



Guide to Biosafety at Vanderbilt

Laboratory Security of Biological Materials

The following are excerpted from guidelines developed by the Centers for Disease Control and Prevention (CDC) to address laboratory security for laboratories using biological agents or toxins capable of causing serious or fatal illness to humans or animals.

Vanderbilt Environmental Health and Safety (VEHS), through the Biosafety Program, will assist Vanderbilt researchers in the development of appropriate lab-specific biosecurity protocols and will advise research personnel of institution-wide policies and procedures related to biosecurity.

Recognize that laboratory security is related to but different than laboratory safety.

- Involve both safety and security experts in evaluation and development of recommendations for a given facility or laboratory.
- Review safety policies and procedures regularly. Management should review policies to ensure that they are adequate for current conditions and consistent with other facility-wide policies and procedures.
- Laboratory supervisors should ensure that all laboratory workers and visitors understand security requirements and are trained and equipped to follow established procedures.
- Review safety policies and procedures whenever an incident occurs or a new threat is identified.

Control access to areas where biologic agents or toxins are used and stored.

- Laboratories and animal care areas should be separate from the public areas of the buildings in which they are located.
- Laboratory and animal care areas should be locked at all times.
- Card-keys or similar devices should be used to permit entry to laboratory and animal care areas.
- All entries (including entries by visitors, maintenance workers, repairmen and others needing one-time or occasional entry) should be recorded, either by the card-key device (preferable) or by signature in a log book.

- Only workers required to perform a job should be allowed in laboratory areas, and workers should be allowed only in areas and at hours required to perform their particular job.
- Access for students, visiting scientists, etc., should be limited to hours when regular employees are present.
- Access for routine cleaning, maintenance, and repairs should be limited to hours when regular employees are present.
- Freezers, refrigerators, cabinets, and other containers where stocks of biological agents, hazardous chemicals, or radioactive materials are stored should be locked when they are not in direct view of workers (e.g., when located in unattended storage areas).

Know who is in the laboratory area.

- All workers should be known to facility administrators and laboratory directors. Depending on the biological agents involved and the type of work being done, a background check and/or security clearance may be appropriate before new employees are assigned to the laboratory area.
- All workers (including students, visiting scientists, and other short-term workers) should wear visible identification badges. Identification badges should include, at a minimum, a photograph, the wearer's name, and an expiration date.
- Guests should be issued identification badges, and escorted or cleared for entry using the same procedures as for regular workers.

Know what materials are being brought into the laboratory area.

- All packages should be screened (visual and/or x-ray) before being brought into the laboratory area.
- Packages containing specimens, bacterial or virus isolates, or toxins should be opened in a safety cabinet or other appropriate containment device.



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Know what materials are being removed from the laboratory area.

- Biological materials/toxins for shipment to other laboratories should be packaged and labeled in conformance with all applicable local, federal, and international shipping regulations.
- Required permits (e.g., PHS, DOT, DOC, USDA) should be in hand before materials are prepared for shipment.
- The recipient (preferably) or receiving facility should be known to the sender, and the sender should make an effort to ensure that materials are shipped to a facility equipped to handle those materials safely.
- Hand-carrying of microbiological materials and toxins to other facilities is rarely appropriate. If biological materials or toxins are to be hand carried on common carriers, all applicable regulations must be followed.
- Contaminated or possibly contaminated materials should be decontaminated before they leave the laboratory area. Chemicals and radioactive materials should be disposed of in accordance with local, state, and federal regulations.

Have an emergency plan.

- Control of access to laboratory areas can make an emergency response more difficult. This must be considered when emergency plans are developed.
- An evaluation of the laboratory area by appropriate facility personnel, with outside experts if necessary, to identify both safety and security concerns should be conducted before an emergency plan is developed.
- Facility administrators, laboratory directors, principal investigators, laboratory workers, the facility safety office, and facility security officials should be involved in emergency planning.
- Police, fire, and other emergency responders should be informed as to the types of biological materials in use in the laboratory areas,

and assisted in planning their responses to emergencies in the laboratory areas.

- Plans should include provision for immediate notification of (and response by) laboratory directors, laboratory workers, safety office personnel, or other knowledgeable individuals when an emergency occurs, so they can deal with biosafety issues if they occur.
- Laboratory emergency planning should be coordinated with facility-wide plans. Such factors as bomb threats, severe weather (hurricanes, floods), earthquakes, power outages, and other natural (or unnatural) disasters should be considered when developing laboratory emergency plans.

Have a protocol for reporting incidents.

Laboratory directors, in co-operation with facility safety and security officials, should have policies and procedures in place for reporting and investigation of incidents or possible incidents (e.g., undocumented visitors, missing chemicals, unusual or threatening phone calls).

The CDC/NIH publication, *Biosafety in Microbiological and Biomedical Laboratories*, 4th edition, 1999 from which these guidelines are excerpted may be found on-line at:

www.cdc.gov/od/ohs/biosfty/bmb14/bmb14toc.htm