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INSTRUMENT STANDARD OPERATING PROCEDURE MANUAL

College of Medicine



SAFETY AND LABORATORY COOMMITTEE, C.O.M, K.F.U.

Prepared by

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Document History

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SOP	First Draft on SOP for the operation of Autoclave	9/12/2020	F.A.A

1. OBJECTIVE

- ☐ The document describes the operation of an Autoclave .

2. SCOPE



Autoclaves are also known as steam sterilizers, and are typically **used for** healthcare or industrial applications. An **autoclave** is a machine that uses steam under pressure to kill harmful bacteria, viruses, fungi, and spores on items that are placed inside a pressure vessel

3. RESPONSIBILITIES

- ☐ It is the responsibility of designated personnel in the laboratory to train staff and students on the required protocol for the use of this equipment as well as making sure that they adhere to them.
- ☐ It is the responsibility of designated personnel (staff or Student) to follow the instructions of this procedure under supervision.

4. REFERENCES

- ☐ Hardcopy.

5. DEFINITIONS

- ☐ Autoclaves provide a physical method for disinfection and sterilization. They work with a combination of steam, pressure and time. Autoclaves operate at high temperature and pressure in order to kill microorganisms and spores.
- ☐ They are used to decontaminate certain biological waste as well as in the sterilization of culture media, instruments and lab wares. Regulated medical waste that might contain bacteria, viruses and other biological material are recommended to be inactivated by autoclaving before disposal.
- ☐ Autoclave uses water held in the internal tank with a screw on cover.
- ☐ There are 4 light signals at the front on the right side of the instrument which show the following:
 - **Power:** Indicates when the power is either on or off.
 - **Low water indicator:** this will light up when water level is low.

- **Locked:** the indicator will show if the instrument is appropriately shut and locked appropriately.
- **Fail:** if there are any problems in the running of the apparatus, the fail indicator will light up.
- ☐ There is also a little screen to show the steps of cycles, the messages, and some of other buttons used for different operations.

6. SAFETY PRECAUTIONS

- ☐ **Wear personal protective equipment:**
 - Lab coat
 - Closed-toe shoes
 - Heat-resistant gloves to remove items, especially hot glassware
- ☐ Ensure that the cycle is completed as well as making sure that both temperature and pressure have returned to safe range.
- ☐ Place all liquids in an area, which clearly indicates that the items, are “hot” until they cool down to room temperature.
- ☐ Allow autoclaved materials to cool to room temperature before transporting. Never transport superheated materials.
- ☐ Place cooled autoclaved biohazard bag into regulated medical waste box. Autoclaved infectious liquids may be disposed of into the sanitary sewer.



7. PROCEDURE FOR OPERATING AUTOCLAVE

7.1. Turning on the instrument:

- ☐ Press the power button on the left side of the instrument.

7.2. Software Operation.

7.3. Steps of the Procedure

- ☐ Put what you want to sterilize inside the instrument.
- ☐ Close the door by moving the handle.
- ☐ The power **ON** will be displayed.  press the enter button to select the program needed from one to four.
- ☐ A display of program information will show. Select the start button. 
- ☐ The cycle will start, with a progressive rise in the temperature and pressure .

- ☐ After cycle finished, the temperature and pressure will decrease.
- ☐ Press the "OPEN" key; the display will show "xx SECONDS" will count to 30 ,
when the locking bolt withdraws for 10 seconds, the sounder may beep.
The "xx SECONDS" will count to 10.
- ☐ During the 10 seconds rotate the door handle.

7.4. Turning off the Instrument

- ☐ Press the power button on the left side of the instrument

7.5. Warning

:Never autoclave

Flammable, reactive, corrosive, toxic or radioactive materials ·

Household bleach ·

Any liquid in a sealed container ·

**Any material contained in such a manner that it touches the interior ·
surfaces of the autoclave**

Paraffin-embedded tissue.

ALL EQUIPMENT MUST BE OPERATED BY TRAINED PERSONELL
