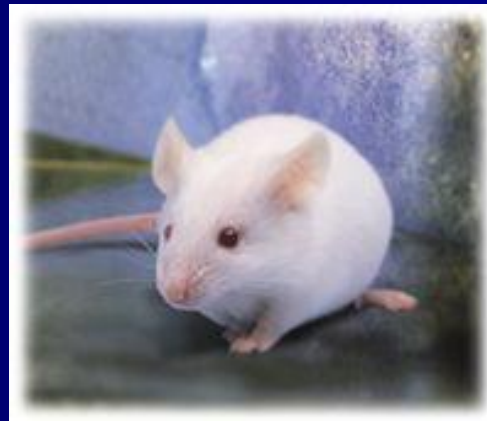
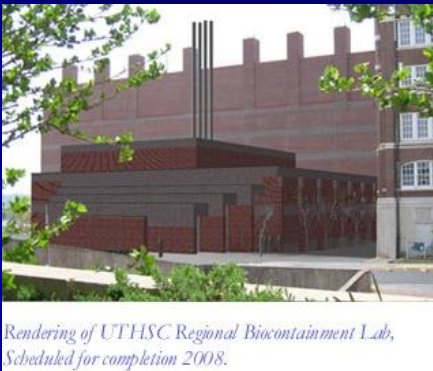


Working Safely With Animals in Containment

Hazards and Containment Considerations

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Hazard Identification in Animal Biocontainment Facilities

Daily Operation
Research Protocols
Personnel

Working Safely With Animals in Containment

Facilities

Engineering Controls

PPE

Practices and Procedures

Occupational Health

Animal Care Challenge in Containment



Training

Training

Biosafety Training

Species Specific

Husbandry

Handling and Restraint

Biomethodology

Training

Equipment

Cage Handling

Facility Operation

Animal Biosafety Level 3

Properly maintained BSCs, and other physical containment devices or equipment, should be used for all manipulations for infectious materials and when possible, animals. These manipulations include necropsy, harvesting of tissues or fluids from infected animals or eggs, and intranasal inoculation of animals.

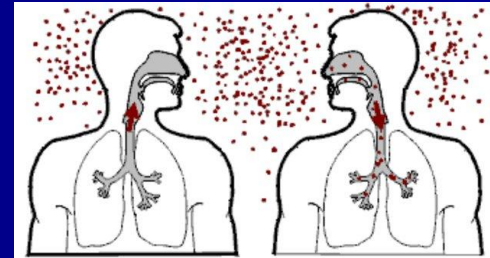


Animal Biocontainment Hazards

- Splashes and mists



- Aerosol



- Release of fluids



Animal Care Hazards

- Skin puncture or cut
- Direct contact with contaminated body fluids and tissues



Sharps in Containment

- Scalpel
- Needles
- Scissors
- Pipette Tips
- Glass
- Blades



Animal Biosafety Level 3

- When impractical to work in BSC, personal protective equipment is the primary barrier between personnel and the infectious materials.
- Examples include certain animal studies, animal necropsy, agent production activities, and activities relating to maintenance, service, or support of the laboratory facility.



PPE

- Appropriate for ABSL3
- Double Glove
- N95 respirator
- Goggles or face shield



Assessment of Risk

- What is the hazard?
- Why is it a hazard or a potential hazard?
- What is the risk of personnel exposure to the hazard?
- What conditions will exist or procedures will be performed that will cause human exposure?

Risk Assessment of Research Animal Protocols

- Is it aerosolized?
- Is it excreted?
- Bedding, cage hazardous?
- On skin or fur of animal?
- Animal tissues/body fluids hazardous?
- Feed or feeder?
- Water or bottle?

Experimental Hazards

- Expose Animal to Experimental Agent
 - Oral
 - Injection
 - Topical
 - Inhalation



Practices and Procedures

- Animal Manipulations
- Husbandry/Cage Change
- Empty Soiled Bedding
- Disposal of Soiled Bedding



Identification of Hazards by Functional Areas

- Cage wash
- Animal Rooms
- Surgery, Treatment, and Procedure Rooms
- Special Procedure Areas

Animal Rooms

- Animal
- Experimental Agent
- Sanitizing and Disinfecting Agents



Cages wash

- Soiled cages
- Empty soiled bedding and autoclave
- Autoclave and empty soiled bedding
- Rinse/pre-treat, pre-clean



Necropsy

- Sharps
- Splashes
- Chemicals
- Aerosols



Carcass Disposal

- Autoclave
- Incineration
- Tissue Digester



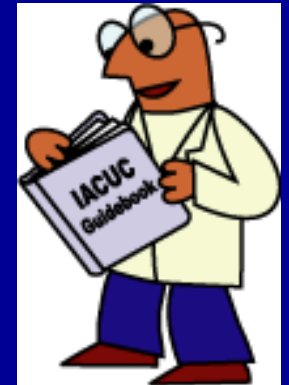
Animal Subjects

- Rodents
 - Allergens
 - Dander
 - Saliva
 - Urinary Proteins
 - Zoonotic Agents
 - LCMV
 - Bites, Scratches



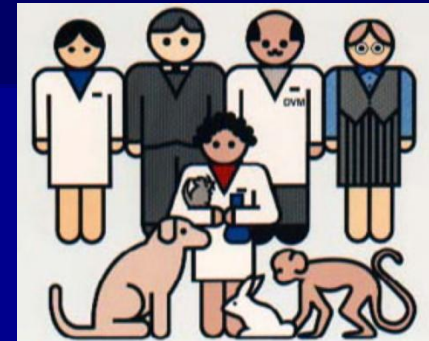
Control of Personnel Exposure

- Physical Controls
- Administrative Controls
- Identification of Personnel at Risk



Administrative Controls

- Identify Personnel At Risk
 - IACUC Protocol
 - Animal Care Personnel
 - Others
- Authorized Access
- Required Occupational Health Enrollment
- Required Training



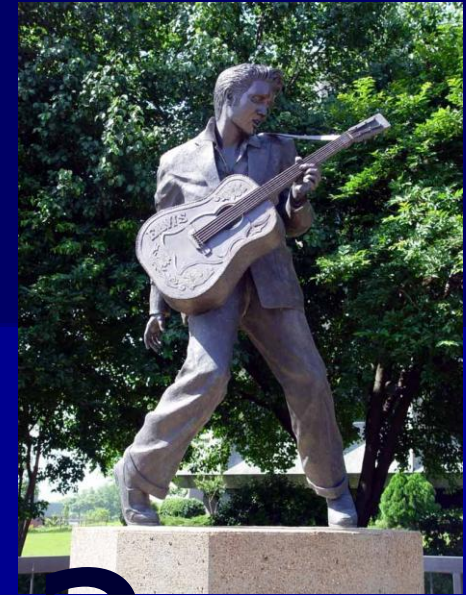
Risk Assessment of Personnel

- Who is exposed?
- Who will enter animal facility?
- Who will enter animal room?
- Who will have direct exposure to animals?
- Who will have direct exposure to soiled cages, bedding, waste, tissues or fluids?

Occupational Health

- Risk Assessment
 - Exposure
 - Frequency
 - Duration
- Medical Monitoring
- Immunizations





Questions?

