Policy on Sterilization and Disinfection of Equipment Used in Barrier and Non-barrier Facilities, Investigator Laboratories and Shared Resource Facilities

PERFORMANCE STANDARD: It is imperative that instruments and equipment that are introduced into barrier and non-barrier facilities and used in Investigator laboratories or shared resource facilities be decontaminated to avoid potential introduction of animal pathogens. Instruments and equipment used in shared resource areas must always be sanitized, decontaminated or sterilized, as applicable, prior to and after each use. Work surfaces should always be decontaminated after use.

BACKGROUND: Animal parasites and pathogens can be carried into animal facilities on equipment and other inanimate objects. Parasite and pathogen infections have the potential to affect research results even when animals do not appear ill. Decontamination of equipment prior to introducing it into barrier facilities helps to minimize the spread of pathogens to animals in the barrier facility.

ROLES:

1. Investigators, laboratory personnel and other individuals who bring equipment and supplies into DLAR-managed barrier facilities and shared resource areas are required to ensure that the equipment and supplies have been appropriately decontaminated or sterilized prior to introducing the equipment and supplies into the facility. This includes all instruments and equipment used in shared resource or core areas (e.g. Irradiator, Imaging, Neurobehavioral areas, etc.) and all equipment (e.g. mazes, sound chambers, stereotaxic devices, etc.) used in laboratories.

2. The Principal Investigator is responsible for ensuring that the staff conducting decontamination procedures is adequately trained to do so.

POLICY:

1. Sterilization of instruments and/or supplies by steam, gas or liquid is required for entry into barrier facilities.
   - 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.
   - Instruments must be cleaned of gross debris prior to sterilization.
   - Package must be wrapped prior to or after sterilization. This can be in a zip lock or any plastic bag.
   - Sterilization indicators must be used inside the packs and autoclave tape placed on the outside to ensure adequate sterilization has taken place.
   - Wrapped packs must be sprayed with a disinfectant solution prior to introduction into the barrier facility.
Follow one of the sterilization procedures listed in a.- c. below as appropriate for the instrument or equipment.

a. Steam Sterilization

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

b. Gas (Ethylene Oxide) Sterilization

- Instruments must be exposed for a minimum of 8 to 10 hours.
- Follow specific sterilization instructions for the instrument.
- Adequate post-sterilization aeration times are required before the equipment is used.

c. Liquid Immersion Sterilization

i. Chlorine dioxide (Clidox) in 1:5:1 Solution (1 Part Clidox base : 5 parts di/tap water : 1 part Clidox activator)

- Instruments must be immersed for a minimum of 6 hours in the solution.
- Follow specific sterilization instructions for the instrument.
- Rinse instrument in sterile water or saline using aseptic technique / solution.

2. Disinfection of equipment and workstations in barrier facilities before, after and between uses.

- Any item that is transferred from one animal area or laboratory to a shared area that cannot be sterilized should be disinfected prior to or upon entry as described in 3. below.
- Use of disposable material such as diaper or chux is highly recommended to cover all work surfaces during procedure.
- Work surface should always be decontaminated using Trifectant or Virkon provided by the facility managers.
- Smaller autoclave-safe items should always be autoclaved or sterilized between uses by one of the methods described above.
- Return cages, wire bar lids, water bottles to the appropriate facility in plastic bags.

3. Disinfection of equipment / instruments and workstations in non-barrier facilities before, after and between uses.
• Any item that is transferred from one animal area or laboratory to a shared area that cannot be sterilized must be disinfected prior to or upon entry.

• Use of disposable material such as diaper or chux is highly recommended to cover all work surfaces during procedure.

• Work surfaces should always be decontaminated using Clidox in 1:5:1 (1 Part Clidox base : 5 parts di/tap water : 1 part Clidox activator) solution or Trifectant or other DLAR-recommended disinfectant provided by the facility managers.

• Smaller autoclave-safe items must always be autoclaved or sterilized between uses by one of the methods described in 1. above.

• Return cages, wire bar lids, water bottles to the appropriate facility in plastic bags.

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