

## **M10-EN.6 LABORATORY – MORGUE**

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### **M10-EN.6.1 LABORATORY**

#### **M10-EN.6.1.1 Blood borne Pathogens**

Laboratory employees are exposed to blood borne pathogens during the handling of contaminated samples such as blood, body fluids.

#### **Safety Precautions**

- Wear appropriate PPE. Gloves are essential because of the possible hand contact with blood, mucous membranes, OPIM, or non-intact skin, or during the handling of contaminated items or surfaces (**M10.6.1.jpg**)
- Use of biological safety cabinets or other appropriate combinations of personal protection or physical containment devices, such as special protective clothing, respirators, centrifuge safety cups, sealed centrifuge rotors, etc
- Use appropriate sinks for washing hands and a readily available eye wash facility. The sinks must be foot, elbow, or automatically operated and must be located near the exit door of the laboratory

#### **M10-EN.6.1.2 Tuberculosis (TB)**

Laboratory employees can be exposed to Tuberculosis from their work with specimens such as acid fast bacilli smears. Other fluids that may be possible sources of TB are sputum, cerebrospinal fluid urine, and fluids collected from gastric or bronchial lavage.

#### **Safety Precautions**

- Treat all cultures or specimens that are possible to contain TB bacilli in such a way to ensure the containment of the organism
- Use biological safety cabinets during work with infectious materials with a possibility of aerosolizing

- Control access to the laboratory and waiting room, as well and have sealed windows
- Have a directional airflow, in order to prevent recirculation of laboratory exhaust air. A filtration of exhaust air must exist, before its discharge outside

### M10-EN.6.1.3 Hazardous Chemicals

Hazardous chemicals can be found in many departments of a health care facility, not only in the laboratory department. The types of these chemicals are given below:

All laboratory personnel must be provided with proper training, warning labels and access to Material Safety Data Sheets (MSDSs) for every chemical they use.

<b>Chemical</b>	<b>Use</b>	<b>Acute effects</b>	<b>Chronic effects</b>
<b>Formaldehyde</b>	As a fixative. Found usually in laboratories and morgues	Irritation of eyes and the respiratory system (from liquid and vapour forms).  Ingestion of large amounts can cause severe abdominal pains, nausea, vomiting and possible loss of consciousness.	Inhalation of vapour (high concentration) for long periods can cause laryngitis, bronchitis, bronchial pneumonia.  Conjunctivitis can occur from prolonged exposure. Formaldehyde is a suspected carcinogen
<b>Toluene and Xylene,</b>	As solvents for fixing tissue specimens and rinsing stains in histology, haematology, microbiology, and cytology laboratories.	Eye and respiratory irritation (from the liquid and vapour forms). Severe abdominal pains, nausea, vomiting.  Ingestion of large quantities might cause loss of consciousness.	High concentration of vapour inhaled for long periods can cause laryngitis, bronchitis or bronchial pneumonia. Prolonged exposure can cause conjunctivitis
<b>Acryl Amide</b>	Acryl amide is a resin, found in research laboratories, used to make gels for biochemical separations.	Irritation of the eyes and the skin	Disorders of the central nervous system.  It is a suspected carcinogen/mutagen
<p><b>Safety Precautions</b></p> <p>Employers must provide appropriate PPE, such as gloves, masks, goggles, etc, as well and eyewash facilities within the immediate work area for emergency use.</p>			

#### **10-EN.6.1.4 Ergonomics**

Laboratory personnel are exposed to static postures because of the extended periods of sitting or standing, or repetitive motions while sorting samples.

##### **Safety Precautions**

- Use of automated tract delivery systems for specimen processing to minimize employee's reaching and repetitive motions
- Use of supportive comfortable chairs with foot rests
- Rotate tasks for minimising the amount of time spent on them

#### **M10-EN.6.1.5 Needle Stick or Sharps Injuries**

In a laboratory, employees can be exposed to blood borne pathogens from needle stick injuries or cuts from sharp objects when working with specimens, centrifuge tubes or overfilled sharps containers.

##### **Safety Precautions**

- Use safer needle devices to avoid the possibility of injury due to needle sticks
- Use needles and syringes with extreme caution. A needle must never be bent, sheared, replaced in the sheath or guard, or removed from the syringe following use. The needle and syringe must be correctly placed in a puncture-resistant container and autoclaved or decontaminated before reuse or disposal
- Use hypodermic needles and syringes only for parenteral injection and aspiration of diaphragm bottles
- Use needle-locking syringes or disposable syringe-needle units for the injection or aspiration of other potentially infectious materials
- Discard contaminated sharps immediately or as soon as possible into appropriate containers and replace these containers on a regular basis, to avoid overfilling (M10.6.2.jpg)

#### **M10-EN.6.1.6 Latex Allergy**

Laboratory employees must wear protective gloves; therefore they are exposed to latex allergies. More information was given in previous chapters.

#### **M10-EN.6.1.7 Slips/Trips/Falls**

In a laboratory the personnel is often exposed to trips and falls if fluids or samples fall to the floor (Link: M10-EN.3.7).

#### **M10-EN.6.1.8 Work Practices and Behaviours**

Very often poor work practices and behaviours can cause the exposure of laboratory personnel to hazardous chemicals and diseases, (e.g. scratching nose or chewing pencils or pens during work with hazardous samples).

### **Safety Precautions**

- Use double glove so that the outer glove can be removed if the employee needs, for example, to answer a phone and then replaced with a new glove when ready to return back to work
- Never use mouth pipetting/suctioning of blood or other potentially infectious materials
- Never eat, drink, smoke, apply cosmetics or handle contact lenses in laboratories
- Never store food or drink in refrigerators, freezers, shelves, cabinets or on countertops where blood or OPIM are present

### **M10-EN.6.2 MORGUE**

Those working in the morgue, are exposed to infectious diseases and agents, (e.g. staphylococcus, tuberculosis, HIV, etc), and chemicals such as formaldehyde, because of their contact with cadavers.

### **Safety Precautions**

- Wear appropriate PPE, such as gloves, goggles, gowns, etc. In case of possible blood exposure, additional PPE may be required, especially during autopsies. This additional protective equipment can be surgical caps or hoods and/or shoe covers or boots (when gross contamination is possible)
- Use shields or splatters' guards (such as Plexiglas); if splash hazards are possible to happen

Employers should:

- Provide appropriate ventilation systems (e.g. downdraft tables that capture the air around the cadaver)
- Install local vacuum systems for power saws should be placed in the morgue