Sterilizing Surgical Instruments with the Autoclave

Sterilization Process Monitoring Devices

◊ Physical Monitors
◊ Chemical Indicators (CIs)
◊ Biological Indicators (BIs)

Physical Monitors
◊ Time, Temperature and Pressure Recorders
◊ Displays
◊ Digital Printouts

Rationale
Physical monitoring provides for real time assessment of the sterilization and provides a permanent record by means of chart recordings or digital printouts. Physical monitoring is needed to detect malfunctions as soon as possible, so that appropriate corrective actions can be taken.

Chemical Indicators
◊ Respond with a physical or chemical change within sterilizing chamber
◊ Assist in the detection of potential sterilization failures
◊ A "pass" response of a CI does not prove that the item monitored by the CI is sterile

Rationale
Various types of CIs are available, each with different response characteristics (i.e., they differ in the sterilizing conditions that they will detect and verify) and with different applications in sterilization process monitoring.
Biological Indicators (BIs)
- BIs consist of spores in or on a carrier
- BIs provided the only direct measure of the lethality of the sterilization process
- BIs must be incubated for various periods of time
- BIs are intended to demonstrate whether the conditions were adequate to achieve sterilization
- BIs do not prove that all items in the load are sterile
- BIs should be used for weekly QA testing.

Rationale
BIs are the only sterilization process monitoring device that provides a direct measure of the lethality of the process. BIs provide evidence of efficacy by challenging the sterilizer with a large number of highly resistant bacterial spores.

Make sure your Center is using the correct BI with the appropriate incubator

Rationale
The condition of the sterilizer equipment, the expertise of the sterilizer operator, and the other factors that determine the success or failure of a cycle could vary from cycle to cycle. The less frequently the sterilizer is used, the greater the chance that an unnoticed event could affect sterilization.

Maintenance
- Document all maintenance done on autoclave
- Refer to autoclave manual for daily, weekly, monthly, and annual maintenance

The records at the Facility will be kept for a minimum of ten years.
Information from:
Comprehensive guide to
steam sterilization and
sterility assurance in health
care facilities

ANSI/AAMI ST79:2006
ASSOCIATION FOT 13