



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. Please familiarize yourself with A, B, C and D below at every facility at which you staff:

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:

- *Handwashing:* before and after each patient contact, after exposure, after glove removal (or removal of other personal protective equipment), before and after each shift, before eating, after toilet, after blowing nose. Make sure to use proper washing techniques (see below for CDC Guidelines for hand hygiene in healthcare settings).
- *Needles:* Dispose of needles and sharps into puncture resistant containers immediately after use. Prevent needle sticks; do not bend, remove or recap.
- *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.
- *Waste Disposal:* Properly handle, bag and label infectious material before transport. Precautions vary, so follow local, state and federal policies.
- *Decontamination:* Decontamination includes disinfecting and sterilizing. Clean up infectious spills immediately, wearing gloves; or report spills per policy.
- *Isolation:* Be aware of isolation procedures for individual healthcare settings.

- *Ventilation:* Negative air pressure exhausts airborne germs safely outside.
- *Immunization:* Be aware of immunization requirements for healthcare settings. The Nurse Agency requires documentation for immunity to Rubella, Rubeola, Mumps, Varicella, and Hepatitis B.
- *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 and 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.
Changed after each patient contact.
Must be disposable exam/surgical 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

The Centers for Disease Control has issued recommendations for handwashing in the clinical setting.

1. Indications for handwashing and hand antisepsis:
 - A. When hands are visibly dirty or contaminated with proteinaceous material or are visibly soiled with blood or other body fluids, wash hands with either a non-antimicrobial soap and water or an antimicrobial soap and water (IA) (66).
 - B. If hands are not visibly soiled, use an alcohol-based hand rub for routinely decontaminating hands in all other clinical situations described in items 1C--J (IA) (74,93,166,169,283,294,312,398). Alternatively, wash hands with an antimicrobial soap and water in all clinical situations described in items 1C--J (IB) (69-71,74).
 - C. Decontaminate hands before having direct contact with patients (IB) (68,400).
 - D. Decontaminate hands before donning sterile gloves when inserting a central intravascular catheter (IB) (401,402).
 - E. Decontaminate hands before inserting indwelling urinary catheters, peripheral vascular catheters, or other invasive devices that do not require a surgical procedure (IB) (25,403).

- F. Decontaminate hands after contact with a patient's intact skin (e.g., when taking a pulse or blood pressure, and lifting a patient) (IB) (25,45,48,68).
- G. Decontaminate hands after contact with body fluids or excretions, mucous membranes, nonintact skin, and wound dressings if hands are not visibly soiled (IA) (400).
- H. Decontaminate hands if moving from a contaminated-body site to a clean-body site during patient care (II) (25,53).
- I. Decontaminate hands after contact with inanimate objects (including medical equipment) in the immediate vicinity of the patient (II) (46,53,54).
- J. Decontaminate hands after removing gloves (IB) (50,58,321).
- K. Before eating and after using a restroom, wash hands with a non-antimicrobial soap and water or with an antimicrobial soap and water (IB) (404-409).
- L. Antimicrobial-impregnated wipes (i.e., towelettes) may be considered as an alternative to washing hands with non-antimicrobial soap and water. Because they are not as effective as alcohol-based hand rubs or washing hands with an antimicrobial soap and water for reducing bacterial counts on the hands of HCWs, they are not a substitute for using an alcohol-based hand rub or antimicrobial soap (IB) (160,161).
- M. Wash hands with non-antimicrobial soap and water or with antimicrobial soap and water if exposure to *Bacillus anthracis* is suspected or proven. The physical action of washing and rinsing hands under such circumstances is recommended because alcohols, chlorhexidine, iodophors, and other antiseptic agents have poor activity against spores (II) (120,172, 224,225).
- N. No recommendation can be made regarding the routine use of nonalcohol-based hand rubs for hand hygiene in health-care settings. Unresolved issue.

See <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5116a1.htm> for further information.

Disinfecting

Clean up and disinfect spills immediately, per hospital policy.