

Laboratory Safety



**HOW WELL ARE YOU PROTECTING YOUR
EMPLOYEES?**

Outline



- **Laboratory Acquired Infections**
- **Preventive Measures**
 - Documentation
 - Training
 - Environmental
 - Biological Safety Cabinets
- **Questions**

Laboratory Acquired Infections



- **Affects around 40% of laboratory workers**
- **Infections**
 - Vaccinia Virus
 - Q fever
 - Brucellosis
 - Psittacosis
 - Histoplasmosis
 - Typhus
 - Venezuelan equine encephalitis



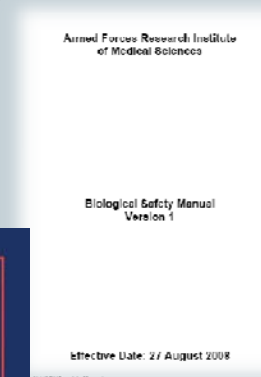
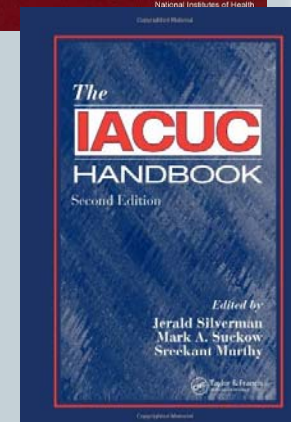
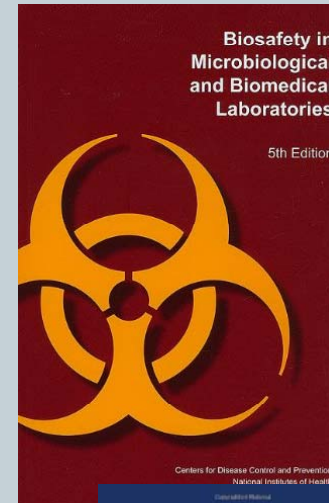
Preventive Measures



- **Documentation**
- **Environmental**
- **Training**

Documentation

- **Regulatory Manuals**
 - Governmental rules of what must be followed
- **Policies**
- **SOP's**
 - Gives the process, step-by-step
- **Incident Review**
 - Meetings
 - Reports
 - Records



Environmental



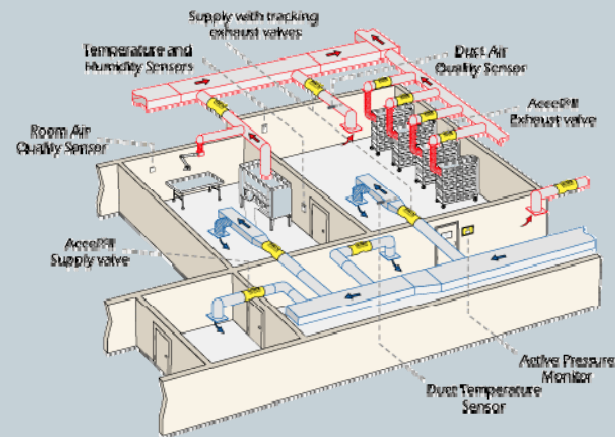
- **Technique**
 - Laboratory Design
 - Engineering Controls
 - Personal
 - Proper Decontamination



Laboratory Design



- Ensure areas have proper ventilation
- Area should be free of obstruction
- Ensure proper flow of work



Engineering Controls

- **Proper**
 - Safety Equipment
 - Facility
 - Techniques
- **Emergency Shower and Eyewash**
 - Emergency shower and eyewash are forms of first aid equipment to be used in the event of an accident
 - ✦ Must be regularly maintained (activated) to ensure that is in working order and inspected for compliance with standards
 - Activated Weekly
 - Inspected Annually



Personal Protection

- **Personal Protection Equipment (PPE)**

- Know what to wear for specific job

- ✦ Gloves
- ✦ Gown
- ✦ Respirator
- ✦ Eyewear

- **Hand Washing Technique**

- 20 seconds normally with soapy water
- 15 minutes with soapy water in case of accidents or spills



Proper Decontamination

- **Standard Disinfection**
 - 0.5% Household Bleach
 - 70% Alcohol
 - ✦ Saturate 30 minutes
- **Emergency Disinfection**
 - Clear Area
 - Use PPE and Spill kit



Training

- Train all personnel upon hiring and then annually to ensure safe practices are being used
 - Hazard Communication
 - MSDS
 - Task Specific
 - ✦ Training (SOP)
 - ✦ Vaccinations
 - ✦ TB Screening
 - ✦ Fit Testing



Biological Safety Cabinets



- **Biosafety Cabinets**

- **Daily Use**

- ✦ **Disinfection**

- **Maintenance**

- ✦ **HEPA Filters**

- **Certification**

- ✦ **Annually**



NOT Biological Safety Cabinets

Leaked filter due to installation or delivery. The filter guard was collapsed and damaged the HEPA filter. The vender installed the leaked filter for user. The vender use cable tire to elevate the filter



BSC II A2 looked-like



Questions



References



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