

River Falls EMS Exposure Control Plan



Group Training March 2012



Agenda/Topics to Be Covered

- ◆ Definitions
- ◆ Program Administration
- ◆ Determination of Exposure
- ◆ Implementation of the Plan
- ◆ Post Exposure Evaluation & Follow up
- ◆ Evaluating Circumstances of the Exposure
- ◆ Hazards and Employee Training
- ◆ Recordkeeping
- ◆ Hepatitis B
- ◆ Influenza
- ◆ Norovirus
- ◆ Tuberculosis

Definitions

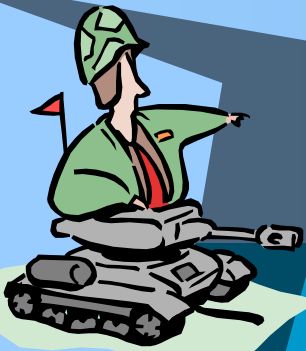


- ◆ OPIM :
 - Other Potentially Infectious Materials
- ◆ Significant Exposure:
 - Any puncture of the skin by a needle or other sharp object that had previous contact with a patient's blood or OPIM
 - Blood or OPIM splattered in eyes or mucus membranes
 - Contamination of open skin with a patient's blood or OPIM
 - The transportation of a patient with a known airborne infectious disease
- ◆ Contaminated:
 - The presence of blood or other potentially infectious materials on an item or surface

Definitions



- ◆ **Exposure incident:**
 - A specific part of the employees body that has had contact with blood or other potentially infectious materials
- ◆ **Potential exposure:**
 - When contact can reasonably be expected with blood or OPIM
- ◆ **Regulated Waste:**
 - Blood, OPIM, or contaminated items that would release blood or OPIM, or items caked with blood or OPIM and are capable of releasing these materials during handling.



Program Administration

- ◆ Officers are responsible for implementation.
- ◆ Director is classified “INFECTIOUS CONTROL OFFICER.”
- ◆ RF EMS provides PPE and equipment as needed for employees.
- ◆ Officers required to:
 - Maintain Personnel medical records
 - Train employees on this plan annually
 - Revise the plan as needed
 - Show records to OSHA representatives

Determination of Exposure

- ◆ Jobs within RF EMS that could have exposure:
 - EMT-Basics
 - EMT-Intermediate Tech's
 - EMT-Intermediates
 - EMT-Paramedics & RN's
- ◆ Jobs outside RF EMS that could have exposure:
 - River Falls First Responders
 - River Falls Fire Department Members
 - RFPD patrol officers
 - UWRF campus security
 - Any mutual aid pre-hospital or hospital personnel

Implementations of the Policy



◆ Universal Precautions

- Gloves must be worn on every call
- Jumpsuits or uniforms must be worn on every call
- Crew members must wash their hands after each call
- CPR must be performed using appropriate PPE

◆ Exposure Control Plan

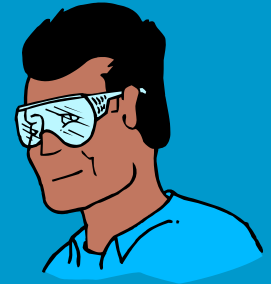
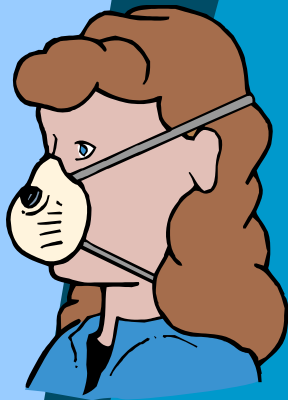
- Annual requirement for all members
- The plan is in all Operational Books & on our Website
- Officers need to do annual updates on:
 - Technology changes that reduce exposures
 - Assess new medical devices that may reduce exposures
 - Gain input from employees on selection of appropriate work practice controls.

Implementations of the Policy

◆ Engineering Controls & Work Practices

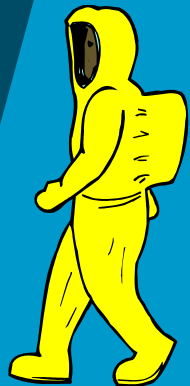
- Used to prevent or minimize exposures
 - Protect IV needles
 - Needle-Less IV systems
 - Needle Safe Syringes
 - Needle Safe Lancets
- Sharps containers inspected/replaced biweekly
- Controls and Practices are changed based on past medical records, interviews, and committee activities
- New products and procedures can be brought up and discussed at open monthly meetings by members
- All new products and practices are implemented by the EMS Director or Medical Director.

Implementations of the Policy



◆ Personal Protective Equipment

- Provided to employees
- 2 types:
 - Non-Disposable: Jumpsuits, uniforms, jackets
 - Disposable: gloves, tyvek suits, booties, N95/99 masks, eye/face protection
- Non-Disposable PPE is issued to members after orientation but before operating in the ambulance
- Reduction in performance of non-disp PPE should be brought to the attention to an officer immediately
- Non-Disp PPE should remain in ambulance bay to reduce contamination of personal items.



Implementations of the Policy

◆ Personal Protective Equipment

- Disposable PPE is located in ambulances and storage areas in the facility
- Employees are responsible to notify officers of any deficiency with disposable equipment or PPE
- Any gloves that are torn, punctured or contaminated should be removed and replaced immediately
- Wash hands after removing gloves after each call
- During flu season, wear a N95 mask and place one on the patient too

Implementations of the Policy

◆ Handling used PPE is as follows:

■ Non-Disposable:

- Any contaminated clothing or garments should be removed immediately and placed into a biohazard bag
- The infectious control officer must be notified immediately
- Any other non-disposable PPE may be washed at the ambulance station, hospital or laundry mat

■ Disposable:

- All disposable PPE is discarded
- Non-contaminated PPE can be thrown in garbage
- All contaminated PPE must be thrown in biohazard bags in the ambulances or at the hospital



Implementations of the Policy

◆ Housekeeping

- Regulated waste is placed in biohazard containers
 - Soiled trauma dressings
 - Suction canisters
 - Emesis basins
 - Soiled linen
- Sharps are placed immediately into sharps containers
- Sharps containers are located in each ambulance and in each First in Bag & Thomas Pack
- Full sharps containers are placed in biohazard containers at RFAH
- Broken glassware should be swept into a dust pan and placed into a sharps container



Implementations of the Policy

◆ Housekeeping

■ Ambulance Cleaning

- Adhere to universal precautions
- Wear heavy rubber gloves or double glove
- Soak up excess blood, etc with towels and dispose in bio bag
- For airborne diseases, spray Lysol disinfectant into the air
- Wipe floor with Cavicide solution
- Wipe gurney and walls in ambulance with Cavicide.
- Open ambulance door to ventilate

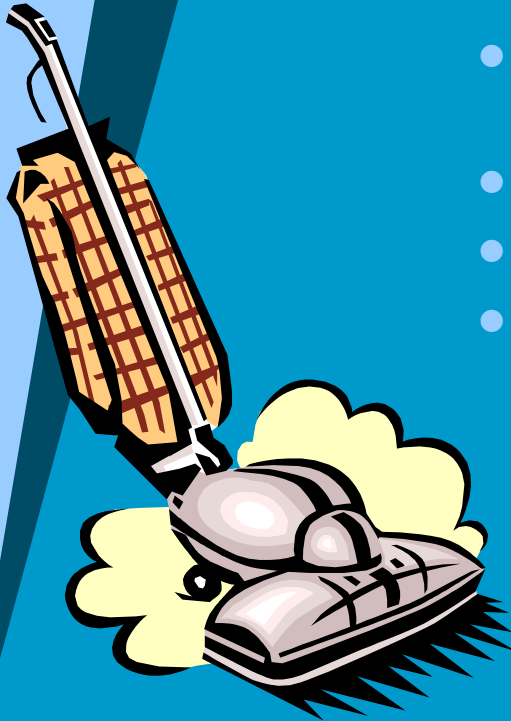


Implementations of the Policy

◆ Housekeeping

■ Equipment Cleaning

- Adhere to universal precautions
- Dispose of all single use equipment appropriately
- Wipe off excess fluids on non-disposable equipment with towels and dispose of in bio bags
- Wash or wipe all non-disposable equip with Cavicide solution
- Dispose of all fluids in the toilet at the hospital soiled room
- Ensure all sharps are disposed of appropriately



Post Exposure Evaluation

- ◆ If a significant exposure occurs, notify the infectious control officer immediately (Director)
- ◆ An immediate and confidential medical evaluation will be done by the receiving hospital.
- ◆ The following will be performed:
 - Document exposure or incident on department paperwork
 - Identify and document source individual
 - Obtain consent and test source individual for HIV, HCV, HBV
 - Assure exposed employee obtains results of source individual (depending on certain disclosure laws)
 - Test exposed employee's blood for HIV, HCV, HBV
 - Document all results





Administration of Post Exposure

- ◆ RF EMS needs to ensure all medical records are up to date and filed for each person
- ◆ Officers are responsible to provide the health care professional viewing the exposed employee with:
 - Employee's job description
 - Route of exposure
 - Circumstances of exposure
 - Source individual's test results (*if available*)
 - Affected employees medical records, including vaccinations
- ◆ The testing hospital will provide the employee with a copy of the health care professional's opinion within 15 working days



Evaluating the Circumstances

- ◆ RF EMS will review the following circumstances:
 - Engineering controls and devices used at the time
 - Work practices (policies/procedures) followed
 - Type of PPE used
 - Location of incident
 - Procedure being formed at the time
 - Employees current scope of practice
- ◆ RF EMS will maintain a sharps injury log containing the following: (note: patient confidentiality plays a factor)
 - Type and brand of device used at the time
 - Area where exposure occurred (residence, ambulance, etc)
 - Explanation of how injury occurred



Hazards and Employee training

- ◆ All employees who have potential exposure to bloodborne and/or airborne pathogens must receive this training annually.
- ◆ River Falls EMS may supply training to outside organizations, which have exposure to pathogens with our department.
- ◆ All employees will be given an opportunity to review the services PPE, needles, biohazard labels and ask any questions.





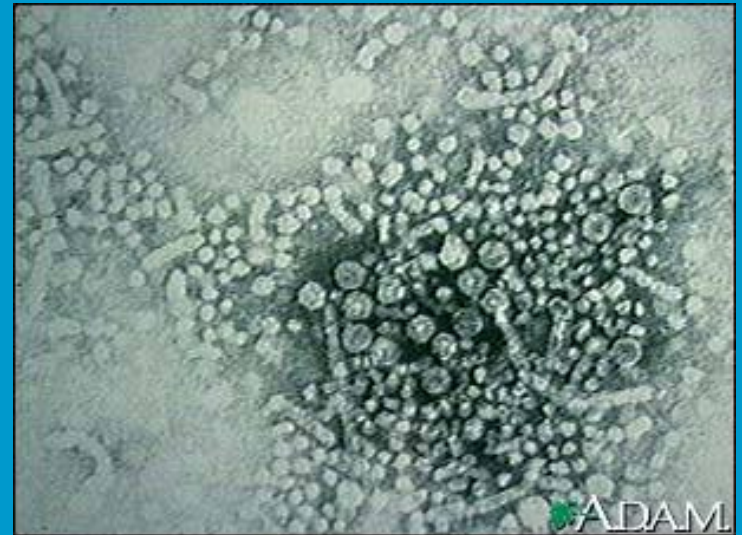
Recordkeeping



- ◆ Training records are kept for a minimum of 7 years
- ◆ Medical records are required by each employee under OSHA 29 CFR 1910.20 “Access to Employee Exposure and Medical Records”
- ◆ Medical records are kept confidential
- ◆ Medical records are kept the duration of employment, plus an additional 30 years
- ◆ OSHA records are maintained under 29 CFR 1904
 - Needlesticks, cuts, exposures to airborne or OPIM
 - Confidential cases are logged as “Privacy Cases”

Hepatitis

- ◆ Hepatitis is a viral infection causing swelling and inflammation of the liver.
- ◆ Hepatitis B is spread through blood and sexual contact. It is seen mostly with IV drug users sharing needles and with homosexuals



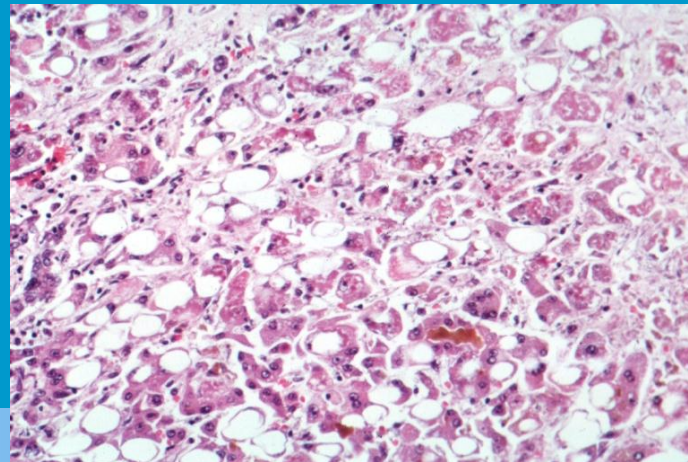
Hepatitis B virus

Hepatitis

◆ Hepatitis can be caused by:

- Immune cells in the body attacking the liver causing autoimmune hepatitis
- Viral infections (such as hepatitis A, B, or C), bacteria
- Liver damage from alcohol, poisonous mushrooms, or other poisons
- Medications, such as an overdose of acetaminophen, which can be deadly

Slide of Hepatitis showing change of normal tissue to fatty tissue



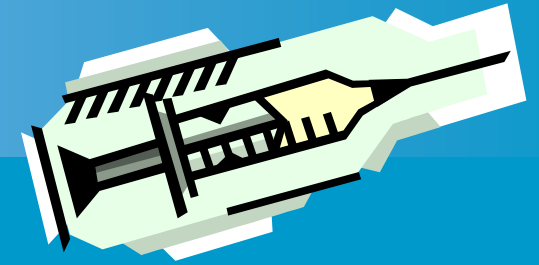
Hepatitis

◆ Common symptoms:

- Abdominal pain or distention
- Dark urine
- Fatigue
- Fever, usually low-grade
- Loss of appetite
- Nausea and vomiting
- Muscle and joint aches
- Jaundice (yellowing of the skin or eyes) – late sign

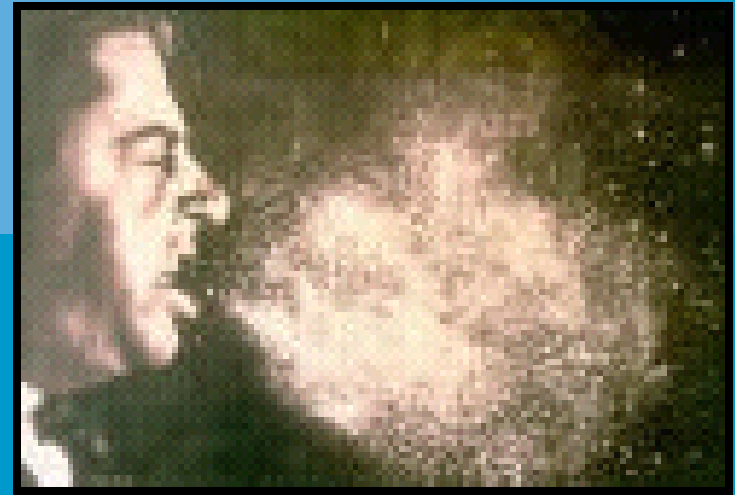


Hepatitis B Vaccine



- ◆ Provided at no cost to ambulance employees unless already vaccinated
- ◆ Any person declining vaccination must sign waiver
- ◆ Vaccination done at Pierce Co. Health
- ◆ Antibody testing may be done 2 months after last shot was given
- ◆ Antibody testing may be done at RFMC

INFLUENZA



- ◆ **Respiratory Infection**
- ◆ **Spread through contact with an infected person during coughing and sneezing**
- ◆ **1 to 5 days from exposure to onset of symptoms**
- ◆ **Infectious up to 24 hours *before* symptoms appear**
- ◆ **Occurs mainly October through April in North America**

INFLUENZA

Influenza IS...

- Fever
- Chills
- Body aches
- Sore throat
- Non-productive cough
- Runny nose
- Headache

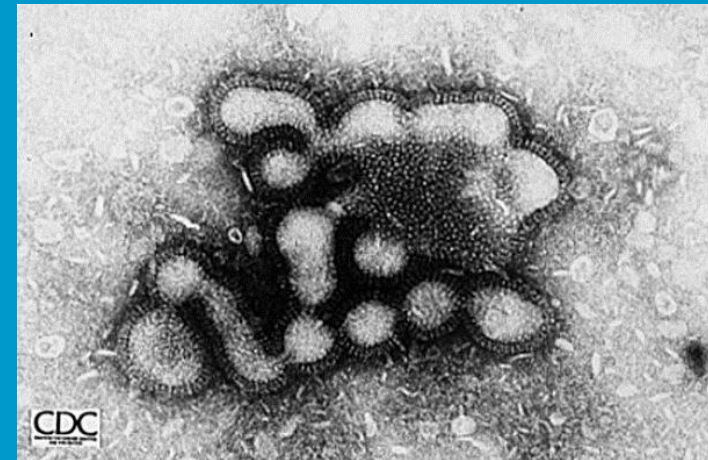
Influenza IS NOT...

- “Stomach Flu”
- Cause of Diarrhea
- Treated with antibiotics
- Transmitted by ingestion of contaminated food



INFLUENZA

- ◆ **Type A**
 - moderate to severe illness
 - animals and human
 - all age groups
- ◆ **Type B**
 - milder epidemic
 - humans only
 - primarily affects children
- ◆ **Type C**
 - no epidemics
 - rarely reported in humans



INFLUENZA



- **~36,000 deaths nationally every year**
 - ✓ 6th leading cause of death
 - ✓ #1 Vaccine preventable death
 - ✓ Kills as many or more than breast cancer and 3x as many as AIDS
- **Estimated 5-20% of the US population gets the flu**
- **Vaccines available**
- **High risk:**
 - Very young
 - Very old
 - Fragile immune systems
 - Pregnant women

INFLUENZA **5** Great Ways to **FIGHT FLU**



1. Get an influenza shot every year.

- The vaccine is **SAFE** and you **CANNOT** get influenza from the shot.
- About two weeks after vaccination, your antibodies develop to further protect you, patients, and family.
- It is never too late – typically influenza peaks between late December and early March and can last as late as May.

2. Stay home if you're sick!

3. Cover your coughs and sneezes. *Elbow method recommended*

4. Keep your hands clean!

5. Practice good health habits

- **Sleep, Get Active, Manage Stress, Drink Plenty of Fluids, and Eat Nutritious Food!**

NOROVIRUS



- ◆ **The U.S. has ~ 20 million cases annually**
- ◆ **At least 50% of foodborne outbreaks**
- ◆ **May cause severe dehydration**

Why is Norovirus an Issue?

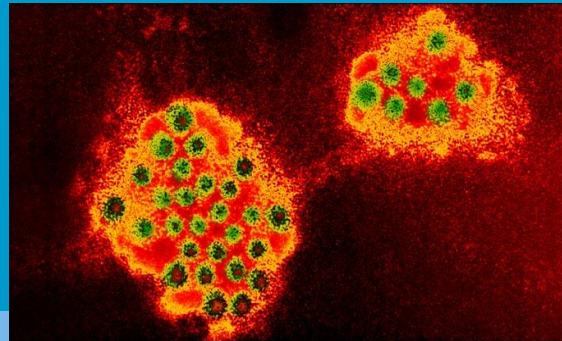
Highly Contagious!

- Fecal or oral contaminants, water, food, direct contact
- As few as 18 particles can cause infection compared to other viruses (need over 100)
- Easily passed from person to person
- Studies show the virus may become airborne through the act of vomiting
- Viral shedding (leaving the body) can occur for up to 2 weeks

Why is Norovirus an Issue?

Immunity

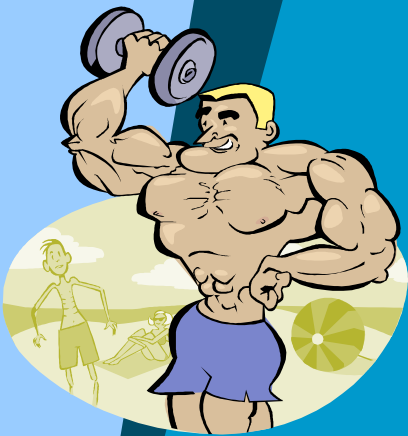
- No current immunity (*healthy habits help reduce the spread*)
- Strain-specific (*has multiple strains*)
- Strain my last several months then change
- Spreads quickly
- Highest risk: young, elderly, weak immune systems



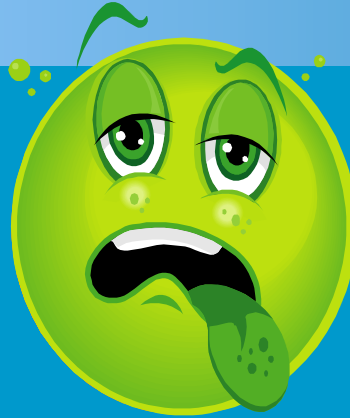
Why is Norovirus an Issue?

Environmentally Tough

- Survive freezing temps up to 60 days
- Stable to 1.0 parts per million (ppm) chlorine
 - Chlorine used in RF public water is 0.8 – 1.5ppm
- Persist for up to 2 weeks on surfaces and in contaminated water or food (*cooking does kill the virus*)
- Remain active up to 12 days in carpeting-steam clean vs. vacuuming in an outbreak
- Resistant to most common cleaning solutions



NOROVIRUS



Symptoms

- ◆ Vomiting
- ◆ Watery, non-bloody diarrhea
- ◆ Abdominal cramps
- ◆ Nausea
- ◆ Headache
- ◆ Low grade fever
- ◆ Dehydration

Characteristic

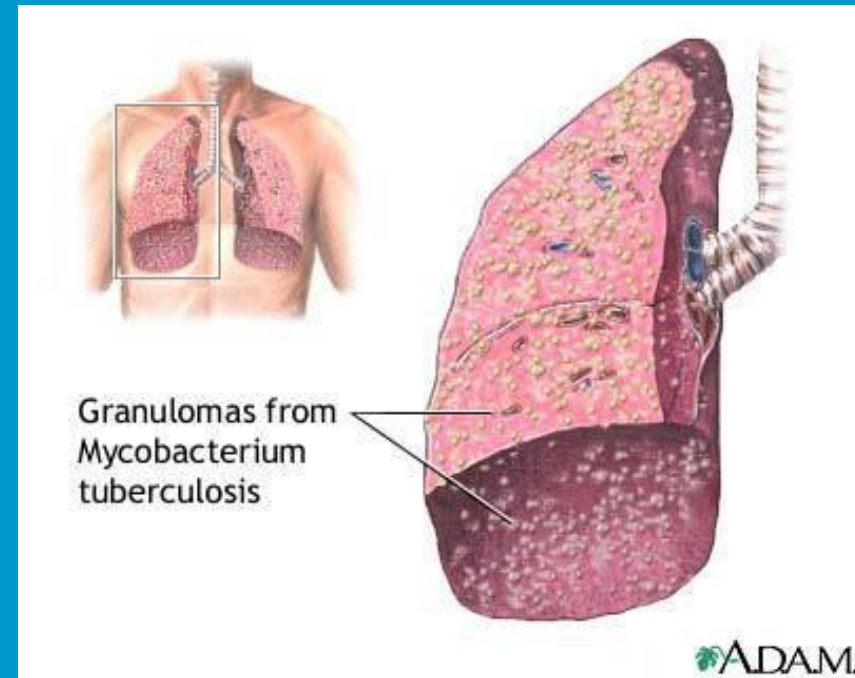
- ◆ Incubation: 24 hours
- ◆ Lasts: 24-48 hours
- ◆ Diagnosed by stool specimen (best 48-72 hours after onset)
- ◆ Contagious: Symptom onset up to 48 hours after

Management of Norovirus

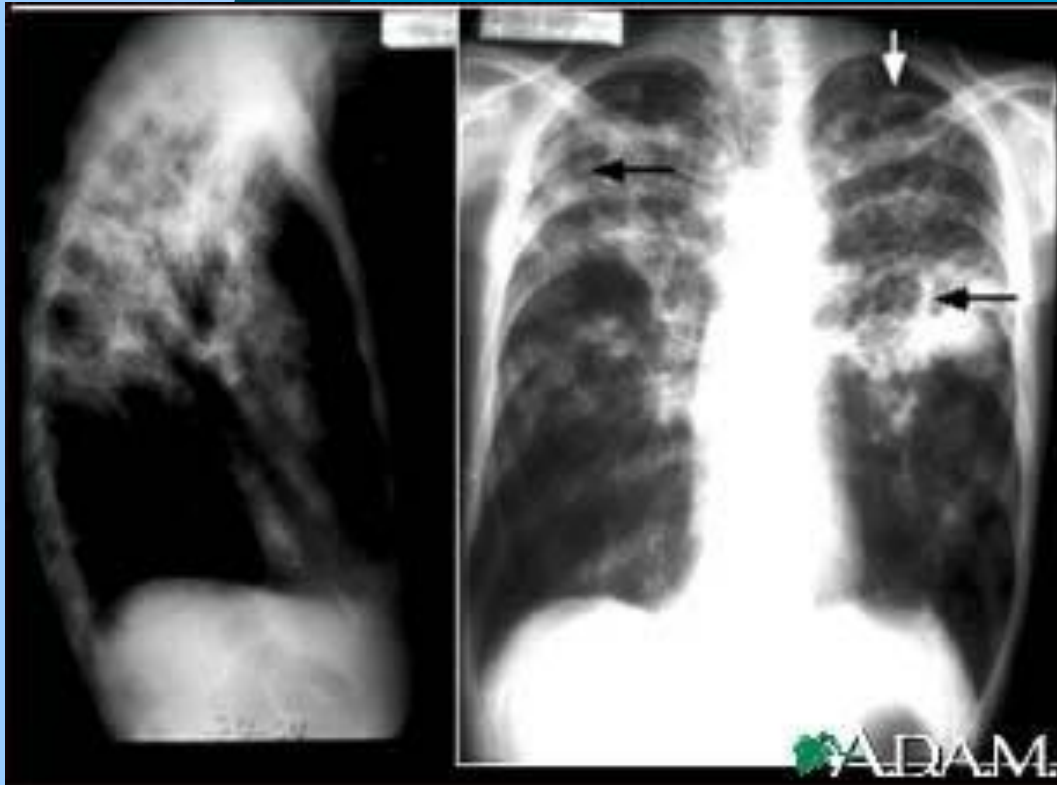
- **Contact Precautions**
- **Mask & Eye protection if actively vomiting or explosive incontinent diarrhea**
- **Wash uniforms and clothing after contact with known infected person**
- **Disinfect highly touched surfaces
THOROUGHLY**

Tuberculosis (TB)

- ◆ A contagious bacterial infection that involves the lungs, but may spread to other organs.
- ◆ Caused by the bacteria *Mycobacterium tuberculosis* (*M. tuberculosis*).
- ◆ In the U.S., there are ~ 10 cases of TB per 100,000 people.



Tuberculosis (TB)



- ◆ In the US, most people will recover from a TB infection without further evidence of the disease. The infection may stay inactive (dormant) for years. However, in some people it can reactivate.

These chest x-rays show advanced pulmonary tuberculosis. There are multiple light areas (opacities) of varying size that run together (coalesce). Arrows indicate the location of cavities within these light areas. The x-ray on the left clearly shows that the opacities are located in the upper area of the lungs toward the back.

Tuberculosis (TB)



- ◆ TB is an airborne droplet about 1-5 microns in size.
- ◆ Droplets are generated when a person with TB coughs, speaks, breathes, or spits.
- ◆ Pulmonary tuberculosis is making a comeback with new resistant strains that are difficult to treat.
- ◆ Signs & Symptoms include:
 - Productive cough that lasts more than 2 weeks
 - Coughing up blood
 - Weak/lethargic
 - Loss of appetite, or unknown loss of weight
 - Night sweats or high fever



TB Policy



- ◆ Locations with high potential of TB:
 - Health care settings
 - Correctional institutions
 - Homeless shelters
 - Elderly facilities
 - Drug treatment centers

- ◆ Universal precautions:
 - All attendants should wear a TB (N95 or N99) mask
 - Place a mask on the patient
 - Place all oral/nasal fluids in a biohazard container

TB Policy



- ◆ Report any exposure of known or suspected TB to Infectious Control Officer immediately.

- ◆ Medical Surveillance:
 - Initial baseline screening at start of employment
 - Annual screening
 - Retesting every six months for employees that were exposed to TB in the work setting

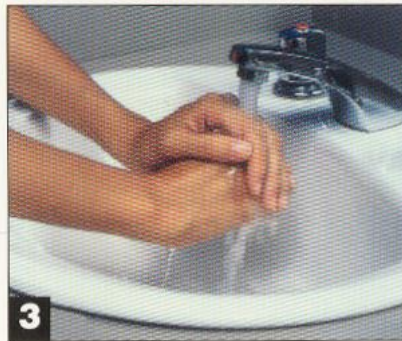
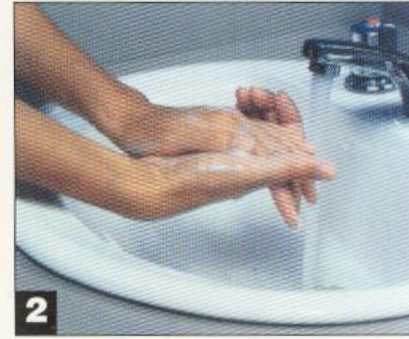
The General Rule!!

- ◆ “Hand Washing is the single most important means of preventing the spread of infection”
- CDC



5 basic steps to handwashing

1. Wet hands with water then add soap.
2. Use friction to generate lather and wash hands for at least 10 seconds.
3. Rinse well under a stream of water.
4. Dry hands thoroughly.
5. Turn off faucet with paper towel.



When to Wash Your Hands:

- Before and after patient contact
- Beginning and end of the work day
- Before and after using gloves
- Before eating, smoking, or handling medications
- After using the toilet
- After wiping the nose or touching the face
- After touching contaminated surfaces



Questions?