



**Institutional Animal Care and Use Committee (IACUC)**  
**Directive 12.0: Cleaning and Disinfecting Research Equipment**

**1.0 Directive Purpose**

The purpose of this directive is to provide guidance on the required procedures to clean and disinfect research equipment that has been used for live animal work.

**2.0 To Whom the Directive Applies**

This directive applies to all individuals involved in research using live vertebrate animals, covered under an IACUC-approved animal use protocol at Brown University.

**3.0 Directive Statement**

Equipment or surfaces that come in contact with research animals have the potential to be fomites, i.e., can act as an accidental source of microbial infection. Pathogenic microorganisms can result in subclinical or clinical disease that may alter or invalidate research results or jeopardize animal welfare. Effective cleaning and disinfection are necessary to minimize the presence of these pathogens and prevent infection.

All equipment that comes in contact with animals must be cleaned and then disinfected following each use by the individual(s) using the equipment. Disinfection can be achieved with hot water (180°F) and/or chemical compounds. For equipment that cannot withstand controlled exposure to hot water (i.e. mechanical cage wash), chemical disinfectants shall be used. Cleaning with water and a detergent is required prior to chemical disinfection to ensure that the disinfectant activity is not reduced by the presence of foreign material. Multiple chemical disinfectants are available for use (see **Table 1: Recommended Disinfectants**). It is important to read the safety data sheet and follow the manufacturer’s instructions, including dilution, contact time, and safety precautions, to ensure that disinfection is achieved. As these disinfectants are also chemical hazards, applicable safety precautions described in the Animal Care and Use Occupational Health & Safety Program and the University Laboratory Safety & Chemical Hygiene Plan must be followed when handling these compounds.

**Table 1: Recommended Disinfectants**

Agent	Example Products	Comments
Hydrogen peroxide	Peroxigard™	
Potassium peroxymonosulfate / Sodium chloride	Virkon-S™	
Sodium hypochlorite (bleach)	Clorox®	Unstable and decomposes, therefore solutions must be made fresh prior to use
Chlorhexidine gluconate	Nolvasan Hibiclens	

Equipment that cannot be disinfected (e.g. computers, recording equipment) should be located in areas where contact with animals is unlikely and should be covered when not in use. In cases where equipment that cannot be disinfected with the recommended agents and must come in contact with animals, consultation with the Center for Animal Resources and Education (CARE) and any other applicable parties is required.

### **Ensuring efficacy of disinfection or sanitization of hand washed equipment**

The efficacy of disinfection and/or sanitization should be verified periodically by microbiological monitoring or other appropriate methods and the data reviewed to ensure the effectiveness of these methods. CARE can monitor the effectiveness of the procedure by swabbing representative equipment after the sanitization process. Monitoring the effectiveness of sanitization should be done on a regular basis and whenever methods of sanitization are changed.

In general, the disinfectant agents supplied by CARE at animal use locations shall be the agents used unless a protocol specifies otherwise and is approved by CARE. When using infectious agents, use the sanitization product listed in the Biological Research Authorization document approved by the Brown Institutional Biosafety committee.

#### **4.0 Definitions: N/A**

- **Cleaning:** Process that removes visible foreign material, including excrement, dirt, and debris.
- **Disinfection:** Process that reduces or eliminates unacceptable levels of microorganisms, but is not effective against all microbial forms (i.e. bacterial spores).
- **Sanitization:** Process that eliminates all forms of microorganisms.

#### **5.0 Responsibilities**

All individuals to whom this directive applies are responsible for becoming familiar with it and following this. Animal research program stakeholders (IACUC, CARE, ARC) are responsible for promoting the understanding of this document and for taking appropriate steps to help ensure adherence to it. It is the responsibility of the individual(s) to properly clean and disinfect all equipment and work surfaces that may come into contact with animals prior to and after each use. This responsibility pertains to shared procedural and core facility areas as well as laboratory space.

#### **6.0 Consequences for Violating this Document**

Violation of this document may be considered a serious event of noncompliance that is reportable to the IACUC, funding and accrediting agencies, as well as other regulatory agencies. Violations of this document are a serious matter that may adversely affect both the ability to perform animal work and acquire funding sources.

#### **7.0 Related Information**

Brown University is a community in which employees are encouraged to share workplace concerns with University leadership. Additionally, [Brown's Anonymous Reporting Hotline](#) allows anonymous and confidential reporting on matters of concern online or by phone (877-318-9184).

#### **8.0 Document Owner and Contact**

**8.1 Owner:** IACUC

**8.2 Approved by:** IACUC

**8.3 Subject Matter Contact:** Brown University Animal Research Compliance (ARC)

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## **9.0 Document History**

**9.1 Effective Date:** February 3, 2023

**9.2 Last Reviewed:** N/A

**9.3 Update/Review Summary:** This is a new directive.