

ANIMAL BIOLOGICAL SAFETY LEVEL TWO (ABSL-2) CHECKLIST

Animal Biosafety Level 2 builds upon the practices, procedures, containment equipment, and facility requirements of ABSL-1. ABSL-2 is suitable for work involving laboratory animals infected with agents associated with human disease and pose moderate hazards to personnel and the environment. It also addresses hazards from ingestion as well as from percutaneous and mucous membrane exposure.

ABSL-2 requires that: 1) access to the animal facility is restricted; 2) personnel must have specific training in animal facility procedures, the handling of infected animals and the manipulation of pathogenic agents; 3) personnel must be supervised by individuals with adequate knowledge of potential hazards, microbiological agents, animal manipulations and husbandry procedures; and 4) BSCs or other physical containment equipment is used when procedures involve the manipulation of infectious materials, or where aerosols or splashes may be created.

Appropriate personal protective equipment must be utilized to reduce exposure to infectious agents, animals, and contaminated equipment. Implementation of employee occupational health programs should also be considered.

To ensure compliance with the ASU policies and the CDC/NIH manual, "Biosafety in Microbiological and Biomedical Laboratories," please complete the following checklist for ABSL-2 facilities prior to beginning work in these areas.

_____ Date

_____ Lab Location(s)

_____ PI

_____ Inspector

Section 1: Standard Microbiological Practices	Yes	No	N/A
1. Does the animal facility director establish and enforce policies, procedures, and protocols for institutional policies and emergencies?			
2. Are animal protocols reviewed and approved by the Institutional Animal Care and Use Committee (IACUC) and the Institutional Biosafety Committee (IBC) prior to beginning the study?			
3. Does the institution assure that worker safety and health concerns are addressed as part of the animal protocol review?			
4. Has a safety manual specific to the animal facility been prepared/adopted in consultation with the animal facility director and appropriate safety professionals?			
5. Is the safety manual available and accessible to laboratory personnel/animal handlers?			
6. Are personnel advised of potential hazards and required to read and follow instructions on practices and procedures?			
7. Does the supervisor ensure that animal care, laboratory, and support personnel receive appropriate training regarding their duties, animal husbandry procedures, potential hazards, manipulations of infectious agents, necessary precautions to prevent hazard or exposures, and hazard/ exposure evaluation procedures (physical hazards, splashes, aerosolization, etc.)?			
8. Do personnel receive annual updates and additional training when procedures or policies change?			
9. Are records maintained for all hazard evaluations, employee training sessions, and proof of attendance?			
10. Is an appropriate medical surveillance program in place, as determined by a comprehensive risk assessment?			
11. Has an animal allergy prevention program been considered?			

12. Do facility supervisors ensure that ASU Health Services is informed of potential occupational hazards within the animal facility (including those hazards associated with research, animal husbandry duties, animal care and manipulations)?			
--	--	--	--

Section 1: Standard Microbiological Practices – Continued	Yes	No	N/A
13. Have all personnel, and particularly women of childbearing age, been provided information regarding immune competence and conditions that may predispose them to infection? (Personal health status may impact an individual's susceptibility to infection, ability to receive immunizations, and prophylactic interventions.)			
14. Are individuals listed in (13) encouraged to self-identify to the institution's healthcare provider for appropriate counseling and guidance?			
15. Are personnel using respirators enrolled in the ASU Respiratory Protection Program ?			
16. Is a sign incorporating the universal biohazard symbol posted at the entrance to the areas where infectious materials and/or animals are housed or manipulated?			
17. Does the sign include the animal biosafety level, general occupational health requirements, personal protective equipment requirements, the supervisor's name (or other responsible personnel), telephone number, and required procedures for entering and exiting the animal areas?			
18. Are specific infectious agents identified within an animal room?			
19. Is security-sensitive agent information posted in accordance with the institutional policy?			
20. Are occupational health requirements posted in accordance with the institutional policy?			
21. Are there written emergency and disaster recovery plans for man-made or natural disasters?			
22. Is access to the animal room limited?			
23. Are only those personnel required for program or support purposes authorized to enter animal rooms?			
24. Are only those personnel required for program or support purposes authorized to enter the areas where infectious materials are house or manipulated?			
25. Are all individuals (including facility personnel, service workers, and visitors) advised of the potential hazards (e.g., physical, naturally-occurring pathogens, research pathogens, allergens) and instructed on the appropriate safeguards?			
26. Is eating, drinking, smoking, handling contact lenses, applying cosmetics, and storing food for human consumption prohibited in animal areas?			
27. Is food stored outside of the animal areas in cabinets or refrigerators designated and used only for this purpose?			
28. Are all procedures carefully performed to minimize the creation of aerosols or splatters of infectious materials and waste?			
29. Is mouth pipetting prohibited?			
30. Are mechanical pipetting devices used?			
31. Have policies for the safe handling of sharps (such as needles, scalpels, pipettes, and broken glassware) been developed and implemented?			
32. Have laboratory supervisors adopted the use of improved engineering and work practice controls to reduce the risk of sharps injuries?			
33. Is the use of needles and syringes or other sharp instruments in the animal facility limited to situations where there is no alternative (for such procedures as parenteral injection, blood collection, or aspiration of fluids from laboratory animals and diaphragm bottles)?			
34. Are disposable needles prohibited from being bent, sheared, broken, recapped, removed from disposable syringes, or otherwise manipulated by hand before disposal?			
35. Are used disposable syringes and needles carefully placed in puncture-resistant sharps			

containers?			
36. Are sharps containers located as close to the work site as possible?			
37. Are non-disposable sharps placed in a hard-walled container for transport to a processing area for decontamination, preferably by autoclaving?			

Section 1: Standard Microbiological Practices – Continued	Yes	No	N/A
38. Is broken glassware handled using a brush and dustpan, tongs, or forceps (i.e., never by hand)?			
39. Is plastic ware substituted for glassware whenever possible?			
40. Are equipment and work surfaces routinely decontaminated with an appropriate disinfectant after work with an infectious agent, and after any spills, splashes, or other overt contamination? Please list disinfectant used: _____.			
41. Are animals and plants not associated with the work being performed prohibited in the animal rooms?			
42. Is an effective integrated pest management program in place and managed appropriately?			
43. Are all wastes from the animal room (including animal tissues, carcasses, and bedding) transported from the animal room in leak-proof, covered containers?			
44. Is waste from the animal room disposed of in compliance with applicable institutional, local and state requirements?			
45. Are all potentially infectious materials decontaminated using an effective method before disposal? Please list decontamination method: _____.			

Section 2: Special Practices	Yes	No	N/A
46. Are animal care staff, laboratory personnel, and routine support personnel provided medical surveillance and administered appropriate immunizations for agents handled or potentially present, before entry into animal rooms (as dictated by the risk assessment).			
47. Has a base line serum sample been collected and stored (if appropriate)?			
48. Do procedures involving a high potential for generating aerosols conducted within a biosafety cabinet or other physical containment device?			
49. When a procedure cannot be performed within a biosafety cabinet, are a combination of personal protective equipment and other containment devices used?			
50. Are restraint devices and practices that reduce the risk of exposure during animal manipulations (e.g., physical restraint devices, chemical restraint medications) used whenever possible?			
51. Are potentially infectious animal tissues, carcasses, contaminated bedding, unused feed, sharps, and other refuse.			
52. Are all potentially infectious materials and animal waste materials decontaminated by an appropriate method (e.g. autoclave, chemical disinfection, or other approved decontamination methods) before movement outside the areas where infectious materials and/or animals are housed or manipulated?			
53. Has a written method for decontaminating routine husbandry equipment, sensitive electronic and medical equipment been developed and implemented?			
54. Are materials to be decontaminated outside of the immediate areas where infectious materials and/or animals are housed or manipulated placed in a durable, leak proof, covered container and secured for transport?			
55. If yes to (54), are the outer surfaces of container disinfected prior to moving materials?			
56. If yes to (54), does the transport container have a universal biohazard label?			
57. Has an appropriate waste disposal program in compliance with applicable institutional, local, and state requirements been developed and implemented?			

58. Are waste materials autoclaved prior to incineration (by a third-party)?			
59. Are equipment, cages, and racks handled in a manner that minimizes contamination of other areas?			

Section 2: Special Practices – Continued	Yes	No	N/A
60. Is equipment decontaminated before repair, maintenance, or removal from the areas where infectious materials and/or animals are housed or manipulated?			
61. Are spills involving infectious materials contained, decontaminated, and cleaned up by staff properly trained and equipped to work with infectious material?			
62. Are incidents that may result in exposure to infectious materials immediately evaluated and treated according to procedures described in the laboratory-specific safety manual?			
63. Are all incidents that may result in exposure reported to the animal facility supervisor, the Biological Safety Officer, and others designated by the institution?			
64. Are medical evaluations, surveillance, and treatment provided as appropriate and are records maintained?			

Section 3: Safety Equipment (Primary Barriers & Personal Protective Equipment)	Yes	No	N/A
65. Are animals housed in primary biosafety containment equipment appropriate for the animal species, such as solid wall and bottom cages covered with filter bonnets for rodents or other equivalent primary containment systems for larger animal cages (when indicated by risk assessment)?			
66. Are properly maintained BSCs, personal protective equipment (e.g., gloves, lab coats, face shields, respirators, etc.) and/or other physical containment devices or equipment, used whenever conducting procedures with a potential for creating aerosols, splashes, or other potential exposures to hazardous materials? [Procedures would include necropsy of infected animals, harvesting of tissues or fluids from infected animals or eggs, and intranasal inoculation of animals.]			
67. Has a risk assessment been performed to determine the appropriate type of personal protective equipment to be utilized?			
68. Are protective laboratory coats, gowns, or uniforms required to be worn to prevent contamination of personal clothing?			
69. Are gowns, uniforms, laboratory coats, and personal protective equipment worn while in the areas where infectious materials and/or animals are housed or manipulated and removed prior to exiting?			
70. Are disposable personal protective equipment and other contaminated waste appropriately contained and decontaminated prior to disposal?			
71. Is protective outer clothing prohibited from being worn outside areas where infectious materials and/or animals are housed or manipulated?			
72. Is reusable clothing appropriately contained and decontaminated before being laundered?			
73. Are laboratory and protective clothing prohibited from being taken home?			
74. Are eye and face protection (e.g., mask, goggles, face shield or other splatter guard) used for manipulations or activities that may result in splashes or sprays from infectious or other hazardous materials and when the animal or microorganisms are handled outside the BSC or containment device?			
75. Are eye and face protection disposed of with other contaminated laboratory waste or decontaminated before reuse?			
76. Do personnel who wear contact lenses also wear eye protection when entering areas with potentially high concentrations of infectious materials or airborne particulates?			

77. Have personnel with contact with NHPs been informed of the risk of mucous membrane exposure and wear protective equipment (e.g., masks, goggles, face shields) as appropriate for the task to be performed?			
78. Is respiratory protection worn by personnel with contact with NHPs?			

Section 3: Safety Equipment (Primary Barriers & Personal Protective Equipment) – Continued	Yes	No	N/A
79. Are gloves worn to prevent skin contact with contaminated, infectious and hazardous materials, and when handling animals?			
80. Has a risk assessment been performed to identify the appropriate glove for the task and alternatives to latex gloves?			
81. Are gloves changed when contaminated, when glove integrity is compromised, or when otherwise necessary?			
82. Are gloves prohibited from being worn outside the animal rooms?			
83. Are gloves and personal protective equipment removed in a manner that prevents spread of infectious materials?			
84. Are disposable gloves prohibited from being washed or reused?			
85. Are used gloves disposed with other contaminated waste?			
86. Do personnel wash their hands after removing gloves and before leaving the areas where infectious materials and/or animals are housed or manipulated?			
87. Are eye, face, and respiratory protection used in rooms containing infected animals (as dictated by a risk assessment)?			

Section 4: Laboratory Facilities (Secondary Barriers)	Yes	No	N/A
88. Is the animal facility separated from public areas within the building?			
89. Are external facility doors self-closing and self-locking?			
90. Do doors to areas where infectious materials and/or animals are housed open inward?			
91. Are the doors self-closing and kept closed (i.e., never propped open) when infectious materials or animals are present?			
92. Do doors to cubicles inside an animal room open outward or slide (horizontally or vertically)?			
93. Is a hand-washing sink located at the exit of the areas where infectious materials and/or animals are housed or manipulated?			
94. Are additional sinks for hand washing located in other appropriate locations within the facility?			
95. Is there a sink available for hand washing at the exit from each segregated area (if the animal facility has segregated areas where infectious materials and/or animals are housed or manipulated)?			
96. Are sink traps filled with water and/or appropriate disinfectant to prevent the migration of vermin and gases?			
97. Is the animal facility designed, constructed, and maintained to facilitate cleaning and housekeeping?			
98. Are the interior surfaces (i.e., walls, floors, and ceilings) water resistant?			
99. Are the floors slip resistant, impervious to liquids, and resistant to chemicals?			
100. Have all penetrations in floors, walls, and ceiling surfaces (including openings around ducts, doors and doorframes) been sealed to facilitate pest control and proper cleaning?			
101. Are cabinets and bench tops impervious to water and resistant to heat, organic solvents, acids, alkalis, and other chemicals?			
102. Are spaces between benches, cabinets, and equipment accessible for cleaning?			

103. Are chairs used in animal areas covered with a non-porous material that can be easily cleaned and decontaminated?			
104. Is the amount of furniture used and stored in the animal room kept to a minimum?			
105. Is the furniture capable of supporting anticipated loads and uses?			
106. Is the furniture designed to not have sharp edges and corners?			

Section 4: Laboratory Facilities (Secondary Barriers) – Continued	Yes	No	N/A
107. If external windows are present, are they resistant to breakage?			
108. Whenever possible, are windows sealed?			
109. If the animal facility has windows that open, are they fitted with fly screens?			
110. Have security personnel assessed the windows in the facility for security concerns?			
111. Is the ventilation provided in accordance with the <i>Guide for Care and Use of Laboratory Animals</i> ?			
112. Do animal rooms have inward directional airflow?			
113. Do animal rooms maintain inward directional airflow compared to adjoining hallways?			
114. Is a ducted exhaust air ventilation system provided?			
115. Is exhaust air discharged to the outside without being recirculated to other rooms?			
116. Does the ventilation system consider the heat and high moisture load produced during the cleaning of animal rooms and the cage wash process?			
117. Are internal facility appurtenances (e.g., light fixtures, air ducts, and utility pipes) arranged to minimize horizontal surface areas to facilitate cleaning and minimize the accumulation of debris or fomites?			
118. If present, are floor drain traps maintained and filled with water and/or appropriate disinfectant to prevent the migration of vermin and gases?			
119. Are cages autoclaved or otherwise decontaminated prior to washing?			
120. If yes to (119), does the mechanical cage washer have a final rinse temperature of at least 180°F?			
121. Is the cage wash area designed to accommodate the use of high-pressure spray systems, humidity, strong chemical disinfectants and 180°F water temperatures during the cage/equipment cleaning process?			
122. Is the illumination adequate for all activities, avoiding reflections and glare that could impede vision?			
123. Are Biological Safety Cabinets (BSCs) installed so that fluctuations of the room air supply and exhaust do not interfere with proper operations?			
124. Are BSCs located away from doors, heavily traveled laboratory areas, and other possible airflow disruptions?			
125. Is HEPA filtered exhaust air from a Class II BSC safely re-circulated back into the laboratory environment (only if the cabinet is tested and certified at least annually and operated according to manufacturer's recommendations)?			
126. Are BSCs connected to the laboratory exhaust system by either a thimble (canopy) connection or directly to the outside through an independent, hard connection?			
127. Are there provisions to assure proper safety cabinet performance and air system operation?			
128. Are BSCs recertified at least once a year to ensure correct performance?			
129. Are all BSCs used according to manufacturer's specifications to protect the worker and avoid creating a hazardous environment from volatile chemicals and gases?			
130. If vacuum service (i.e., central or local) is provided, is each service connection fitted with liquid			

disinfectant traps and an in-line HEPA filter placed as near as practicable to each use vacuum port?			
131. Are in-line HEPA filters installed to permit in-place decontamination and replacement?			
132. Is an autoclave present in the animal facility to decontaminate infectious materials and waste?			
133. Is an emergency eyewash and shower readily available?			

Please keep a completed copy of this checklist in the lab-specific safety plan for the ABSL-2 facility.

Equipment Inventory

Is there an autoclave present? (Y/N)					
If yes, please include the following information for each:					
	Model Number	Serial Number	Location	Last Certification Date	Certification Due Date
Autoclave					
Autoclave					
Autoclave					

Is there a biological safety cabinet (BSC) present? (Y/N)					
If yes, please include the following information for each:					
	Model Number	Serial Number	Location	Last Certification Date	Certification Due Date
BSC					
BSC					
BSC					

Is there a centrifuge present? (Y/N)					
If yes, please include the following information for each:					
	Model Number	Serial Number	Location	Last Certification Date	Certification Due Date
Centrifuge					
Centrifuge					
Centrifuge					

Is there a flow cytometer present? (Y/N)					
If yes, please include the following information for each:					
	Model Number	Serial Number	Location	Last Certification Date	Certification Due Date
Flow Cytometer					
Flow Cytometer					
Flow Cytometer					

Comments: