

# **INFECTION CONTROL and STANDARD PRECAUTIONS**

**D-WCCMHA – Annual Training  
2010**

**Presenter: Roberta Francisco, MSN, MBA, FCN, RN**

# Objective

- To be familiar with the steps to prevent exposure to blood and body fluids
- Know the steps that should be taken following exposure to blood and body fluids

# OSHA/ Bloodborne

- Means:

Occupational Safety and Health Administration  
(Under the Occupational Safety and Health Act of  
1970)

Mission: To prevent injuries and protect the  
health of America's workers by ensuring safe  
and helpful work places.

# MiOSHA

Means:

- Michigan Occupational Safety and Health Administration

- Mission:

To reduce or eliminate workplace hazards for All Michigan employees, regardless of union affiliation.

# **CAUSES OF COMMUNICABLE DISEASES**

- **BACTERIA**

**Example: Tuberculosis; Strep throat**

- **VIRUS**

**Example: Influenza; Common cold; HIV**

- **FUNGUS**

**Example: Athlete's foot; Ringworm**

- **PARASITES**

**Example: Lice; Scabies; Worms**

# HOW ARE INFECTIONS SPREAD



DIRECT OR INDIRECT  
CONTACT



HANDS

COUGHING

BLOOD

INSECTS

RODENTS

SNEEZING

TOUCHING OBJECTS

FOOD AND WATER

AIR CURRENTS

DUST



# WHAT INCREASES SUSCEPTIBILITY



CROWDING OR CLOSENESS



CHRONIC ILLNESS OR AGE: VERY YOUNG/ OLD



OVERWORKED/ UNDER STRESS/NOT EATING BALANCED DIET/OVERTIRED

# OSHA/MiOSHA Bloodborne Pathogen Standards

## **Hand washing**

The single most important means of preventing the spread of infection

Wearing gloves DOES NOT replace the need for hand washing!!!

# Hand Hygiene

**48% of healthcare workers  
(INCLUDING physicians) do  
NOT wash their hands before  
examining patients**

*even when they know they are being  
watched as part of a research  
project!!!*

# HOW TO REDUCE THE SPREAD OF INFECTION

- Wash your hands
- Get 7 to 8 hours of sleep every night
- Eat healthy meals
- Reduce stress and noise level
- Do not share personal articles
- Follow Standard Precautions
- Follow cleanliness measures
- Get routine check ups and immunizations
- Avoid close contact
- Stay home if sick

# **STANDARD PRECAUTIONS**

- Evolved from Universal Precautions
- Focus on protection of self and others
- Hand hygiene
- Cough etiquette
- Personal protection equipment

# STANDARD PRECAUTIONS

- **Don't eat, drink, smoke, touch nose, eyes or mouth or apply makeup when working in areas where exposure can occur**
- **Dispose of sharps in biohazard containers**

# STANDARD PRECAUTIONS

- Potentially infectious body fluids include: blood, semen, vaginal secretions, cerebrospinal fluid, breast milk, open draining wounds, synovial fluid, amniotic fluid, pleural fluid and pericardial fluid
- Fluids not infectious, unless contain visible blood: tears, nasal secretions, sputum, saliva, sweat, urine, feces or vomit

# HAND HYGIENE

- The single most important thing you can do to stop the spread of disease
- Use plain or antimicrobial soap and water
- Use alcohol based (60 – 95%) hand gel



# WHEN TO WASH HANDS

**EVERY ONE should wash their hands:**

- After contact with another person
- When hands are visibly soiled
- After handling personal items
- Before and after eating
- After coughing or sneezing into your hand
- After using tissue or handkerchief
- After using bathroom

# **WHEN TO WASH HANDS**

## **(cont.)**

- **Before and after smoking**
- **Upon arrival and before leaving work**
- **After handling garbage**

# OSHA/MiOSHA Bloodborne Pathogen Standards

## ➤ ***Standard Precautions require:***

- Hand washing and appropriate use of:
  - Personal Protective Equipment (PPE)
  - Safe Medical Devices

## ➤ ***PPE gloves, gown, mask, face shield:***

- Use when anticipating exposure to blood or body fluids (and chemicals)
- Glove wearing is not a substitute for hand washing.

# HOW TO WASH HANDS

- Turn on the water
- Wet hands with warm running water and apply soap and lather well
- Rub all surfaces including back of hands, wrists, between fingers and under rings and nail beds for 20 seconds (sing the “Happy Birthday” or “ABC” song twice)
- Rinse well under running water from wrist to fingertips
- Dry hand with a paper towel
- Turn off water with a second paper towel

# HOW TO USE HANDRUBS

- Apply about  $\frac{1}{2}$  teaspoon of product to the palm of your hand
- Rub hands together covering all surfaces until they are dry
- Do not wave hands in the air to dry
- If hands are visibly soiled: use soap and water

# **FINGERNAILS**

- Pathogens can live around and under natural and artificial fingernails
- Artificial nails include acrylics, wraps, tips, gels and appliqués
- Chipped nail polish should be removed

# COUGH ETIQUETTE

- Cover your nose/mouth when coughing or sneezing
- Use tissue or inside of sleeve by elbow
- Dispose of used tissues in the nearest waste basket
- Wash your hands after contact with secretions or contaminated objects

# **PERSONAL PROTECTION EQUIPMENT**

- Used to prevent exposure to blood or body fluid with blood
- Includes gloves, face mask, apron, first aid and resuscitation equipment
- Locations: Please refer to the designated areas identified at your individual work sites.

# GLOVES

- Use when contact with blood/body fluid can occur
- Use if you have a cut or open area on hands
- Use only once
- Discard after use, if torn, punctured, peeling or cracked
- Not a substitute for handwashing
- Remove properly and wash hands



# CLEANINESS MEASURES

- Kitchen
- Laundry
- Vacuuming and damp dusting
- Bathroom
- Personal care items
- Trash containers



# PROBLEMS SEEN IN HOMES

- Using same cloth to clean counter and floor
- Outdated food in refrigerator
- No soap/toilet paper or paper towels available
- Toilets not flushed or bathtubs cleaned
- Carpets/ floors not swept
- Laundry not done
- Trash cans not emptied or not covered

# **PERSONAL HYGIENE**

- **Fingernails: clean and filed**
- **Neat appearance: shave, hair cut, teeth brushed**
- **Use of deodorant**
- **Clothing: match, in good repair, clean, fits, buttons secured, zippers secured; weather appropriate**
- **Shoes: fit, on correct feet, match**

# OSHA/MiOSHA Bloodborne Pathogen Standards

## ➤ *Standard Precautions*

Wear gloves when your hands are likely to be in contact with blood or body fluids, mucous membranes, skin that has open cuts or sores, or contaminated items or surfaces.

Wear gloves whenever you are handling laboratory specimens and tubes of blood. Check to see that the specimen is sealed.

# BLOOD SPILLS

- Follow agency guidelines
- Close area from public access with yellow cones and floor tape
- Report to Purchasing and Facility Operations Technician for appropriate cleaning by janitorial services
- Wash your hands



# INFLUENZA

- Contagious respiratory viral infection
- Can be mild to severe, at times can lead to death
- 5% to 20% of population gets the flu
- More than 200,000 hospitalized
- About 36, 000 die
- Different strains of the flu
- H1N1 (Swine Flu) is one strain

# Swine Flu

- **Swine influenza** (also called **pig influenza**, **swine flu**, **hog flu** and **pig flu**) is an infection by any one of several types of swine influenza virus. **Swine influenza virus (SIV)** or **S-OIV (swine-origin influenza virus)** is any strain of the influenza family of viruses that is endemic in pigs.<sup>[2]</sup> As of 2009, the known SIV strains include influenza C and the subtypes of influenza A known as H1N1, H1N2, H3N1, H3N2, and H2N3.
- Swine influenza virus is common throughout pig populations worldwide. Transmission of the virus from pigs to humans is not common and does not always lead to human influenza, often resulting only in the production of antibodies in the blood. If transmission does cause human influenza, it is called zoonotic swine flu. People with regular exposure to pigs are at increased risk of swine flu infection. The meat of an infected animal poses no risk of infection when properly cooked.

# INFLUENZA PREVENTION

- **Period of communicability:** 1 day before symptoms appear and up to 5 days after
- **Yearly “Flu shot” or nasal spray flu vaccine**
- **When to get vaccinated:** September and throughout the flu season
- **Any questions about vaccine:** contact family doctor

# **TUBERCULOSIS**

- **Bacterial infection which affects lungs but can affect other parts of the body**
- **Symptoms**
- **Diagnosis**
- **Positive TB test**
- **Latent TB vs. Active TB**
- **Treatment**

# BLOOD BORNE PATHOGENS

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



# HEPATITIS B

- 2 billion infected worldwide
- 350 million chronic infections
- 2,000 – 4,000 deaths per year
- Can increase chances of other liver diseases
- Flu-like symptoms
- Transmission
- Treatment
- Prevention

# What is Hepatitis B?

- ▶ Hepatitis B is a potentially serious form of liver inflammation due to infection by the hepatitis B virus (HBV). It occurs in both rapidly developing (acute) and long-lasting (chronic) forms, and is one of the most common chronic infectious diseases worldwide. An effective vaccine is available that will prevent the disease in those who are later exposed.

## How is it contracted ?

- During birth, a mother with hepatitis B may pass HBV on to her infant.
- Contact with infected blood is a common means of transmitting hepatitis B. One way this may happen is by being stuck with a needle. Both health care workers and those who inject drugs into their veins are at risk in this way.
- Having sex with a person infected by HBV is an important risk factor (especially anal sex).

# Treatment of Hepatitis B

- In the past, there was no treatment available for hepatitis B. But developments have been made in recent years on drugs that suppress the virus and its symptoms.
- Rest in bed as needed
- Eat a healthy diet
- Avoid alcohol.
- Any non-critical surgery should be postponed.  
<http://medical-dictionary.thefreedictionary.com/hepatitis+B>

# HEPATITIS C

- 3.2 million with chronic infection in the United States
- 8,000 – 10,000 deaths per year
- Can increase chances of other liver diseases
- Flu-like symptoms
- Transmission
- Treatment
- Prevention

# What is hepatitis C?

- Hepatitis C is a disease caused by a virus that infects the liver. In time, it can lead to permanent liver damage as well as cirrhosis, liver cancer, and liver failure.

# You can get hepatitis C if:

- ▶ You share needles and other equipment used to inject illegal **drugs**. This is the most common way to get hepatitis C in the United States.
- ▶ You had a blood transfusion or organ transplant before 1992. As of 1992 in the United States, all donated blood and organs are screened for hepatitis C.
- ▶ You get a shot with a needle that has infected blood on it. This happens in some developing countries where they use needles more than once when giving shots.
- ▶ You get a tattoo or a piercing with a needle that has infected blood on it. This can happen if equipment isn't cleaned properly after it is used.

# What are the symptoms?

- Most people have no symptoms when they are first infected with the hepatitis C virus. If you do develop symptoms, they may include:
- Feeling very tired.
- Joint pain.
- Belly pain.
- Itchy skin.
- Sore muscles.
- Dark urine.
- Yellowish eyes and skin (jaundice). Jaundice usually appears only after other symptoms have started to go away.

## How is it treated?

- Antiviral medicine
- To help prevent further liver damage, patients should avoid alcohol and illegal drugs and certain medicines that can be hard on your liver.

# **HUMAN IMMUNODEFICIENCY VIRUS**

- Causes Acquired Immunodeficiency Syndrome (AIDS)
- New infection every 9 ½ minutes
- 1 million people in United States live with HIV/AIDS (1 in 5 do not know they have it)
- 14,000 deaths each year
- Transmission
- Treatment
- ABCs of prevention

# EXPOSURE INCIDENT

- If on skin: clean area with soap and water
- If in eyes or mouth: rinse with running water
- If a communicable disease during work activities
- If exposure at a work related event
- Report to Human Resources
- Concentra or another Occupational Health Center

# References

- Community Living Services (CLS) Direct Care Worker Training Material (2010)
- Detroit-Wayne County –Risk Management Department (2010)
- <http://medical-dictionary.thefreedictionary.com/hepatitis+B>
- <http://medical-dictionary.thefreedictionary.com/hepatitis+C>

# Acknowledgements

This training material was also developed with the collaboration of The D-WCCMHA Departments of (Evidence Based Medicine) Dr. Michelle Reid ,(Clinical & Programs) Sheila Hartley-Shippings, R.N, MSN/HCM, (Quality Management Division) Starlit R. Smith, LMSW, and staff in the Human Resource Department of New Center Community Mental Health Services (NCCMHS).