



**Emergency Preparedness
for the Healthcare Worker**

Every healthcare facility expects its staff to be prepared in the event of an emergency. The following information is designed to prepare The Nurse Agency employees according to OSHA guidelines for emergency situations, especially fire, hazardous chemicals and infection control.

Fire Safety

The prepared nurse should always check his/her assigned area before his/her shift begins. Make a mental note of the following: locations and type of **fire extinguishers**; locations and accessibility of **fire exits** and **fire doors**; and, locations and operating procedures of fire **alarms**.

If you hear a fire alarm, **report to your assigned area**. If patients are concerned, **calmly reassure** them that a plan is in operation. **Close doors and windows**. **Account for all patients**. Instruct visitors per the fire safety plan. **Authorized personnel** should **shut off equipment** per the safety plan. All personnel should **prepare for evacuation**.

If you see fire or smoke in a patient area, get help then:

- R** - - - **Rescue** anyone in immediate danger.
- A** - - - Activate the fire **alarm**.
- C** - - - **Contain** the fire by closing doors and windows.
- E** - - - **Extinguish** the fire if you are able.

Fire Extinguishers

There are three (3) **classes of fire**:

- A** - - - Ordinary combustibles: wood, cloth, paper, plastic
- B** - - - Flammable liquids
- C** - - - Live electrical

Extinguishers marked "A" extinguish with ordinary water, by cooling and smothering the fire. Type "A" extinguishers should NOT be used on flammable liquids or live electrical fires.

"BC" extinguishers can be either dry chemical or carbon dioxide extinguishers. These are for flammable liquid or electrical fires only. They should NOT be used for ordinary combustibles.

An "ABC" Multipurpose type of extinguisher is the most common found in the healthcare setting. It extinguishes using dry chemicals by smothering the fire and forming a fire retardant coating.

To operate a fire extinguisher, you should always read the directions first. Next, think "PASS."

P - - - Pull the locking pin.

A - - - Aim nozzle at the base of the fire.

S - - - Squeeze the handle.

S - - - Sweep from side to side.

Hazardous Chemicals

It is common sense to know the hazards of the chemicals with which you may come into contact. Though you may not see, smell or feel the presence of hazardous chemicals, you should be aware of basic hazards.

Flammable Chemicals

These chemicals give off flammable vapors even at room temperature. When vapors are heavier than air, they concentrate in low places. Then, even a spark or small flame can touch off a disastrous fire.

To control these flammable vapors:

1. Keep in a tightly closed, approved container.
2. Use only in ventilated areas, or outdoors.
3. Keep only small amounts on hand.
4. Clean up or report spills or leaks immediately.
5. Use approved waste disposal containers.
6. Wear required protection.
7. Keep in separate storage areas.
8. Control ignition sources; keep away from heat, sparks or flame.

Reactive Chemicals

Reactive chemicals are unstable! A violent chemical change can be set off by certain conditions, including heat, motion, water, decomposition, or mixing.

Toxic Chemicals

Toxic chemicals can poison internal organs, the nervous system or brain.

Corrosive Chemicals

Corrosive chemicals can destroy, irritate, or sensitize living cells. Exposure may occur immediately or over time. Entry may be through the eyes, nose, mouth, or contact with or through the skin.

Protect yourself by:

1. Equipment and controls
2. Safe work procedures
3. Personal protection equipment

Employers and employees share the responsibility of maintaining a safe work environment.

A - - - - B - - - - C - - - - D

A. Written Program

The written program shows how the "Haz Com" Standard works, and employee's right to know. It also includes an inventory of chemicals.

B. Material Safety Data Sheets

Material safety data sheets include:

1. Chemical identification: product name, manufacturer, chemical formula, severity
2. Hazardous ingredients: hazards, exposure limits
3. Physical Data: how it looks and acts
4. Fire - Explosion: temperature/concentration for ignition, fire fighting facts
5. Health Hazards: effects, symptoms, first aid
6. Reactive Data: causes for being unstable
7. Spill - Leak: how to clean up; disposal
8. Special Protection: personal protection equipment
9. Precautions: any other details

C. Labels

The labels on hazardous chemicals give you the "quick facts".

1. Manufacturer
2. Name of chemical
3. A "signal word", such as "DANGER" to tell you how serious
4. Type of hazard
5. Precautions to take for safe handling
6. May also include basics for first aid, spills, fire, storage, disposal

ALWAYS REPLACE A MISSING OR DAMAGED LABEL!

D. Training

To begin, employees should be informed of their right to know and have access to the written "Haz Com" program.

Employees should be informed:

1. Of chemical: health and physical hazards
2. How to detect chemical presence: appearance, odor, monitor, alarm
3. How to use labels and material safety data sheets
4. How to protect: by using controls and safety equipment; by using safe work procedures; by wearing personal protection equipment for each type of exposure
5. Emergency procedures: first aid if exposed; clean up if spills; waste disposal system

Infection Control

Infection control breaks the chain of transmission between the germ reservoir and the susceptible host. These procedures, known as "Universal Precautions," isolate body substances and other sources of infection.

Sources of infection

Sources of infection may be direct, indirect, droplets, contaminated food or water, air ventilation, or insects or parasites.

Depending on the type of germ, entry may be through the eyes, nose, mouth, non-intact skin, or other means.

Infection control procedures require some judgment. Types of germs and exposure can differ. Conditions may change your exposure.

Universal Precautions should be practiced with all patients!

Universal precautions include:

1. Handwashing: before and after each patient contact, after exposure, after glove removal, before and after each shift, before eating, after toilet, after blowing nose. Use proper washing techniques.

2. Needles: Dispose of needles and sharps into puncture resistant containers immediately after use. Prevent needle sticks; do not bend, remove or recap.

3. Germ Barriers: Wear gloves when likely to touch body substances, mucous membranes, or other potential contaminant.

Wear protective eyewear and mask if a procedure releases droplets into the air. Wear a gown or apron as needed if splashing or soiling of clothing is a risk.

4. Waste Disposal: Properly handle, bag and label infectious material before transport. Precautions vary, so follow local, state and federal policies.

5. Decontamination: Decontamination includes disinfecting and sterilizing. Clean up infectious spills immediately, wearing gloves; or report spills per policy.

6. Isolation: Be aware of isolation procedures for individual healthcare settings.

7. Ventilation: Negative air pressure exhausts airborne germs safely outside.

8. Immunization: Be aware of immunization requirements for healthcare settings. The Nurse Agency requires documentation for immunity to Rubella, Rubeola, Varicella, and Hepatitis B.

9. Education: Employees should be informed regarding infection control procedures for routine and high-risk conditions.

Tuberculosis

Tuberculosis, or "TB," is an infectious disease spread person to person through the air and into the lungs. Symptoms may include weakness, fatigue, fever, weight loss, night sweats, cough, bloody sputum and chest pain. It is a serious disease that can be fatal. Exposure to TB can occur when people are sharing the same breathing space as in crowded areas, families, group or homeless shelters, or healthcare settings. In the healthcare setting TB exposures may occur in "isolation" areas, during procedures

that cause coughing, during transport of a known or suspected TB case, or in cases that are undiagnosed such as in the emergency department.

If a patient is diagnosed with TB, he/she should be placed on isolation

to limit exposure, and given the prescribed treatment. If you are exposed to TB, you must have a PPD, or "TB Test" to determine if you have acquired the TB infection. If you have acquired the infection, a chest x-ray will determine if you have the disease. Medication can be provided to treat the TB infection, and a normal work schedule can be maintained if you are asymptomatic.

REMEMBER: TB IS PREVENTED BY INFECTION CONTROL AND TREATED WITH MEDICATION!

Bloodborne Infections

Hepatitis-B Virus (HBV) and Human Immunodeficiency Virus (HIV) are two bloodborne infections for which healthcare workers are at risk. It is important to know a few facts about these diseases to adequately protect yourself.

Hepatitis-B Virus

Hepatitis-B is a major occupational risk for healthcare workers. Your infection potential depends on exposure to contaminated blood and body fluids. Hepatitis-B is **not** transmitted by casual contact such as touching, shaking hands, or eating food prepared by infected individuals. It is **not** transmitted from drinking fountains, telephones or other surfaces. Hepatitis-B may have no symptoms, or may have flu-like symptoms: nausea, vomiting, fatigue, fever, muscle aches, diarrhea, jaundice. Hepatitis-B may develop cirrhosis or liver cancer.

It is easy for healthcare workers to protect themselves from Hepatitis-B with an immunization. The Hepatitis-B immunization is a three-part IM injection that is not required for healthcare workers, but is strongly recommended.

Human Immunodeficiency Virus

HIV weakens the body's defense against infections which can result in the life-threatening illness AIDS. HIV is **NOT**

transmitted through casual contact. The healthcare worker is at risk because HIV is transmitted by direct contact with infected blood or body fluids.

Symptoms of AIDS may include swollen lymph glands, night sweats,

fever, weight loss, diarrhea, fatigue, or white spots in the mouth. An individual with a weakened immune system is prone to infections such as Pneumocystis carinii pneumonia and Kaposi sarcoma skin cancer. Currently, there is no immunization that can prevent AIDS. The only option for controlling HIV is prevention.

The best prevention for both HIV and Hepatitis-B is "Universal Precautions."

Following is a review of "Universal Precautions."

Personal Protection Equipment

Personal protection equipment prevents exposure through the eyes, nose, mouth and non-intact skin.

1. Gloves: Used when you are likely to touch body fluids. Change after each patient contact. Use disposable exam/surgical gloves. Gloves are required for phlebotomy. Housekeeping gloves may be reused if intact and properly cleaned.
2. Protective Eyewear and Mask: Used if likely to have blood or body fluid droplets in the air.
3. Gown: Used if body fluids are likely to splash or soil clothes.
4. Resuscitation equipment: Used to avoid mouth-to-mouth contact.

THE PERSONAL PROTECTION EQUIPMENT USED WILL REQUIRE SOME JUDGMENT FOR EXPOSURE RISK FOR EACH CLINICAL SITUATION.

Infectious Waste and Linen

Before transport, bag and label for disposal or decontamination per the hospital's policy and procedure. This should include the infection warning: "Biohazard."

Instrument Care

Proper instrument care prevents infection through cuts, punctures and non-intact skin.

1. DO NOT recap, bend, break or remove needles.
2. USE CAUTION when using, cleaning or disposing of sharps or instruments.
3. Place all disposable needle-syringe units and sharps into APPROVED PUNCTURE-RESISTANT CONTAINERS immediately after use.
4. If a bloodborne cut or puncture incident occurs, REPORT FOR TREATMENT immediately and comply with follow-up procedures.

Handwashing

Handwashing must be:

1. Immediate and thorough
2. Before and after each patient contact
3. After exposure to contamination

Wash other skin surfaces if exposed to infected body fluids.

Disinfecting

Clean up and disinfect spills immediately, per hospital policy.

Name _____

Date _____

OSHA Exam for Emergency Preparedness

1. The prepared nurse should always check his/her assigned area for
which of the following?
 - A. Fire extinguishers
 - B. Fire exits
 - C. Fire doors
 - D. Fire alarms
 - E. All of the above

2. RACE is an acronym for which of the following?
 - A. Rescue, Alarm, Contain, Exit
 - B. Reassure, Account for patients, Close doors, Exit
 - C. Rescue, Alarm, Contain, Extinguish
 - D. Reassure, Alarm, Contain, Extinguish

3. Which of the following is the most common type of fire extinguisher found in the healthcare setting?
 - A. Type "A"
 - B. Type "BC"
 - C. "ABC" Multipurpose

4. To operate a fire extinguisher, read the directions, then think
"PASS," which means:
 - A. Pull, Aim, Squeeze, Sit down
 - B. Pin, Aim, Shout, Squeeze
 - C. Point, Alarm, Shout, Sweep
 - D. Pull, Aim, Squeeze, Sweep

Match the following hazardous chemicals with their description.

5. Flammable Chemicals A. Can destroy, irritate, or sensitize living cells

6. Reactive Chemicals B. Give off flammable vapors even at room temperature

7. Toxic Chemicals C. Can poison internal organs, the nervous system or brain
8. Corrosive Chemicals D. Are unstable. A violent chemical change can be set off by certain conditions.
9. Labels on chemicals give you the "quick facts" about the chemicals and should be replaced if missing or damaged.
 A. True
 B. False
10. Infection control does which of the following?
 A. Breaks the chain of transmission
 B. Helps to isolate sources of infection
 C. Prevents unnecessary communicable diseases
 D. All of the above
11. Tuberculosis is an infectious disease spread person to person through the air and into the lungs. Check which of the following may be symptoms of Tuberculosis.
- Weakness
 Weight loss
 Night sweats
 Cough
 Vomiting
 Bloody Sputum
 Diarrhea
12. TB is prevented by infection control and treated with medication.
 A. True
 B. False
13. Which of the following statements is true about Hepatitis-B?
 A. HBV is not a bloodborne infection.
 B. HBV can be transmitted through casual contact.
 C. HBV is a major occupational risk for healthcare workers.
 D. HBV is not preventable with an immunization.
14. Which of the following statements is true about Human Immunodeficiency Virus?
 A. HIV is not transmitted through casual contact.

- B. HIV can result in the life-threatening illness AIDS.
 - C. There is no immunization that can prevent HIV.
 - D. All of the above.
15. Which of the following is not listed as Personal Protection Equipment?
- A. Gown
 - B. Protective eyewear
 - C. Gloves
 - D. Protective headgear
 - E. Resuscitation equipment
16. Which of the following is true about handwashing?
- A. Must be immediate and thorough
 - B. Must occur before and after each patient contact
 - C. Must occur after exposure to contamination
 - D. All of the above
17. To avoid needle stick injuries:
- A. Remove needle from syringe and discard
 - B. Recap needles after injections and carry in pocket to approved receptacle
 - C. Dispose of needles in waste disposal bags
 - D. Do not recap, bend, break or recap needles
18. If body fluid droplets are in the air:
- A. Wear protective eyewear
 - B. Wear a mask
 - C. Wear a mask and eyewear
 - D. Leave the room
19. Gloves should be worn:
- A. For phlebotomy, but only if they don't interfere with the blood draw
 - B. When you are likely to touch body fluids
 - C. Whenever going near a patient with a known infection
 - D. At your discretion
20. Universal Precautions should be observed:
- A. With all patients
 - B. Only with patients with known infections
 - C. Only when ordered by a physician
 - D. Only with patients with HBV and HIV