

**LOCAL JOINT HEALTH AND SAFETY COMMITTEE
DEPARTMENT OF BIOMEDICAL SCIENCES
STANDARD OPERATING PROCEDURE**

1. **USE OF STERILIZER (Autoclave)** Steris Medallion Model, 1974.
Effective Date: 02 05 30
Author: Ed R. Reyes
Purpose: To promote the safe use of the departmental sterilizer by trained personnel.
(Emergency Operational Procedure Only)
Operators: Ed R. Reyes (Ext.52649/58261) and Ann Maslen (Ext. 52644/54963)
Approvals Required: Faculty Supervisor, Local JHSC, EHS

2. **DEFINITIONS:** Autoclave - a sterilizer using high pressure steam to raise temperature above 100°C (UoG Safety Policy Manual: Policy # 851.07.09).

3. **REQUIREMENTS:**
In fulfillment of OSHA; UoG Safety Policy 851.07.09
(a) No person shall operate or use, or permit to be operated or used, an autoclave, unless it has been inspected by a qualified inspector, a certificate of inspection has been issued, and the operator has been trained or qualified.
(b) Persons operating autoclaves and other pressure vessels shall be trained in safe operating procedures. Only qualified persons are allowed to maintain and repair such autoclaves.
(c) No person shall operate an autoclave, boiler or pressure vessel at a pressure higher than its maximum allowable pressure.
(d) Inspection certificates issued by insurer and/or by the Ministry of Consumer and Commercial Relations shall be posted in a conspicuous place near the autoclave, boiler or pressure vessel.

4. **DESCRIPTION OF THE TASK:**
The following instructions are for the operation and daily maintenance of the Steris Sterilizer to be used only by personnel having approved training - see Safety Policy 85107.09.

Operational Procedure:
N.B.: This sterilizer is set for normal and routine operation ie. temperature set at 250°F (121°C) with water condenser supply open at all times.
 - a) Check the chamber drain strainer (located on the floor of the unit) by unscrewing it, making sure it is free of any debris or blockage.
 - b) Open the lower door panel of the autoclave and turn “steam supply” pressure valve OPEN (fully counterclockwise).
 - c) When the chamber pressure reads 18 lbs/sq inch (necessary for 250°F or 121°C operational temperature), as seen in the pressure gauge window marked “jacket” located in the front of the unit above the chamber door, LOAD the autoclave.
 - d) Using the “timer setting” located on the upper right hand of the autoclave, adjust the sterilizing time (in minutes), accordingly. This must be set before cycle is started as it will be damaged if the dial is moved once the unit reaches the set temperature. The normal setting for a full load is usually 30-45 minutes.

- e) Close the chamber door properly by applying equal pressure to both sides of door handwheel. Tighten it snugly by turning it in a clockwise direction. This allows a tight seal preventing steam from escaping the chamber and averting air from entering the chamber.
- f) Turn **ON** the **POWER** (white switch next to the fuse window).
- g) Press the “white” button under the program selection accordingly as follows: **wrapped** for glassware, instruments etc. wrapped in paper; **liquids** for water, buffers, media, etc. ***N.B. Once the cycle has been selected, never attempt to alter or reposition the phase indicator (large white knob located in front of unit) manually for it automatically moves and adjusts according to the cycle.***
- h) The sterilization process is completed when the “blue button” labelled “sterile” is lit. Open the chamber door by turning the door wheel counterclockwise **VERY SLOWLY, allowing only about an inch opening** (this will allow slow and gradual release of steam). Let the load cool off for 10 minutes before opening the door fully to remove the load.
- i) **Using oven mitts**, remove the items from the sterilizing chamber. Transfer the “wrapped” glassware items to the drying oven, set at 70-80°C. Place liquid items on top of the bench or on a cart for cooling.
- j) For more loads, repeat steps D to H.
- k) At the end of the day (or when equipment is no longer needed), turn the power switch **OFF. CLOSE** the steam supply pressure valve by turning the wheel clockwise (snug but not tight). The unit will cool off automatically.

5. CONTINGENCY PLAN AND REPORTING:

Avoid burns and scalds by wearing and using protective equipment. i.e. a labcoat at all times, and insulated hand mitts for placing items in and removing them from the sterilizing chamber. Stay back from escaping steam on opening the chamber door. In the event of an accident, seek 1st Aid or medical attention and fill out an Injury/Incident Report form to be submitted to the departmental Administrative Assistant, Rm. 2627, Ext. 54905.

6. WASTE MANAGEMENT AND ENVIRONMENTAL RESPONSIBILITY:

Place broken glass and sharps in “sharps container”

7. REFERENCES: Equipment Manual

8. DISTRIBUTION OF COPIES:

Dr. W.A. King, Faculty Supervisor

Trained and approved Technical Staff for operation and maintenance of Autoclave.

Environmental Health and Safety

Local JHSC, Department of Biomedical Sciences

Written By: Ed. R. Reyes, Technical Staff in Charge of Steris Sterilizer

Approved By: Dr. W.A. King, Faculty Supervisor

Date: 02 05 29