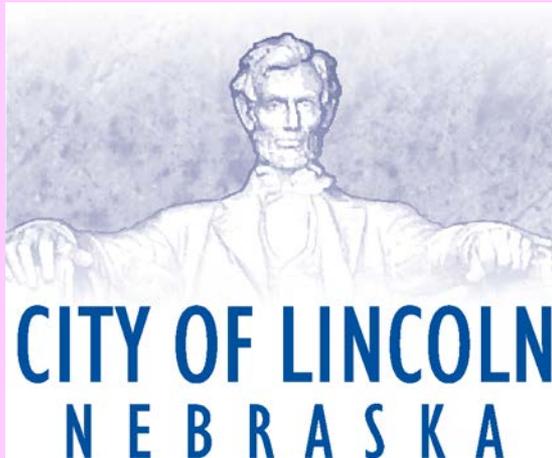


LLCHD Body Art Practitioner Seminar



Sterilization



Today's Topics

- Sterilization
- Body Art Code Requirement
- Testing
- Storage



Sterilization - definition

LMC 8.08

Sterile shall mean free of live bacteria or other microorganisms including highly resistant bacterial endospores.



Jewelry Used In:

- **New** body piercing must be sterilized with an approved liquid chemical sterilant.
- **Healed** body piercing does not have to be sterilized, but must be used according to the product label.



Sterilization Basics - Heat

- Kills by denaturing microbial proteins and nucleic acids
- Damaged the outer membrane of cells



Killer Terms

- **Thermal death point** is the lowest temperature at which a single species of microorganism can be heat killed in ten minutes.
- **Thermal death time** is the time required. at a given temperature, for the heat killing of a single species of microorganism in suspension.

More Killer Terms

- "D" value is the time required to kill 90% of the viable cells or spores of a given microorganism at a given temperature, usually quoted in minutes.



“Yeah but it’s a dry heat...”

- Dry heat sterilization takes longer than steam
- Dry heat allows live organisms time to sporulate
- Spores can survive the dry heat cycle if it is too short
- Currently, City code requires an autoclave (pressure/steam)



Steam Sterilization Advantages

- Moist heat kills faster than dry heat at the same temperature because –

steam transfers heat faster than dry air



3 Key Autoclave Elements

- Heat
- Steam (moisture)
- Pressure

Autoclaves

- Autoclave shall mean a sterilization device which meets the standards of American Society for Mechanical Engineering (ASME).

Body Art Code Requirement

- All non-disposable instruments used for body art shall be cleansed and sterilized after each use.



Body Art Code Requirement

- Autoclaves must be operated according to manufacturer recommendations



Sterilization Principles

- Decontamination
- Sterilization
- Storage & Use

Decontamination

- Items to be sterilized should be thoroughly cleaned and dried in accordance with recommended practices.





Decontamination Process Steps

- Attire
- Transport
- Sorting
- Soaking
- Washing
- Inspection

Attire

- Gloves
- Protective clothing
- Safety glasses



Transport

- Avoid spills
- Use covered totes





Sorting

- Starts in the procedure area
- Remove infectious wastes from non-infectious wastes
- Separate reusables from disposables

Soaking

- Necessary with dried or caked blood on difficult to clean equipment
- Ultrasonic cleaning





Washing

- Detergents
- Removal of all visible contaminants
- Clean rinse



Inspection

- Cleanliness
- Sharp piercing edges
- Chipping
- Worn spots
- Sharp edges in wrong areas
- Functionality

Preparation and Packaging

- Prepare and package items so that sterility can be achieved and maintained until used.
- Expiration date not to exceed 90 days



Process Indicators

- External Indicators:
Masking tape with chemically treated strips that turn colors after the sterilization process is used as the external indicator.





Autoclave Loading

- Follow manufacturer's instructions
- Leave “breathing room” between items
- Don't overload



Autoclave Sterilization

- 250 degrees F
- 15 minutes
- 15 lbs. pressure



Autoclave Unloading

- Crack, Cool, and Dry
- Personal Hygiene
- Hand protection
- Check external indicators
- Failures -use new indicators and run again
- If it fails again do not use until repaired

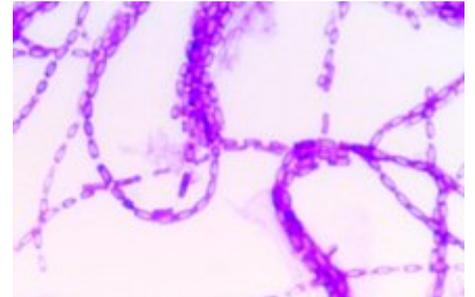
Chemical Indicators

- Internal chemical indicator strips placed inside packaged item or load to be sterilized.



Biological Indicator (BI) Testing

- Biological ampule or filter paper strip with 1 million bacterial spores of *Bacillus stearothermophilus* or *B. subtilis*



Autoclave BI Testing

Biological Indicator:

- Store in cool dry location
- Placed in center of load
- Run during normal load or empty run

Autoclave BI Testing

Biological Indicator:

- When the sterilizer cycle is complete, the sterilizer door is opened and the test pack is removed returned to lab in mailer.
- Strips are aseptically transferred to growth medium and then incubator at 56°C.
- Test strips are examined at regular intervals (e.g. 8, 12, 18, 24 and 48 hours) for any color change.

Autoclave (BI) Testing

Interpretation of Results

- Appearance of a yellow color (a positive readout) indicates bacterial growth.
- No color change indicates an adequate sterilization cycle.
- Record results.

Autoclave Testing

Spore testing:

- Act on any positive test as soon as the first evidence of growth is noted.
- A final determination of sterility can be made after 48 hours of incubation.
- When examining the processed (test) biological indicator at regular intervals, the control biological indicator is also checked.

Autoclave Records

- Spore test results should be kept in a clinic notebook or autoclave log.
- Time and date procedure was performed with the signature of person performing the test and reading the test are to be entered into the autoclave log.

Autoclave Use

Use of Controls:

- As a positive growth control, a non-sterilized biological indicator is incubated each time a biological test is performed.
- The control must be of the same lot and manufacturing date as the test biological indicators used that day.

Autoclave Records

Frequency of Testing:

- Biological testing must be done on each autoclave at least once every 30 days.



Autoclave Records

Incubating your own BI's

- Spore Ampules



Autoclave Records

Biological Indicators

- Lab mailers
- Independent laboratory requirement

<i>Sterilization Assurance Program</i>				
Experience The Beauty Jason Berezuk C - 729 Corydon Avenue Winnipeg MB R3M 0W4		Sterilization Unit Autoclave Model M7-001 Serial # MH001206 Other Information Contact Person J. Berezuk 204 453-4786		
Reference #	65989	Location of Test Strips in Sterilizer		
Tests Submitted	8 (M-08)	Test Strip #1	Sterile	t/b
Supplier		Test Strip #2	Sterile	b/f
Date Tested	2000 05 03	Control Strip	Non-sterile	
Date Incubated	2000 05 15	Incubation t°C	56	
Date Reviewed	2000 05 23	Test Organism	<i>Bacillus stearothermophilus</i>	
Conclusions				
Passed. No growth observed with test strips after 7 days incubation.				



Autoclave Failures

- Chemical indicators don't change
- Positive BI tests results
- Rerun previous load with new indicators
- Remove from service until repaired and two consecutive negative BI tests are achieved

Autoclave maintenance

- Always sterilize clean equipment
- Use distilled water only
- Follow manufacturer's guidance for cleaning and maintenance.
- Document in logs