Safety and biosecurity

Lecture.9

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Issuing instructions and legislation laws when needed

There are general instructions in the occupational safety literature that can be used in controlling work risks, but each institution maintains the privacy of its work, so it is the responsibility of a department, unit or occupational safety committee to issue instructions for work as well as to legislate laws that would reduce work accidents.

The media role

The media side has a special importance in reducing accidents and controlling work risks by raising awareness among workers and clarifying the danger of work and how to prevent risks. Among the most important methods adopted for this are: -

1- Signs and stickers.

2- Holding seminars.

3- Establishing workshops.

4- Issuing awareness brochures.

5- Audio and video means

Proper storage

Many accidents happen as a result of poor storage in the laboratories so it's a duty attention to providing suitable storage conditions:

1- The materials shall be stored in places prepared for storage.

2- All appropriate conditions are taken into consideration for each article.

3- Not to store the dangerous materials with regular and traded materials.

4- Not to store dangerous materials with food.

Biological Agent:

• The number of microorganisms required to initiate infection

Q fever 10 organisms by inhalation

E. coli 108 organisms by ingestion

Malaria 10 organisms by IV injection

Blood borne Pathogens

Blood borne pathogens are present in human blood and may cause chronic disease or death in people who are exposed. These pathogens are most often spread through contact with infected blood, semen and vaginal secretions, torn or loose skin, or body fluids. The most common blood borne pathogens are: Hepatitis B Virus (HBV), Hepatitis C Virus (HCV), Human Immuno deficiency Virus (HIV).

Laboratory Hygiene

DO NOT:

• Eat

• Drink

• Smoke

• Apply cosmetics

(Including lip balm)

• Handle contact lenses

• Store food or drink in lab refrigerators

• Wear open-toed shoes

- **Hand Washing**

1. Wash hands immediately after removing PPE (personal protective equipment).
2. Use a soft soap.

3. A hand sanitizer can be used but wash with soap and water as soon as possible.

- **Personal Protective Equipment** (**PPE)**

1. PPE can become an important line of defence (last line of defence).
2. USE proper PPE.

Decontamination

Generally, for disinfection rather than sterilization

Choice depends on;

Type of material to be disinfected

Organic load

Chemical characteristics

Most common are chlorine compounds and alcohols (broad range)

Ex: 2% or 10% domestic bleach, 75% Ethanol, Phenolic compounds