Standard Operating Procedures for Monitoring Sanitation Practices

1.0 Purpose

1.1 The Standard Operating Procedure (SOP) describes the methods for routine monitoring for potential microbial pathogens in laboratory animal facilities.

2.0 Responsibility

2.1 Facility Managers or designee are responsible for monitoring the efficacy of sanitation procedures performed in their facility. Managers may designate a staff member to perform testing.

2.2 Office of the Campus Veterinarian (OCV) is responsible for providing and maintaining ATP analyzer, ensuring supplies are available for surface monitoring and coordinating with facility managers, designees, PI and PI staff to perform surface monitoring.

2.3 PI and PI staff are responsible for coordinating with OCV for surface monitoring of hand washed equipment in their area that is used for animal husbandry. Also responsible for ensuring that autoclave units used for sterilization of surgical instruments are monitored for efficacy.

3.0 Expectations

3.1 Commercial Washing Units: Commercial washers are monitored on a regular basis to ensure units are working properly and that adequate sanitation is being accomplished.

3.1.1 Visual Monitoring:

- Items washed in a commercial washer are inspected after each load to ensure items appear clean.
- If items do not appear clean, items are re-washed prior to use and unit should be evaluated by a qualified service technician.

3.1.2 Temperature Monitoring:

- A heat monitoring tape is run through the washing unit with cages/equipment at least once per week.
- The tape is dated and stored in a permanent record.
- If the tape indicates the washing unit did not reach sanitation temperature (≥180°F), the load is re-run, and additional monitoring is performed.
- If continued testing indicates unsatisfactory results, the unit is evaluated by a qualified service technician.
- The facility manager is to inform OCV of system failures and discuss a backup plan for effective sanitation.

3.1.3 Surface Monitoring:

- Randomly selected washed items are monitored for the presence of bacteria

quarterly**.**

3.2 Hand-Washed Equipment: Items that are hand-washed on a regular basis are monitored for the presence of bacteria.

3.2.1 Visual Monitoring:

- Cages/equipment that are hand-washed are inspected after each washing to ensure items appear clean.
- All visible dirt, debris and scale should be removed by the washing process.
- If items do not appear clean, items are re-washed prior to use.

3.2.2 Surface Monitoring:

- Items used for feeding such as feed/water bowls, water bottles, and sipper tubes as well as small primary enclosures such as small rodent or bird cages, are monitored to verify that the cleaning procedures are effective.
- Once individualized cleaning procedures have been documented to be effective, surface monitoring will be performed at least annually.

3.3 Autoclave Units: Autoclave units used to sterilize caging, equipment, surgical packs, and other material used in animal care are monitored to ensure units are working properly.

3.3.1 A steam sterilization integrator strip

- Run with each load processed in the autoclave unit.
- Color change indicates sterilization criteria were met.
- A minimum of Class 5 must be used. Strips are placed inside the item to be sterilized to ensure interior surfaces are adequately sterilized.
- If the integrator strip indicates sterilization criteria was not met, the load should be re-run.
- Equipment should be evaluated and serviced by a qualified service technician, and OCV is to be notified.

3.3.2 A biological indicator (BI) is used to test autoclave units to validate the desired temperature is maintained for the cycle duration and ensure sterility.

- For Animal Related Supplies/Equipment/Surgical Instruments*:*
  - BI should be tested at least quarterly.
  - Autoclaves used less frequently, a BI should be done with each load
- For Biological Waste:
  - Follow the Biosafety Manual attached to the Biosafety Approval Form (BAF) *AND* meet the requirements outlined by Environmental Health and Safety (EH&S) and the Safety Policies and Procedures Manual (SPPM)
    - If frequency is not specified, a BI should be used monthly for materials classified as BSL2.
    - A BI is used for every cycle for materials classified as BSL3.

- Records
    - A record must be kept of the biological indicator test results.
    - If the BI indicates sterilization criteria was not met, equipment should be evaluated and serviced by a qualified service technician, and OCV is to be notified.

3.4 Methods Sanitation Monitoring

3.4.1 ATP swabs detect residual adenosine triphosphate (ATP). The presence of ATP indicates that the item or surface has not been adequately cleaned and is potentially harboring bacteria or other microorganisms.

3.4.2 RODAC agar plates detect the presence of microorganisms by the appearance of surface colonies.

3.5 Exceptions to Testing Standards:

3.5.1 Research animals housed in an agricultural setting and those animals whose husbandry does not require environmental sanitization, such as fish, may or may not be included in the microbiological monitoring program at the discretion of the Attending Veterinarian.

4.0 Contact information:

4.1 Office of the Campus Veterinarian (OCV) for annual and quarterly surface monitoring

4.1.1 Phone: 509-335-6246

4.1.2 Email: or.ocv.alert@wsu.edu

4.2 Recommendations on types and sources of biological indicators (BIs) are available through the WSU Office of Research Assurances Research Safety Program.

4.2.1 Phone: 509-335-4462.

4.2.2 Email: rschwager@wsu.edu or levi.oloughlin@wsu.edu

5.0 References:

5.1 National Research Council, 2011. Guide for the Care and Use of Laboratory Animals. 8th Edition. The National Academies Press, Washington, DC.

5.2 Center for Disease Control and Prevention (CDC): Sterilizing Practices. September 18, 2016.

5.3 University of California San Francisco, 2020, Researcher-owned autoclave quality control measures.

5.4 The University of Iowa, 2022, Sterilization – Accepted Methods & Monitoring (IACUC Guideline).

5.5 West Virginia University, 2021, Autoclave Validation and Sterile Pack Processing.