Biosafty disposable

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BE
NICE
OR
GO
AWAY

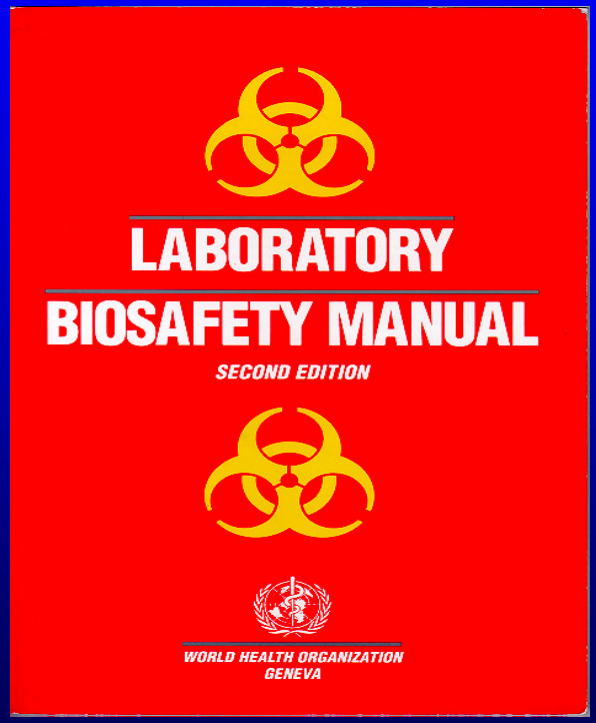
“Guidelines”

Does not mean “optional”


World Health Organization

Laboratory Biosafety

The Laboratory Biosafety Manual is an important WHO publication used worldwide

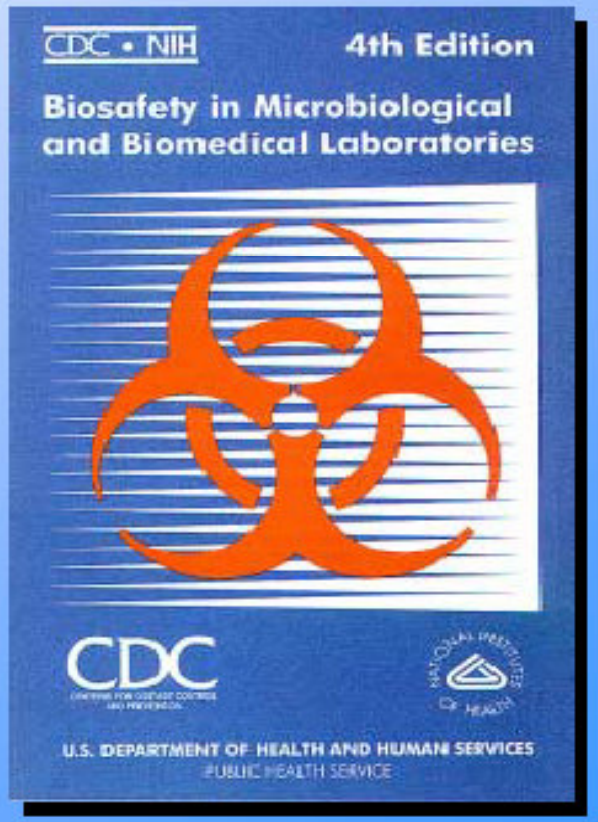


Principles

Definition

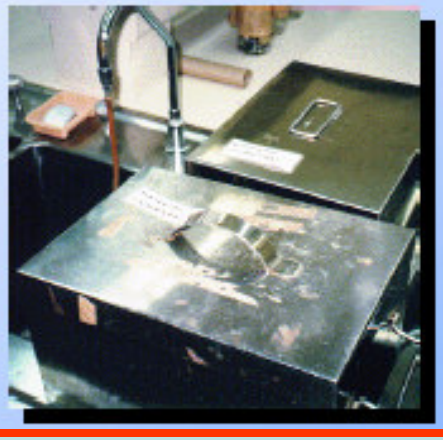
Biosafety

The application of combinations of laboratory practice and procedure, laboratory facilities, and safety equipment when working with potentially infectious microorganisms.



Biological Waste

- **Disposal**
  - *puncture-proof, leak-proof, sealable receptacles*
  - *avoid over-filling*
  - *dispose properly*



Biological Waste

Types

- Cultures, stocks, isolates
- Materials containing or contaminated with blood
- Sharps
- Pipettes, tips
- All contaminated materials used in the lab

Types of Infectious Waste

- Cultures of microorganisms & biological
- Human blood and blood products
- All contaminated sharps
- Pathological wastes
- Contaminated animal carcasses, body parts, bedding and related wastes
- Cleanup materials from an infectious medical waste spill
- Waste contaminated by, or mixed with, infectious medical waste

Items Requiring Disposal

- Disposable needles and syringes*
- Disposable or non-reusable protective clothing*

- Disposable or non-reusable gloves
- Used laboratory supplies*
- Used disinfectants

* *Incineration recommended*

Waste Disposal

- **Separate liquid and solid waste**
- **Most glassware, instruments and**
- **laboratory clothing will be reused or recycled**
- **decontaminated, autoclaved or incinerated.**

Biohazardous Waste

- Will comprise most of our waste
- Most routine items (**pipets, pipet tips, microfuge tubes, loops, spreaders, agar plates, etc**) will be solid biohazardous waste
  - packaged in an approved manner

- Gels should be disposed of in the special black container dedicated to gels (ethidium bromide)
  - **Other waste should not be placed here.**
- Liquid biohazardous waste (cultures) must be decontaminated prior to disposal
  - **Shake flasks, large numbers of tube cultures, etc.**
  - **10% bleach**
  - **Autoclaving**
- Decontaminated waste can be sewered (disposed of in the sink).

Chemical Waste

Separate basic, acidic, organic, and oxidizing liquid waste

- Liquid waste containers kept in the fume hood.

Four Chemical Waste Containers

- **Alkaline Aqueous Waste**
- **Acidic Aqueous Waste**
- **Organic Waste**
- **Oxidizer Waste**

Sharps Waste

- Big red buckets in lab for large sharps
  - Next to biosafety cabinets
  - Should mostly be pipets (long plastic ones, tips), syringes
- Non-sharps should go in biohazard cans
- Non-hazardous material (e.g. paper towels, printer paper, clean pipet wrappers) should go in standard bins

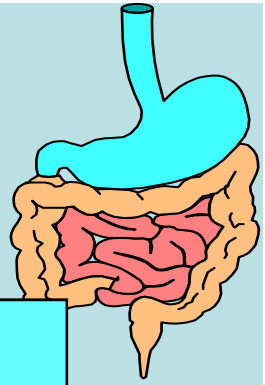
Sharps

- Any article that can puncture or cut
- If sharps have been used in patient care or treatment OR used to handle or deliver infectious agents, must be placed in a "Biohazard" labeled sharps box or broken glass container
- Sharps boxes & containers will be autoclaved
- Examples: pipette tips, glass Pasteur pipettes, needles, syringes, scalpel blades, razors, forceps

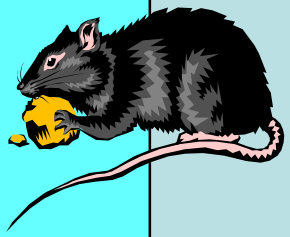
Dispose sharp material in bio-hazard sharps containers

- If no sharps container: improvise one and collect sharps immediately to prevent needle-stick injury

Pathological Waste



- Includes: tissues, organs, body parts, and containers of body fluids
- All pathological waste should be packaged by the investigator and autoclaved



Animal Waste

- Contaminated animal carcasses, body parts, animal bedding known to have been exposed to infectious agents during research

Specimen Disposal

Infectious Medical Waste Management Plan

- Handling of infectious waste
  - Packaging
  - Transportation
  - Sterilization
  - Storage and disposal

Disposal of Potentially Hazardous Waste

- Chemical Disinfection
- Autoclave

Decontamination

- Sterilization
- Disinfection

Disinfection

- Aim for total destruction of target organism
  - Autoclave sterilization
  - Bleach - effective against microbial agents of diseases at a concentration of 0.1 percent
  - Detergents
  - Alcohol (70%)

Infectious Waste Packaging Rules

1. Orange biohazard bags must be used for infectious waste, clear and red bags are not acceptable
2. Waste collection containers and bags must be double-bagged
3. Do not fill them more than 2/3 full
4. Loosely gather the top of the bag and place a strip of autoclave tape around it, do not tie the bags closed. Steam must be able to enter the bag.

5- Bags, flasks, and other containers of infectious material must be labeled with primary investigator's name, room number, phone number, and the contents.

6- Labs must have separate containers for contaminated and uncontaminated glassware

7- Contaminated pipette tips can easily puncture plastic bags. They must be collected in a sharps box, or in an orange bag, the bag put into a cardboard box, then placed into a biohazard waste collection container

Sterilization of Infectious Waste

- Infectious waste must be autoclaved for 90 minutes.
- Sterilized reusable items (glassware, etc.) are washed and reused or autoclaved

Biohazard (Clinical) Waste

- **Requirements**
  - Segregation
  - Identification
  - Packaging
    - Yellow bags
    - Label source - dept name tape
    - 3/4 full max.
    - Seal - tie, knot, proprietary clip.
  - Remove to secure collection point
  - Final Disposal - Incineration
  - Infective wastes - autoclave first

Biohazardous Waste Containers

- Biohazardous waste containers shall be
- clearly marked with the universal biohazard symbol

Disposal Safety Precautions

- Use safe handling practices for infectious material
- Locate disposal site on health facility grounds, away from traffic flow and public view
- Maintain disposal site security by roping off, posting signs, and stationing a guard
- Do not leave unburned waste in an incinerator or pit

Final Notes

- To be safe, you must be aware of your surroundings.
- Assume any new chemical is unsafe until you find out otherwise.
- Assume any material to be discarded is hazardous unless you know otherwise.


Thank you