

BEST PRACTICE IN USE OF AUTOCLAVES

A well-maintained and correctly functioning autoclave is only part of the process of ensuring items are decontaminated appropriately (See *advice sheet number 1*). Any regime for reprocessing instruments must be meticulous and consistent to maintain the highest standard. All staff should be trained in local processing procedures. The training protocol should be routinely reviewed in order that all relevant requirements are maintained.

Preparation of the autoclave

When preparing an autoclave for use, ensure the ventilation louvres on the side of the machine are not covered, as this may cause the unit to overheat. Check the power is switched on and there is sufficient water in the reservoir to run the cycle. **Do not use tap water**, (check the manufacturers' Instructions for Use for the correct type of water). Eschmann Little Sister & SES autoclaves require de-mineralised, distilled water or sterile water for irrigation.

Preparation of the load

Items intended to be autoclaved should be clean and dry before processing. If an item is not clean it cannot reach sterility in an autoclave as any dirt or debris remaining on an instrument following autoclaving will present a potential risk of cross infection.

If items are not thoroughly dry prior to autoclaving, contamination of the instruments may occur through micro-organisms present in the residue water being 'baked on' during the sterilization cycle.

Loading of the autoclave

Always check the door seal when loading the autoclave. Damaged door seals may cause the autoclave to malfunction and result in the inconvenience of a breakdown.

It is important autoclaves are not overloaded as this will prevent effective steam penetration of the load and thus impair the sterilization process. If in doubt, refer to the autoclave manufacturer's Instructions for Use where the load capacity should be stated.

When placing instruments onto sterilizer trays, care should be taken to ensure instruments do

not overlap and all hinged items are opened to expose the maximum surface area possible. Kidney dishes and gallipots should be placed on their sides to prevent any water residue being retained in these vessels.

For users of vacuum autoclaves where instruments are pouched or 'bagged' prior to sterilization, a pouch rack (usually supplied with the autoclave) must be used. If a rack is not used and pouches are placed into the autoclave on top of one another it will be impossible for steam to enter the pouches and therefore, the sterilization cycle will not be effective. Pouches should be placed in the rack, paper side to paper, plastic to plastic as this facilitates the best level of steam penetration.

The Instructions for Use of the pouch manufacturer should also be followed carefully, particularly in regard to the sealing of the pouch. Most pouches have a chemical indicator which changes colour during the sterilization cycle and will identify if the pouch has been processed.

Vacuum autoclaves capable of processing porous loads are usually supplied with a porous load basket specifically for this purpose. Again care should be taken to avoid overloading the basket as this will prevent steam penetrating the load and effective sterilization occurring.

Where hollow instruments are processed for immediate use, they should be placed upright in an appropriate rack to ensure the best possible steam penetration into the lumen. If a rack is not available, it is essential to ensure the lumens are not blocked as this will impair effective sterilization.

Do not use trays or cassettes without holes as they will result in both poor steam penetration and subsequent drainage of the load following sterilization.

Running a sterilization cycle

Before selecting the cycle required ensure all operators are familiar with the symbols and displays on the autoclave, as well as any audible alarms which may occur during the cycle. Check that all operators fully understand all of the cycle options available to them and their specific use. Please note, some autoclaves may be configured to allow only one cycle to be

selected. This will prevent any accidental choice of the wrong cycle occurring.

Obviously cycle times will vary according to the cycle selected. Typical cycle times for Little Sister and SES autoclaves run from approximately 12 minutes for an unwrapped solid instrument cycle to around 45 minutes for a wrapped vacuum cycle.

Post-sterilization Storage

Unwrapped solid instruments processed in non-vacuum (displacement) autoclaves required for **sterile use** should be used **immediately** after sterilization (allowing for a suitable cooling down period).

Unwrapped solid instruments are suitable for **non-sterile use later**, provided they have been processed in a cycle which includes a **drying** phase. Following this they should be stored in clean, disinfected, dry and airtight containers.

Hollow instruments for immediate use, such as dental hand pieces should be processed in a suitable **vacuum** autoclave. Drying is not required.

Any item required for **sterile use later** should be **wrapped or pouched** and the use of a **vacuum** autoclave will be necessary to process these items effectively. Pouches and other wrappings should be completely dry when removed from the autoclave. Care should be taken in order to prevent any puncturing of pouches by sharp instruments.

If stored correctly, wrapped instruments can remain sterile indefinitely. However, it is advisable that a shelf life be determined for these instruments and re-sterilised if this shelf life is exceeded or if on examination prior to use, the packaging shows any sign of damage.

SES Little Sister Benchtop Autoclave Advice Sheets

- No 1 The Decontamination Cycle
- No 2 Pre-sterilization Cleaning & Disinfection
- No 3 Selecting A New Autoclave
- No 4 Best Practice in Use of Benchtop Autoclaves
- No 5 Autoclave Testing
- No 6 Health Technical Memoranda
- No 7 Frequently used terms

For copies of the above please contact Eschmann Customer Service Tel: 01903 753322

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