

Duke University DLAR Policy

Sterilization and disinfection of Equipment Used in Barrier, Investigator Laboratories and Shared Resource Facilities

Background and Purpose: It is imperative that instruments and equipment that are introduced to barrier facilities or used in shared resource facilities be decontaminated to avoid potential introduction of animal pathogens. Instruments/equipment used in shared resource areas must always be sanitized, decontaminated or sterilized, if applicable, prior to and after each use. Work surfaces should always be decontaminated after using the facility.

Scope: 1. This policy applies to all animal facilities and equipment used by DLAR or Investigators. The facility supervisor, designee or investigator will be responsible to ensure that the staff conducting decontamination is adequately trained to perform the procedures listed below.

2. This policy also applies to all instruments/equipment used in shared resource or core areas (e.g., Irradiator, Imaging, Neurobehavioral, etc.) or Investigator's laboratories containing equipment (e.g., mazes, sound chambers, sterotaxic devices, etc.)

Procedure outline:

- I. A. Sterilization of instruments and/or supplies by steam, gas and liquid is required for entry into barrier facilities.
 - a. Instruments to be used in barrier facilities and shared resource areas within a barrier facility must be sterilized as appropriate prior to introduction to the facilities.
 - b. Instruments must be cleaned of gross debris prior to sterilization.
 - c. Package must be wrapped prior or after sterilization.
 - d. Sterilization indicators must be used inside the packs and autoclave tapes placed on the outside to ensure adequate sterilization has taken place.
 - e. Package must be sprayed with disinfectant solution prior to introduction in to the barrier facility.

- f. Follow one of the sterilization procedures below appropriate for the instrument or equipment.

1. Steam Sterilization

- a. Sterilization time is dependant on the composition and type instrument to be autoclaved. Generally the minimum time required is 30 minutes at 250 °F at 15 p.s.i. Follow specific sterilization instructions for instrument.

2. Gas-Ethylene oxide sterilization

- a. Make sure instrument is exposed at least for 8-10 hrs in a special cabinet.
- b. Follow specific sterilization instructions for instrument.

3. Liquid –Immersion Sterilization

a. Glutaraldehyde plus (2%) and Phenol (7.05%) are commonly used.

- i. Instruments must be immersed for a minimum of 10 hrs in a 1:10 solution.
- ii. Follow specific sterilization instructions for each instrument.
- iii. Rinse instruments using aseptic technique/solution.

b. Chlorine dioxide (Clidox) in 1:5:1 solution.

- i. Instruments must be immersed for a minimum of 6 hrs in the solution.
- ii. Follow specific sterilization instructions for instrument.
- iii. Rinse instrument using aseptic technique/solution.

B. Disinfection of equipment and workstations in **barrier** facility and between uses.

Any item that is transferred from one animal area or laboratory to a shared area that can not be sterilized should be disinfected prior to or upon entry as below.

- a. Use of disposable material such as a diaper is highly recommended to cover all work surfaces during procedure.
- b. Work surface should always be decontaminated using Clidox in 1:5:1 solution or virkon provided by the facility managers.
- c. Smaller autoclave safe items should always be autoclaved or sterilized between uses by one of the methods described above.
- d. Return cages, wire bar lids, water bottles to the appropriate facility in plastic bags.

II. Disinfection of equipment/instruments and workstations in **non barrier** facility and between uses.

Any item that is transferred from one animal area or laboratory to a shared area that can not be sterilized should be disinfected prior to or upon entry as below.

- a. Use of disposable material such as a diaper is highly recommended to cover all work surfaces during procedure.
- b. Work surface should always be decontaminated using Clidox in 1:5:1 solution or Virkon provided by the facility managers.
- c. Smaller autoclave safe items should always be autoclaved or sterilized between uses by one of the methods described above.
- d. Return cages, wire bar lids, water bottles to the appropriate facility in plastic bags.