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Title: Use and Maintenance of the Timo Bench-Top Autoclave

Version: v2

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SOP History		
Number	Date	Reason for Change
v1	01/01/2013	Original
V2	01/01/2018	Update

1.0 Purpose –

The purpose of this SOP is to outline the principles and safety issues for the routine use and maintenance of the Timo Bench Top Autoclave in Laboratory 248 at the St Andrews School of Medicine (SASoM).

2.0 Scope –

This SOP applies to routine use and maintenance of the Timo Bench-Top Autoclave within the SASoM.

3.0 Responsibilities –

It is the responsibility of all users of the Timo Bench-Top Autoclave within the SASoM to comply with this SOP. Under no circumstances should this autoclave be operated by anyone who is not acquainted with it or has not been trained to use it. All users must read and then sign the SOP before using it.

4.0 Procedure –

The Timo Benchtop Autoclave is made up of a number of components as identified in the diagram below, namely the Pressure Gauge (1), the Pressure Regulator (2), the Cover (Lid) with Sealing Ring (3), the Basket (4), the Electronic Display Panel with separate Power Switch (5), the Main Power Switch (6), a ThermoPrinter (7) and the Air Vent Cover Lock (8).



Preparation and Safety Checks:

1. Ensure there is no physical damage to the autoclave or any of the components.
2. Ensure that any water inside the Vessel is clean and not 'discoloured' or 'slimy'. If necessary, empty the vessel and wipe the inside with a clean tissue, being careful not to damage the sensor probe.



Water:

3. Fill the Vessel with sufficient **DISTILLED water** (Green 'Elga' water tap) - The WATER LEVEL should be just below the bottom of the inner wire basket (approximately 3L). As a rough guide, a 20 minute cycle will use approximately 500mL of water.

Loading the Autoclave:

4. Insert the wire basket into the autoclave and then add the items to be autoclaved – ENSURE that NOTHING protrudes above the top of the basket and bottle caps are loosened. All items to be labelled with autoclave indicator tape.
5. Ensure the Sealing Ring is firmly seated in the groove on the underside of the Yellow Cover (Lid).
6. Press down on the Cover Handles to compress the Sealing Ring to make the lid easier to close. The Body of the Autoclave has the 'CLOSE / OPEN' instructions embossed on the top surface of the left handle.
7. Align the 'V' on the Cover with the mark on the Body Handle in order to ensure accurate Body and Cover alignment. Turn the Cover in the direction indicated (clockwise) to close until the Cover Handles are centred directly above the Body Handles. The Cover of the vessel has been designed so that it can only be fitted in one position - it will only rotate in the directions indicated for closing (clockwise) and opening (anticlockwise).
8. Ensure the black Pressure Regulator (2) is seated securely on the top of the Cover.

Sterilisation CYCLE:

8. Switch the unit's main power on by pressing the Green Rocker switch. This switch will then illuminate GREEN.
9. Press the small square black switch to activate the control panel. The control panel will then illuminate in RED to show the current temperature.
10. Press the START / STOP button for 3 seconds to start the cycle. The following indications will be shown;
 - a. Flashing red light until the selected sterilisation temperature is reached on the lower display
 - b. Vessel actual temperature on the upper display
 - c. Programmed temperature on the lower display
 - d. HEATING led on during heating time
 - e. AUTOCONTROL led on for automatic control of selected parameters.
11. When the sterilisation temperature has been reached, the time left to reach the end of the cycle is shown in the lower display.
12. The end of the sterilisation cycle is indicated by an acoustic alarm for 10 seconds. The CYCLE END led will light up for 10 seconds.
13. The upper display will show the actual vessel temperature; the lower display will show the word OFF.
14. Allow the vessel to depressurize (the Pressure Gauge should read zero) and cool down to 80°C before CAREFULLY opening the vessel lid. Remove contents from the wire basket using suitable insulated gloves. DO NOT TURN THE COVER



Equipment Operation Procedure

UPSIDE DOWN. Replace cover on top of the autoclave but DO NOT close securely after removing autoclaved items (this will damage the seal).

15. If AUTOCLAVE TAPE on items coming out of the autoclave does not show visible black stripes, A COMPLETE STERILIZATION CYCLE HAS NOT BEEN ACHIEVED and so the process should be repeated.

5.0 Personal protection -

Howie coat must be worn at all times.

Thermal gloves must be worn when handling hot items.

6.0 General maintenance -

- Ensure that the water level is maintained regularly with Elga water only. (Green Tap).
- Replace cover on top of the autoclave after use but DO NOT close securely as this will damage the seal.

Sealing Gasket.

- Remove from inside the lid and clean with warm, soapy water.
- Rinse thoroughly, shake dry, do not wipe.
- Replace in the lid by tucking evenly under all lugs. It may appear slightly wrinkled until used.
- Replace when it begins to show signs of leakage.

Autoclave:

- If a new gasket leaks, or a persistent leak develops, gently clean the sealing surface of both the cover / lid and body of the unit with a "Scotchbrite" scrubbing pad making sure you do not remove any metal. Rinse both surfaces, but do not dry.
- Clean both interior and exterior with warm soapy water ensuring electrical parts are kept dry.
- Lubricate underside of body lugs with "vaseline" if the lid becomes stiff. DO NOT LUBRICATE GASKET.

7.0 Training -

Under no circumstances should this machine be operated by anyone who is not acquainted with it or has not been trained to use it.



8.0 Related documents –

- 8.1 Equipment Maintenance Information sheet
- 8.2 Risk assessments – RA/GEN/001,
- 8.3 COSHH/001 & 002

9.0 Approval and sign off –

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