IACUC Office Fact Sheet

Non-LARC (Researcher-owned) Autoclave Quality Control Measures

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UCSF Office of Research
Institutional Animal Care and Use Program

This Fact Sheet applies to non LARC-owned researcher autoclaves used to sterilize surgical instruments, supplies, and implants. Medical waste autoclaves must follow requirements set in place by EHS.

Autoclaves offer a reliable and effective way to sterilize instruments. However, as with many other machines they require maintenance and monitoring. Ensuring the autoclave is properly maintained and working complies with the Guide's policy on aseptic technique *"…aseptic technique includes preparation of the patient,…preparation of the surgeon,… sterilization of instruments, supplies, and implanted materials"* (p. 118). Listed below are quality control measures that should be implemented when using an autoclave:

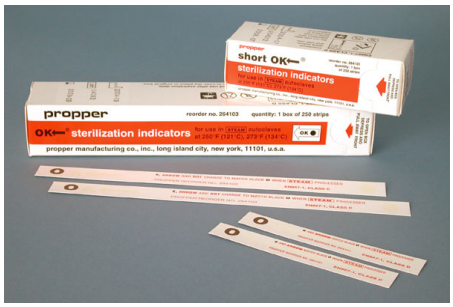
1. **Maintenance:** Yearly maintenance should be performed on the autoclave to ensure it is in good working order. Additionally, follow the manufacturer's guide for routine maintenance. Most manufacturers **require the use of distilled water in autoclaves**. A routine and yearly maintenance log should be maintained in addition to the sterilization log. This also should be made available upon request.

2. **Records:** Records for biological monitoring and run chart/print out of parameters of each cycle must be kept. The record for biological monitoring should include the date, results, responsible PI, autoclave Manufacturer and model, serial number and location (building, and room where autoclave is kept). Records must reflect at least quarterly biological monitoring. Records can be stored either in binders or digital databases. They must be neat, organized, and legible. Records must be made available upon request. Autoclave records must be kept for a minimum of 3 years.

3. **Format for records**: Format should be easy to follow and include the information listed above. Attached is a modified LARC Autoclave Testing Log template.It is encouraged to customize it for your lab's needs.

4. **Shelf life of Sterilized Material**: Pouches are kept as long as the packaging is intact and has no defects.

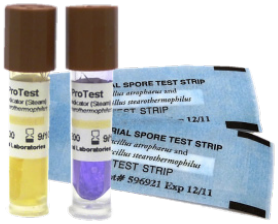
5. **Sterility Monitoring:** In order to ensure sterility has been achieved; indicator strips must be placed into instrument packs or pouches. Follow manufacturer's instructions for bio-indicator timeline. An indicator strip should still be included in the pouch even if the pouch is manufactured with a strip on the outside. These strips only indicate that the desired temperature was at one point reached. **It does not indicate that the temperature was maintained for the duration of the cycle.** This is why it is important to monitor the autoclave biologically quarterly. This can be done by using biological indicators or RODAC plates to see if there are any remaining microorganisms after the sterilization cycle (see pictures below).



- Sterility Indicator Strips are placed inside the pouch or instrument pack. They indicate when the internal temperature reaches the minimum for sterility ONLY.

- Sterilization pouches are made specifically for autoclaving material. They normally have a paper back and a clear plastic front. The bags are loaded from the bottom, sealed and an indicator placed.

- Autoclave tape is used to “seal” a pack and place on a pouch. Functions similarly to that of indicator strips. Provides confirmation without having to see the indicator strip in the pack. However, it should not be assumed the inside of the pack is sterile until looking at the internal indicator strip.



- Biological indicators are small vials that contain bacteria spores and media. They are autoclaved and then incubated to check for vegetative growth.

Resources: If you need help making custom template or records visit the office of Environmental, Health, and Safety website or contact the IACUC office at iacuc@ucsf.edu.

Samples:	**Example**	**1**	**2**	**3**	**4**	**5**	**6**
Autoclave Details:							
Manufacturer/Model	GETINGE/GEB 600						
Serial #	1356789						
Building							
Room							
Autoclave Cycle:							
Date	7/1/2015						
Type	Gravity						
Length	30 min						
Temperature	253^{0}F						
Date of (Biological Monitoring):	7/2/2015						
Test Type (*bio indicator or rodac plate*)**:**	bio indicator						
Test Results:							
Adequate Sterilization Conditions							
Spores killed **(yes/no)**	Yes						
Positive control grew **(yes/no)**	Yes						

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