cannot be detected in the blood stream
  - Presence of the HIV antibody measures the presence of HIV infection in an individual.

# HIV/AIDS

## Definitions Continued

- High-Risk Factors
  - Persons are at risk for the transmission of HIV through
    - interpersonal sharing of blood, tissue or other body fluids, such as semen, vaginal secretions or other body cavity fluids.
- Risk factors include:
  - Unprotected sexual contact with persons who are infected with HIV, or those who engage in high-risk behavior.
  - Sharing intravenous drug materials.

# HEPATITIS B

- HBV is an infection of the liver caused by the Hepatitis B virus.
  - The virus is found in body fluids (blood, semen, blood products, vaginal secretions, cerebrospinal fluid, synovial fluid, pericardial [membrane sac surrounding the heart] fluid and amniotic fluid) of infected individuals.
- Transmission of the virus is associated with an individual's contact with these body fluids from a person carrying or infected by the Hepatitis B virus.



# HEPATITIS B

- Hepatitis B is sometimes known as “Serum Hepatitis.”
- Some of the symptoms of acute illness are:
  - loss of appetite
  - nausea and vomiting
  - fatigue and headache
  - followed by jaundice.
- This illness usually lasts four to eight weeks.
- Chronic liver disease may follow the infection

# HEPATITIS B

- Possible Means of Contracting Hepatitis B:
  - Direct injection of contaminated blood by:
    - needle
    - tattooing
    - ear piercing
    - illicit drug use with a needle or syringe.
  - Transfer of infected blood through small, often unrecognized, breaks in the surface of the skin, and through larger skin lesions, such as burns or scratches.
  - Introduction of the infected blood onto the inner surface of the mouth or eyes.

# HEPATITIS B

- Possible Means of Contracting Hepatitis B:
- Introduction of saliva containing blood or semen, which carries the virus onto surfaces of the mouth, eye, vagina, or rectum.
- Mouth-to-mouth or mouth-to-body contact, sexual activity, and kissing may be potential routes for transmission of Hepatitis B.
- Indirect transfer of infected blood from obviously soiled surfaces or objects.

# HEPATITIS B



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- Hepatitis B is not spread in the following ways:
- Through the air, or by coughs and sneezes.
- Contact with feces or infected persons.
- Use of drinking fountains, swimming pools, toilet seats.
- Social contact in schools, workshops, and similar social setting.



# HEPATITIS B

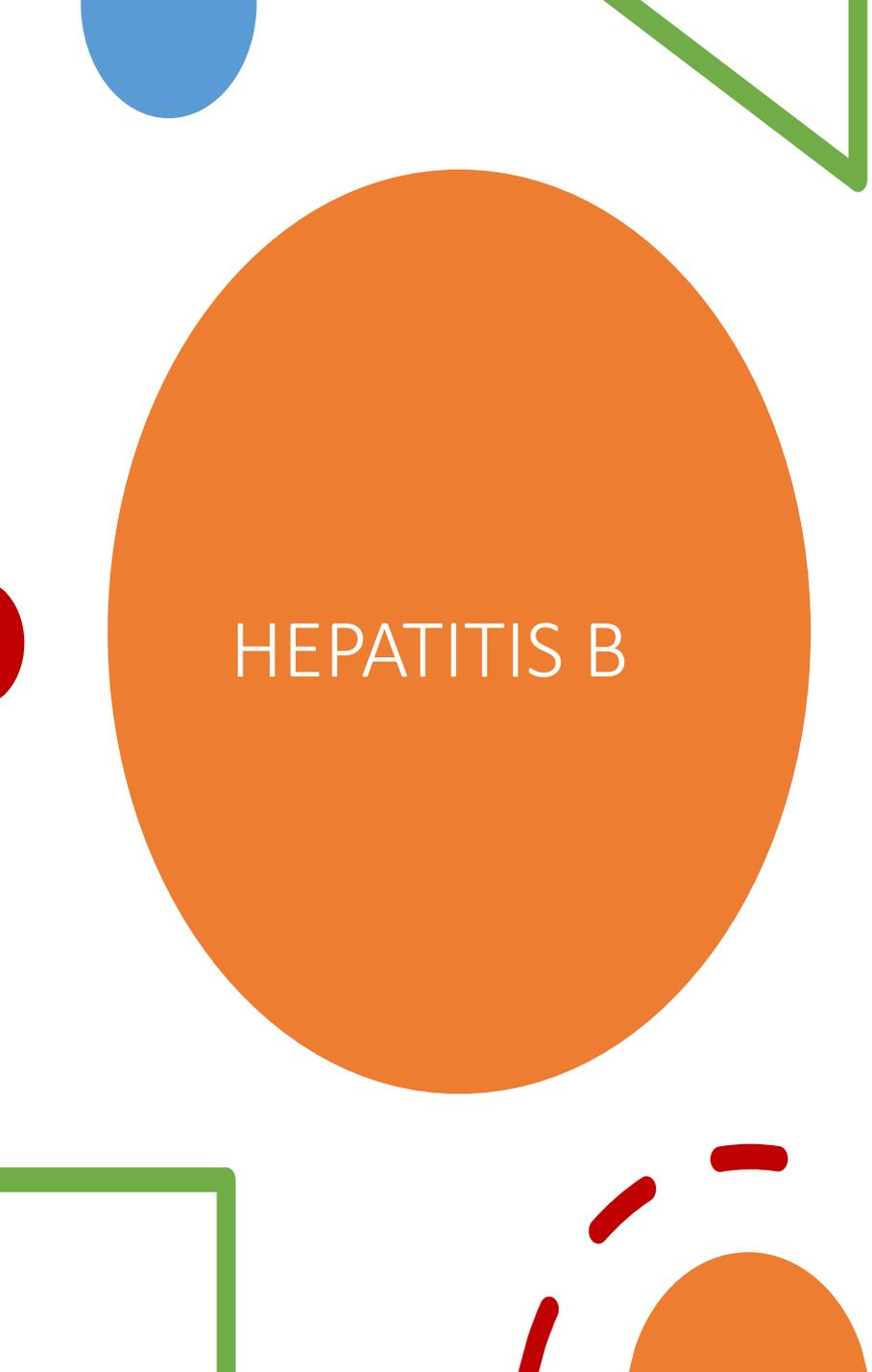
- As the presence or absence of active infection cannot always be known, all individuals are considered capable of transmitting the disease.
- Universal precautions must be practiced by all who have the potential for contact with body fluids to reduce the risk of transmission of Hepatitis B.

# HEPATITIS B

- Hepatitis B surface Antigen.
- Can be identified in serum 30-120 days after exposure to HBV, and can persist for variable periods.
  - Antibody to hepatitis B surface antigen
    - Found circulating in the bloodstream after a resolved infection.
    - Antibody is responsible for long-term immunity
    - May also indicate passive antibody from Hepatitis B Immune Globulin (HBIG) or Hepatitis B vaccine.

# HEPATITIS B

- Chronic HBV Carrier:
  - Carriers are people who have the virus in the blood (positive Hepatitis B antigen), but show no symptoms of disease.
  - Although they are not sick themselves, carriers can pass the virus to others, causing them to develop Hepatitis B.
  - The carrier state is more prevalent among the following groups:
    - institutionalized people or those living in group settings
    - persons with kidney dialysis units
    - persons who receive multiple blood transfusions
    - promiscuous male homosexuals.
    - 7-35% of institutionalized intellectually disabled persons will be carriers.
    - Approximately 3 persons/1000 in the general population will be carriers.
- Recovery from infections with Hepatitis B virus provides lifelong immunity to repeat infection by the virus.



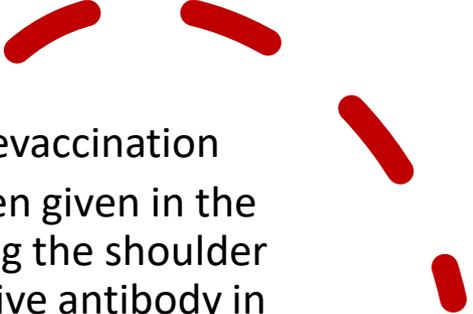
# HEPATITIS B

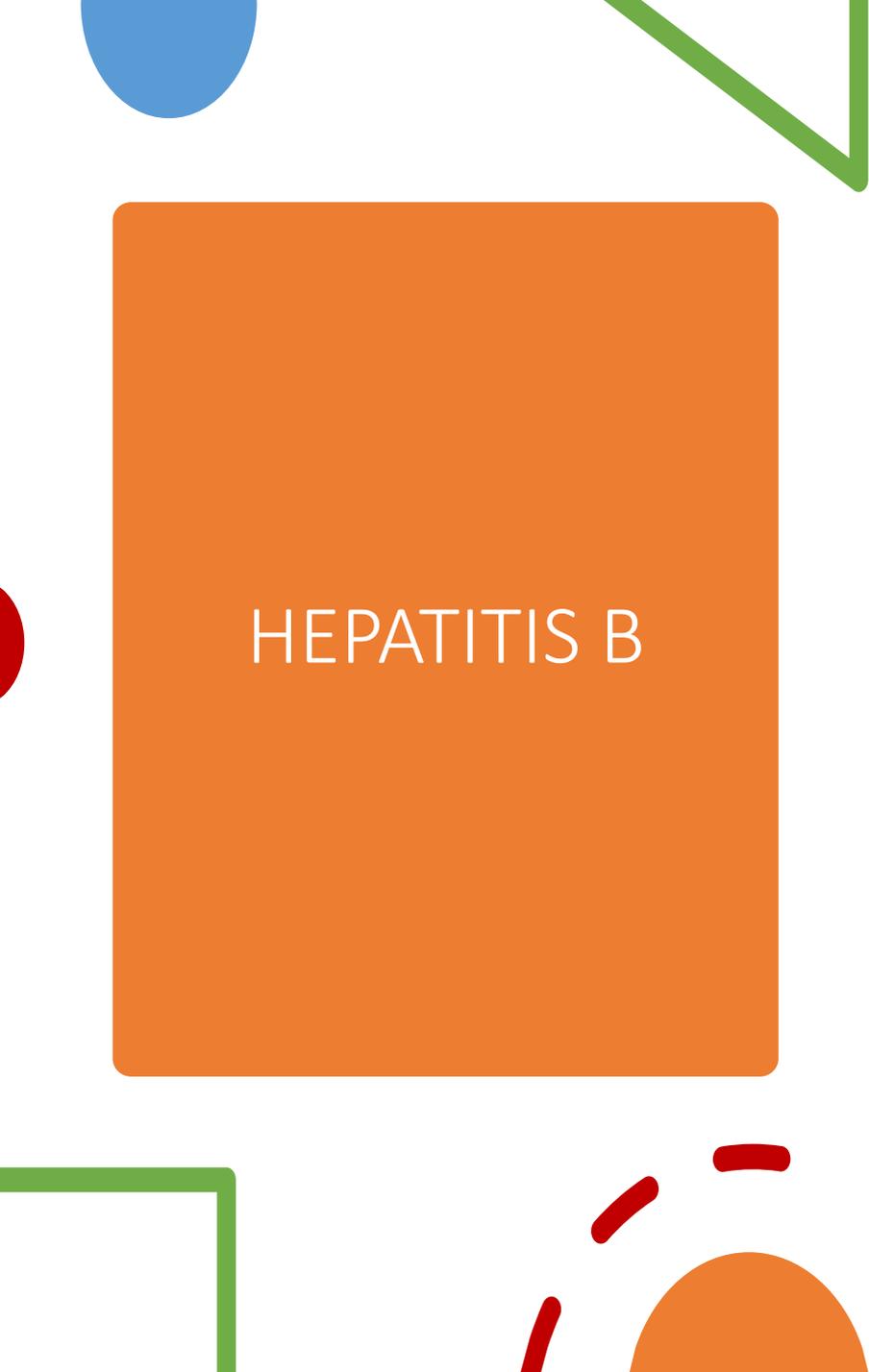
## Hepatitis B Vaccine:

- A form of immunization against Hepatitis B.
- The vaccine is a series of three injections administered within a six-month period.
- Only recombinant vaccines (artificially produced in a lab and containing no human plasma) are being used in the U.S. for routine immunization.
- Adequate antibody response to the vaccine occurs in greater than 90 % of health adults after completion of series.



# HEPATITIS B

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- Post-Vaccination Testing/Revaccination
    - Hepatitis B vaccine when given in the deltoid (muscle covering the shoulder joint) produces protective antibody in greater than 90% of healthy persons.
      - Therefore, testing for immunity after vaccination is not recommended.
    - Testing for immunity is advised for person who:
      - Previously received the vaccine in the buttock;
      - Persons greater than 50 years of age;
      - Persons with known HIV infection; and
      - Persons who have had an exposure incident.



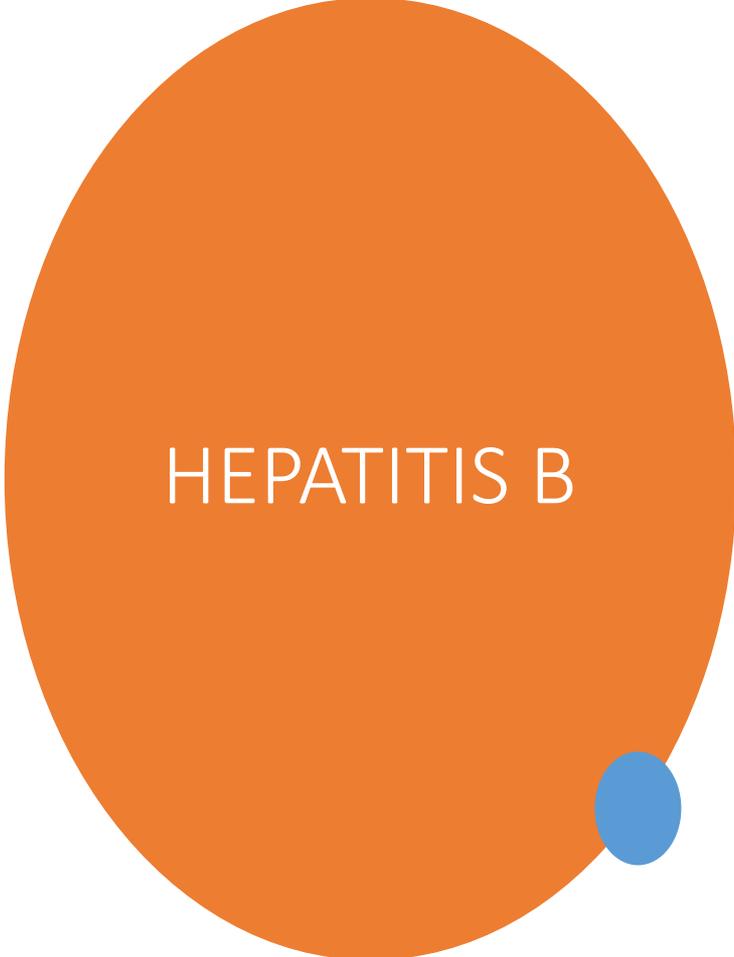
# HEPATITIS B

- Routine-Vaccine Boosters
  - Available data indicates the vaccine-induced antibody levels decline steadily with time.
  - Up to 50% of adults vaccinated who responded adequately to vaccine may have low or undetectable antibody levels by 7 years after vaccination.
  - These individuals receive boosters as currently recommended by the Center of Disease Control (CDC).



- Post-Exposure Follow-Up:

- Any employee determined to have had a significant exposure to blood or body fluids shall receive a medical follow-up at no cost to the employee.
- Significant exposure includes:
  - Needle prick accidents.
  - Bites by carriers.
  - Scratches by a carrier which draws blood.
  - Exposure of mouth/eye membrane with carrier's blood.
  - Exposure of broken skin to blood, saliva or semen from a carrier.



## HEPATITIS B

# HEPATITIS B

- Post-Exposure Follow-Up Continued:
  - Follow these procedures:
    - Wash exposed area thoroughly
    - Notify your supervisor or nurse
    - Consult with your physician as soon as possible
  - It may be recommended that you be given Hepatitis B immune globulin which can prevent development of Hepatitis B.
    - Hepatitis B Immune Globulin (HBIG) – Is a human plasma containing high levels of antibody to HBV.
    - It is intended for immediate, short-term protection after a known significant exposure to blood or body fluids.

## TUBERCULOSIS (TB)

- Tuberculosis (TB), which was thought to be under control in the U.S. and many other areas of the world, is now on the rise.
- Drugs traditionally used to treat TB are not effective in many of the TB cases today, which is alarming.
  - May be the result of infected individuals not taking medications in the past as prescribed.

# TUBERCULOSIS (TB)

- This increase in the number of TB cases has been noted in persons with weakened immune systems.
- Persons at risk of TB as those infected by the Human Immunodeficiency Virus (HIV), the homeless, substance abusers, immigrants from countries where TB has remained a problem, and in persons residing in crowded living conditions.
- TB is appearing more often in the 25-45 year-old group, and among racial and ethnic minorities.

## Signs and Symptoms

- Coughing up thick mucus (sputum) sometimes bloody
- Weakness
- Night sweats
- Weight loss
- Lack or loss of appetite
- Fever
- Hoarseness

TUBERCULOSIS  
(TB)

# TUBERCULOSIS (TB)

- Description of Condition
  - TB is a communicable disease by the germ *Mycobacterium tuberculosis*, which most often affects the respiratory (lung) system, although it may affect other body systems.
  - **It is spread by inhaling droplets** when an infected person coughs, sneezes, speaks, sings, or spits, and spreads droplets into the air from their infected respiratory system.

## TUBERCULOSIS (TB)

- About 5% of persons infected will develop active TB within a year.
- Others will “wall off” the germ, which may become active at any time, even years later, when the immune system weakens.
- Although TB is usually found in the lung, it can affect any body system. TB is not as easily spread as once thought.
  - The droplets from an infected person must actually be inhaled (breathed in) by another person.

# TUBERCULOSIS (TB)

- Treatment consists of various drug combinations and schedules over a long period (months).
- Cases of drug-resistant TB are now being seen, and these cases are difficult to treat.
- Persons in community placement developing signs and symptoms that you think may be TB must be evaluated by their physician as soon as possible.
- Positive tests for TB must be reported to the public health department within 24 hours, so they can start identifying close contacts of the infected person. Contacts will be tested for TB and tested when indicated.
- Preventative therapy may be ordered for 6-12 months.
  - The health department follow TB cases for response and adherence to treatment in order to ensure protection for the community.

TB is detected by:

1. Skin test (PAD) which, if positive, may indicate a person has been infected with the TB organism. A positive skin test does not necessarily mean a person has TB. Further testing must be done.
2. Signs and symptoms.
3. Check X-ray which shows lesions, but does not distinguish active from inactive TB.
4. Stains and cultures of sputum, wound drainage or other body fluids.
5. Computed tomography (CT) or magnetic resonance imaging (MRI) scans used to detect lung damage to confirm the diagnosis.

## TUBERCULOSIS (TB)

# TUBERCULOSIS (TB)

## Treatment:

- Treatment includes multiple drug combination. Two, three, or four drug combinations are usually ordered by the physician.
  - Treatment often extends to 9-12 months.
  - Occasionally, surgery is necessary to remove infected tissue.
- The most common drugs ordered are:
  - Isoniazid (IN)
  - Rifampin
  - Pyrazinarnide
  - Ethambutol
  - Streptomycin

# TUBERCULOSIS (TB)

- Treatment Continued:
  - It is important to make sure the person takes medication as ordered by the physician.
  - After a few weeks on the medication, a person with TB is no longer contagious.

# TUBERCULOSIS (TB)

## Staff Action:

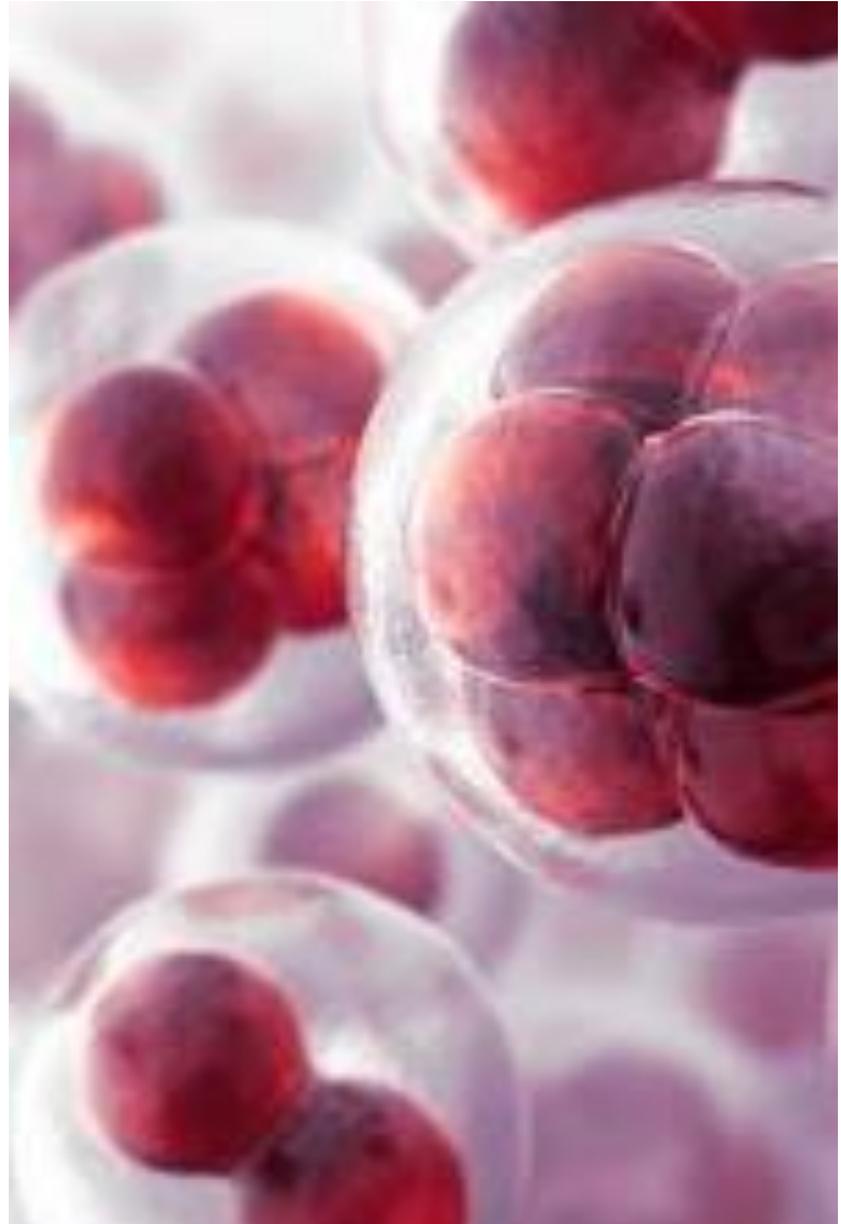
1. Follow physician's orders.
2. Encourage person to eat prescribed diet and to get adequate rest.
3. Teach person to cough and sneeze into a tissue and to dispose of tissue properly (provide a covered container).
4. Insure person keeps appointments with physician.
5. Follow proper hand washing procedure.
6. Be knowledgeable of medication dosage and possible adverse drug reactions. Notify health professional immediately if these occur.
7. Weigh person accurately as ordered.

## Staff Documentation:

- Medication and other prescribed treatment.
- Signs and symptoms of disease.
- Diet taken.
- Appointments attended.
- Any drug reactions noted.
- Notification of health professional of any problem, along with date and time notified.
- Record weight.

# TUBERCULOSIS (TB)

# MRSA OVERVIEW



# MRSA OVERVIEW

- Methicillin-resistant *Staphylococcus aureus* (MRSA)
  - caused by a type of staph bacteria that's become resistant to many of the antibiotics used to treat ordinary staph infections.
- Most MRSA infections occur in people who've been in hospitals or other health care settings, such as nursing homes and dialysis centers.
  - When it occurs in these settings, it's known as health care-associated MRSA (HA-MRSA).
  - HA-MRSA infections typically are associated with invasive procedures or devices, such as surgeries, intravenous tubing or artificial joints.

# MRSA OVERVIEW

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- Another type of MRSA infection has occurred in the wider community — among healthy people.
  - Community-associated MRSA (CA-MRSA)
  - Often begins as a painful skin boil is spread by skin-to-skin contact.
- At-risk populations include groups such as high school wrestlers, child care workers and people who live in crowded conditions.

# MRSA OVERVIEW

## **Symptoms**

- Staph skin infections, including MRSA, generally start as swollen, painful red bumps that might resemble pimples or spider bites. The affected area might be:
  - Warm to the touch
  - Full of pus or other drainage
  - Accompanied by a fever

# MRSA OVERVIEW

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- These can quickly turn into deep, painful abscesses that require surgical draining.
- Sometimes the bacteria remain confined to the skin.
  - But they can also burrow deep into the body, causing potentially life-threatening infections in bones, joints, surgical wounds, the bloodstream, heart valves and lungs.

# MRSA OVERVIEW

## **When to see a doctor**

- Keep an eye on minor skin problems — pimples, insect bites, cuts and scrapes — especially in children. If wounds appear infected or are accompanied by a fever, see your doctor.



# MRSA OVERVIEW

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## **Causes**

- Different varieties of *Staphylococcus aureus* bacteria, commonly called "staph," exist.
- Staph bacteria are normally found on the skin or in the nose of about one-third of the population.
- The bacteria are generally harmless unless they enter the body through a cut or other wound, and even then they usually cause only minor skin problems in healthy people.

# MRSA OVERVIEW

## **Antibiotic Resistance**

- MRSA is the result of decades of often unnecessary antibiotic use.
- For years, antibiotics have been prescribed for colds, flu and other viral infections that don't respond to these drugs.
- Even when antibiotics are used appropriately, they contribute to the rise of drug-resistant bacteria because they don't destroy every germ they target.
  - Bacteria live on an evolutionary fast track, so germs that survive treatment with one antibiotic soon learn to resist others.

# MRSA RISK FACTORS

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## Risk factors

- Because hospital and community strains of MRSA generally occur in different settings, the risk factors for the two strains differ.

## Risk factors for HA-MRSA

- **Being hospitalized** - MRSA remains a concern in hospitals, where it can attack those most vulnerable — older adults and people with weakened immune systems.
- **Having an invasive medical device** - Medical tubing, such as intravenous lines or urinary catheters, can provide a pathway for MRSA to travel into your body.
- **Residing in a long-term care facility** - MRSA is prevalent in nursing homes. Carriers of MRSA have the ability to spread it, even if they're not sick themselves.

# MRSA RISK FACTORS

## **Risk factors for CA-MRSA**

- **Participating in contact sports** - MRSA can spread easily through cuts and abrasions and skin-to-skin contact.
- **Living in crowded or unsanitary conditions** - Outbreaks of MRSA have occurred in military training camps, child care centers and jails.
- **Men having sex with men** - Homosexual men have a higher risk of developing MRSA infections.
- **Using intravenous drugs** - People who inject drugs are an estimated 16.3 times more likely to develop invasive MRSA infections than others.

# MRSA COMPLICATIONS

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## **Complications**

- MRSA infections can resist the effects of many common antibiotics, so they are more difficult to treat.
  - This can allow the infections to spread and sometimes become life-threatening.
- MRSA infections may affect your:
  - Bloodstream
  - Lungs
  - Heart
  - Bones
  - Joints

# MRSA PREVENTION

## **Preventing HA-MRSA**

- In the hospital, people who are infected or colonized with MRSA often are placed in contact precautions as a measure to prevent the spread of MRSA.
- Visitors and health care workers caring for people in isolation may be required to wear protective garments and must follow strict hand hygiene procedures.
- Contaminated surfaces and laundry items should be properly disinfected.

# MRSA PREVENTION

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## Preventing CA-MRSA

- **Wash your hands** - Careful hand washing remains your best defense against germs. Carry a small bottle of hand sanitizer containing at least 60 percent alcohol for times when you don't have access to soap and water.
- **Keep wounds covered** - Keep cuts and abrasions clean and covered with sterile, dry bandages until they heal. The pus from infected sores may contain MRSA, and keeping wounds covered will help prevent the bacteria from spreading.
- **Keep personal items personal** - Avoid sharing personal items such as towels, sheets, razors, clothing and athletic equipment. MRSA spreads on contaminated objects as well as through direct contact.

# MRSA PREVENTION

## Preventing CA-MRSA

- **Shower after athletic games or practices** - Shower immediately after each game or practice. Use soap and water. Don't share towels.
- **Sanitize linens** - If you have a cut or sore, wash towels and bed linens in a washing machine set to the hottest water setting (with added bleach, if possible) and dry them in a hot dryer. Wash gym and athletic clothes after each wearing.
- **Don't inject illicit drugs** - Intravenous drug users are at risk of many types of dangerous infections, including MRSA, Human Immunodeficiency Virus (HIV), and Hepatitis C.

# Clostridium Difficile

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- *Clostridium difficile* also known as “CDF/cdf” , or “C. diff”, is a bacteria that causes severe diarrhea and other intestinal disease
  - competing bacteria in the gut flora are wiped out by antibiotics.
- In a very small percentage of the adult population, *C. difficile* bacteria naturally reside in the gut.
- Other people accidentally ingest spores of the bacteria while they are patients in a hospital, nursing home, or similar facility.

# Clostridium Difficile

- When the bacteria are in the colon in which the normal gut flora has been destroyed (usually after a broad spectrum antibiotic has been used) the gut becomes overrun with *C. difficile*.
- The bacteria release toxins
  - causes bloating and diarrhea with abdominal pain, which may become severe.
- *C. difficile* infections are the most common cause of pseudomembranous colitis
  - In rare cases this can progress to toxic megacolon, which can be life-threatening.

# Clostridium Difficile

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- Latent symptoms of *C. difficile* often mimic some flu-like symptoms
  - can mimic disease flare in patients with inflammatory bowel disease-associated colitis.
- Often, mild cases of *C. difficile* infection can be cured by discontinuing the antibiotics responsible.
- In more serious cases, oral administration of antibiotics.
- Relapse of *C. difficile* AAD have been reported in up 20% of cases.

# Recognizing and Reporting Changes in Health Circumstances

## **Emergency Conditions**

- Emergency conditions may arise from a great number of different causes:
  - Injuries, illnesses, and complications, including unwanted effects of medications.
  - There is no rule to follow in deciding what is and what is not an emergency situation.
  - The most common conditions involve:
    - Excessive bleeding which you are unable to control
    - Accidents involving severe injury
    - Failure of obstruction (as in choking) of the respiratory system (breathing)
    - Failure of the circulatory system (heartbeat)
    - Behavior which is a danger to self or others and is not controllable
    - Loss of consciousness unrelated to predictable seizure activity

# Recognizing and Reporting Changes in Health Circumstances

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## **Emergency Conditions Continued:**

- Your job is to react swiftly to any emergency condition, using your skills in first aid and CPR for temporary life support.
- Emergency conditions are those thought to be of an immediate life threatening nature.
- You must report them immediately to persons who can help you support the life of the recipient.
- Phone 911 immediately.
  - Talk calmly, slowly, and clearly.
  - Answer any additional questions the emergency operator may ask.
  - Be sure to give the exact address and location of the emergency.
  - Do not hang up the phone until the emergency operator hangs up or tells you to hang up.

# Recognizing and Reporting Changes in Health Circumstances

## **Emergency Conditions Continued**

- It is the caregiver's responsibility to support the physical well-being of the recipient while securing the appropriate medical assistance.
- When more than one staff person is involved, one person must take charge of the situation.
  - This person is responsible for telling others what to do and for providing immediate emergency assistance.
  - Other staff members should call 911, help administer first aid or CPR if necessary, and gather the Medicaid card, permission for treatment form, medical records, and blank forms so that the doctor who treats the person will have complete information.

# Recognizing and Reporting Changes in Health Circumstances

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## **Emergency Conditions Continued**

- If you are the only staff person involved, you will have to deal with the emergency on your own unless bystanders or other consumers are able to help.
- Remember your primary responsibility is to see that 911 is called and to provide emergency assistance to the person until help arrives.
- Accompany the person in the ambulance to the hospital with all the necessary information and forms.
- If an ambulance is not available, you may have to transport the person to the emergency room on your own.
  - Be sure to notify the hospital that you are on your way
  - Explain the nature of the emergency and about how long it will take you to arrive at the emergency room.

# Recognizing and Reporting Changes in Health Circumstances

## **Emergency Conditions Continued**

- Stay with the person in the hospital until relieved by other staff or released by your supervisor.
- Return to the group home with the person if he or she is not admitted to the hospital.
- Be sure to document all of the details of the emergency, including medications and orders received and follow-up treatments required.
- After the emergency is under control, call your supervisor if he or she has not been notified earlier.
- Inform the person's doctor and the nurse consultant for the home.
- Be sure to communicate all of the necessary information to other staff.

# Recognizing and Reporting Changes in Health Circumstances

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## **Non-Emergency Health-Threatening Conditions**

- Non-emergency health-threatening conditions are those conditions, which lead you to believe that the health or safety of the recipient or others is endangered. This definition is very broad and vague. Common sense is important here. Examples of such situations are:
  - A fever that is not reduced by normal procedures, such as aspirin.
  - Repeated episodes of angry or aggressive behavior, which while controllable, are not typical of the person.
  - Diarrhea, which is not affected by the medication that has been ordered.
  - A rash which lasts for several days or which appears to be getting worse.
  - A persistent sore throat.
  - A severe seizure for a person who has a history of mild seizures.
  - An increase in seizure activity.
  - Unusually withdrawn behavior on the part of a person who ordinarily is not withdrawn.

# Recognizing and Reporting Changes in Health Circumstances

## **Non-Emergency Health-Threatening Conditions Continued**

- Call the nurse or designated person to report your observations. Follow the instructions of the nurse. If you cannot contact the nurse or other designated person, call the doctor, report your observations, and follow any directions given. Record your observations. Continue to observe the person for further changes and report to your supervisor.
- When reporting a health-threatening condition, include the following information: the nature of the problem; other signs of trouble (bleeding, swelling, weakness, coughing, diarrhea, vomiting, etc.); when the signs were first noticed; and what, if anything, you have done already for the condition.

# Recognizing and Reporting Changes in Health Circumstances

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## **Other Changes in Health Condition**

- Any changes other than those already covered are included in this category. Any significant changes in a person's general health or behavior could be important signs. Examples of such conditions are:
  - Changes in sleeping, eating, or activity levels.
  - Minor problems such as colds, low fevers, mild diarrhea, etc.
  - Unexplained minor bruises.
  - Reddened areas.

# Recognizing and Reporting Changes in Health Circumstances

## **Other Changes in Health Condition Continued**

- As soon as possible, write a written description of the condition you have observed. Check for any standing medical orders for that specific condition. Continue to observe the person for further changes. Be sure to notify the nurse, your supervisor, and other staff of your observations and any actions you have already taken to relieve the condition.

# Recognizing and Reporting Changes in Health Circumstances

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## **Other Changes in Health Condition Continued**

- Sometimes you may not be sure if a situation is an emergency condition or not, or whether a situation is health threatening or simply a minor change in a person's status. When you are not sure, take the actions appropriate for the more serious of the categories, just to be on the safe side. Then, even if you are incorrect, no further harm will have been done.

# Guidelines for Consumer Exclusion to any TBHS Program

1. Temperature of 100 degrees or greater.
2. Productive cough.
3. Presence of colored sputum or mucus from mouths/nose.
4. Vomiting twice within 24-hour period.
5. Lethargy persisting for 24 hours or greater
6. Any seizure that required consumer to receive a rectal Valium/Ativan within the last 6 hours.
7. Diarrhea persisting for 24 hours or greater.
8. Undiagnosed rash.
9. Suspected head lice.
10. Any other suspected communicable disease (i.e., scabies, ringworm, pinworm, etc.)

# Questions?

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This concludes the Basic Health Training