Sterilization 101: WISH to achieve success

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Objectives:

The learner will be able to:

- ✓ Identify key steps in the wash, sterilization and high-level disinfection process
- ✓ Recognize sterilization/ high-level disinfection irregularities

Sterile Processing Department

WASH

- Removes Micro-organisms
- Remaining residue
  - Inactivates chemicals
  - Protects micro-organisms
  - Increased health risk

WASH

First pitch:

- Free of gross soil
- Point of use
- Transport
- Separation of delicate from general instruments
- Disassembly
- Open jointed instruments
- Manufacturer IFU

WASH

- Detergent/ enzymatic solution
- Mechanical removal
- Visual inspection

WASH

Methods of cleaning:

- Manual
- Mechanical
  - Washer disinfector
  - Ultrasonic

WASH

RINSING:

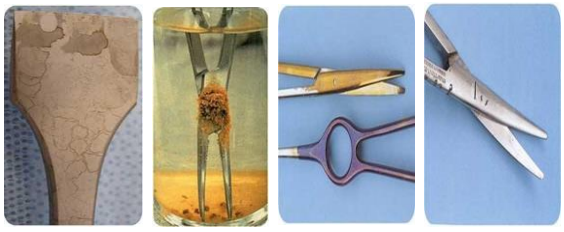
- Removes debris/ detergents
- Copious amounts
- Final rinse

WASH

Visual inspection:

- Lighted magnifier
- Preventative maintenance
- Validation

WASH



PACKAGING

Selection:

- Resistance
- Penetrable
- Suitable
- Tamper evident
- Sterility
- Presentation
- Cost

Preparation:

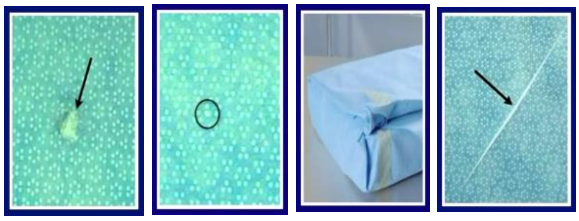
- Location
- Temperature/ Humidity
- Rotation
- Examination
- Disposable
- Reusable

PACKAGING

Techniques:

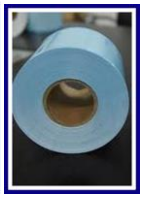
- Sequential double- wrapping
- Simultaneous double-wrapping

PACKAGING



PACKAGING

PACKAGING


PACKAGING


IUSS

Immediate Use Steam Sterilization:

- Shortest time between removal and transfer to sterile field
- Unwrapped
- Container systems
- Exposure time?
- Implants?

NOT A SUBSTITUTE FOR INSUFFICIENT INSTRUMENT INVENTORY

STERILIZATION

Complete elimination/ destruction all microbial life

Steam
- Advantages
  - Non-toxic
  - Easy to control
  - Inexpensive
  - Rapidly microbicidal
- Disadvantages
  - Burns
  - Heat sensitive instruments
  - Wet packages

EtO
- Advantages
  - Heat sensitive equipment
  - Effective
  - Easy to control
  - Penetrates
- Disadvantages
  - Lengthy
  - Toxic, carcinogen, flammable
  - Regulated
  - Storage

Vapor
- Advantages
  - Safe & fast
  - Non-toxic residuals
  - Heat & moisture sensitive
- Disadvantages
  - Paper, linens liquids
  - Small chamber
  - Restrictions
  - Synthetic packaging
  - ? Toxic at certain levels

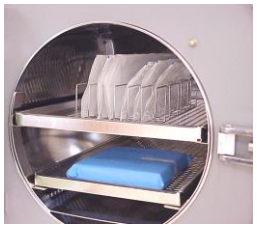
STERILIZATION 101: WISH TO ACHIEVE SUCCESS

STERILIZATION



STERILIZATION 101: WISH TO ACHIEVE SUCCESS

STERILIZATION

STERILIZATION 101: WISH TO ACHIEVE SUCCESS

HIGH LEVEL DISINFECTION

Inhibits MOST viable organisms except spores and prions

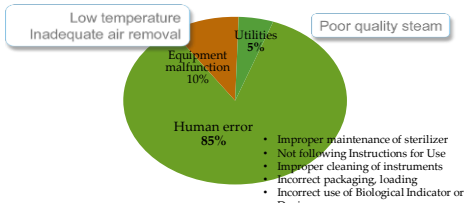
- semi-critical devices
- Visual inspection
- Preparation/ Concentration
- Validation
- Contact time

STORAGE & DELIVERY



Quality Assurance
Performance Improvement

Variables Affecting the Outcome of Steam Sterilization Process



- Improper maintenance of sterilizer
- Not following Instructions for Use
- Improper cleaning of instruments
- Incorrect packaging, loading
- Incorrect use of Biological Indicator or Challenge Device
- Incorrect BI PCD placement in load
- Incorrect cycle parameters for load

Ref: Personal Communication, Charles Hancock, President, Charles O. Hancock Associates, Inc.

Four critical variables for steam sterilization to be effective:

STEAM

PRESSURE

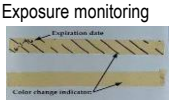
TIME – 30/4

TEMPERATURE - 250/270

Quality Assurance

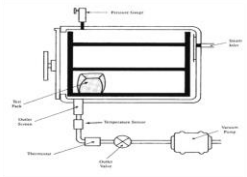
Monitoring Tools

- Physical monitors
- Equipment monitoring
- Load monitoring
- Pack monitoring
- Exposure monitoring



Physical Monitors

Equipment Monitoring



Load Monitoring - Attest

Pack Monitoring

- **Internally monitors pack, trays, peel pouches.**
- **Verifies the sterilant has penetrated to the point of placement.**
- **Confirms that specific exposure conditions have been met.**

Exposure Monitoring

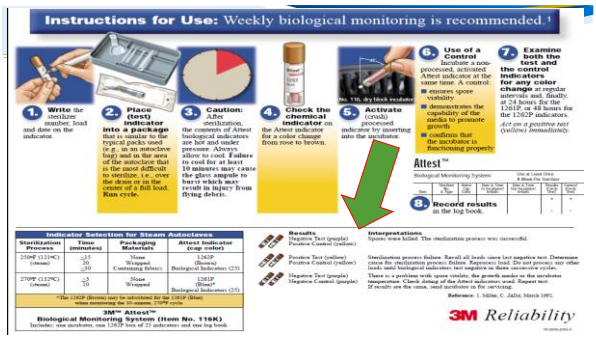
Quick way to see if a sealed pack has internally been exposed to the sterilization process.

Documentation – 3 years

EXCEPT:
Alabama
Florida
Hawaii
Maryland
Mississippi
Missouri
Nevada
N. Carolina
Ohio
Virginia

Documentation

Surveyors Corner



Tracking Back

1. Sterilizer load log
2. Cycle number on tape or pouch
3. Call out cycle numbers and record in patients chart

Tracking Back

Transportation Technique

The container must be labeled as biohazard, use a sticker.

Don't Forget To Wear Gloves!!!!!!

REFERENCES

ANSI/AAMI ST79: AAMI's Landmark Recommended Practice for Hospital Steam Sterilization, 2010

- Rutala WA, Weber DJ. CJD: Recommendations for disinfection and sterilization. Clin Infect Dis 2001;32:1348
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- Rutala WA, Weber DJ, HICPAC. CDC guideline for disinfection and sterilization in healthcare facilities. MMWR. In press.
- CMS infection control surveyor worksheet, exhibit 351

QUESTIONS?

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