Transition or Not: Process for Implementation of High Level Infection Control

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Goals

- Provide Answers
  - What is high level disinfection?
  - What resources are available?
  - What impact will this have?
- Understand the importance
  - Joint Commission findings and updates
  - Accreditation updates
- Know the options
- Where to start

What is high level disinfection?

The process of complete elimination of all microorganisms in or on a device, with the exception of small numbers of bacterial spores.

https://www.jointcommission.org/assets/1/6/TJC_HLD_BoosterPak.pdf

Why the focus on High Level Disinfection in the Sleep Center?

- Patient safety
- Raised consumer awareness of healthcare-associated infections
- HAI can impact reimbursement
- Joint Commission standard updates in 2016 specifically focus on cleaning procedures in the sleep center
- Accreditation requirements for Medicare reimbursement
- Updates to AASM Standards in 2016

Joint Commission Findings

Joint Commission surveys conducted since 2009 have shown serious and continuous declines in non-compliance specific to high level disinfection hospital wide.

https://www.jointcommission.org/assets/1/6/TJC_HLD_BoosterPak.pdf

Common HLD Deficiencies found during On-Site Surveys

- Manufacturer guidelines for processing equipment were not available
- Monitoring parameters were not documented (temp, soak time, etc.)
- Results of pH test strips were not documented
- Quality control procedures for the testing of pH strips was not performed/documented
- Policies and procedures were not developed to include all steps for HLD
- HLD training and annual compliance for staff was not documented or included in policies

Available Resources

- Infection Control Department
- Manufacture websites for CPAP and Diagnostic Equipment
- Hospital/Facility Survey Readiness Teams (if available)
- Sleep Center Accrediting Organization websites
- Sterile Processing Department
- Joint Commission High Level Disinfection Guidelines

  https://www.jointcommission.org/assets/1/6/TJC_HLD_BoosterPak.pdf

Reach out to other facilities within your organization!

WHERE DO I START?

Manufacture Guidelines: Your HLD Handbook

- Obtain this for every single piece of equipment used in the sleep lab
- Become very familiar with it and able to refer to it easily
  - Highlight the relevant information so it is easy to find
  - Educate staff
  - Have it accessible in multiple areas, not just part of the Policy Manual
- Identify only the CPAP masks/equipment used in the lab

Some guidelines may be surprisingly difficult to locate

Identify the Disinfection Classifications of Equipment

Spaulding Classification

- **Noncritical Items**
  - Come in contact with intact skin but not mucous membranes.
  - Require low level disinfection. High-level disinfection traditionally is defined as complete elimination of all microorganisms in or on an instrument, except for small numbers of bacterial spores.

- **Semi-Critical Items**
  - Come in contact with mucus membranes and non-intact skin.
  - Require high level disinfection.

https://www.cdc.gov/infectioncontrol/guidelines/disinfection/rational-approach.html

The Spaulding Classification

Patient Contact	Examples	Device Classification	Minimum Disinfection Level
Intact Skin		Non-Critical	Low Level or Intermediate Level Disinfection
Mucous Membranes or non-intact skin		Semi-Critical	High Level Disinfection
Sterile areas of the body, vascular system		Critical	Sterilization

Non-Critical Equipment

- Snore mic
- Body position sensor
- Respiratory effort belts
- Snap electrodes
- Thermistor airflow sensor
- Pulse oximeter
- EEG electrodes
  - There is some debate surrounding this

Although they do not require HLD, they will each have specific cleaning guidelines

- This may include soak times and temperature ranges.
- Hospital approved disinfectants should always be used.
  - These may vary from what disinfectants are currently being used in the lab.

Semi-Critical Equipment

- CPAP masks
  - Cushions
  - Frames
- Humidifier Chambers and Hoses
  - Heated hoses can not be high level disinfected
  - Frames

What are the limiting factors?

- Cost
- Space
- Number of beds
- Availability of required equipment (eyewash station)
- Access to a Central Sterile Department
- Access to an Infection Control Department

Option 1:

Disposable equipment and single use CPAP masks

- Easiest method for meeting the HLD requirements
- Eliminates tracking cycle uses
- Patient have a secondary mask
- Limits techs from trying multiple masks on a patient
- Not a cost effective option for many labs

Option 2:
Performing HLD in the Sleep Center

Cons:

- Requires the use of **Cidex OPA**
- An eye wash station must be available
- Full PPE must be worn at all time when using Cidex OPA

Pros:

- The most cost effective method for labs where the use of all disposable equipment is not possible.

Cidex OPA

Preparation:

- Full PPE equipment must be worn at all times
- An eye wash station must be available
- Logs must be kept for each process involved in the preparation of Cidex OPA
- The solution must be changed ever 14 days
- Test strips are used to check the pH of the Cidex solution.
  - Each container of newly opened test strips must be tested to verify accuracy.
  - A negative pH control solution must be prepared.
  - The pass/fail result must be logged.
- The pH of the Cidex must be tested before each use and logged along with any corrective action.
- Cidex must be neutralized with Glute-out before discarding down the drain.

Cidex OPA

Use:

- Timers must be used for each process to insure accuracy.
- Pre-cleaned equipment is immersed for 20 minutes.
- Equipment goes through 3 rinses.
- Rinse cycles are prepared in 3 different containers with a minimum of 2 gallons of water and allow to soak for a minimum of 1 minute.
- Timers are set to insure accurate rinse times.
- Equipment must be allowed to completely air dry before being stored in the clean area.

****The use of Cidex OPA takes practice from the entire staff****

****Annual competencies are a must****

OPTION 3:
Sterile Processing

Pros:

- Eliminates the use of Cidex OPA
- Reduces time constraints for technicians
- Allows for more space

Cons

- Not available to sleep labs outside of the hospital
- Cycle use must still be tracked for each item
- Pre-clean procedures must still be performed
- Not all mask components can go through sterilization process

PRE-CLEAN
AND
CYCLE USE TRACKING

First Things First!

Do some research using your handy manufacture guidelines

- Eliminate any mask you very rarely use or allow these to be single patient use only
- Eliminate any mask that cannot go through sterile processing
  - Sometimes one component of the same mask can and another cannot
- Decide if you are willing to track the individual cycle uses of masks that come apart into several different components
- Look for common denominators
  - What detergent meets the requirements for all CPAP equipment
    - **Alconox** met the requirements for all of the CPAP equipment and non-critical equipment cleaning guidelines we use in our center.
  - If a mask has multiple cycle uses, track for the lowest one
  - Look for temperature ranges that meet the requirements for multiple CPAP equipment
  - Look for common soak times that meet multiple requirements of CPAP equipment

Pre-Clean

Prior to any high level disinfection or sterile processing, all CPAP masks and humidifier chambers must be pre-cleaned.

- Refer to the manufacture guidelines for the pre-clean instructions for each mask.
- Each mask must be completely disassembled.
- Prepare the Alconox solution per the guidelines.
- Water temperature must measured and logged to insure it is within range.
- Timers are set to insure proper soak times.
- Single use brushes are used to scrub CPAP equipment.
- Pre-cleaned equipment must be allowed to completely air dry.

Headgears and Chin straps

- Most soft components do not require high level disinfection
- They go through the pre-clean procedure
- They must be allowed to completely air dry

Tracking Cycle Usage for CPAP Masks/Humidifiers

Challenges:

- Make sure all of the individual components are separated and labeled
- Insure that the permanent marker stays on through pre-clean and sterilization process without interfering with the effectiveness.
- Keep new masks from being opened prior to being labeled
- Put one person in charge of tracking cycles to avoid mistakes
- Simplify the process as much as possible
  - I use simple tick marks as each item gets sent to sterile processing

Tracking Cycle Uses for Headgears/Soft Components

Solutions:

- Get the night technicians involved
  - They practice this process every singe night
- Allow the processes to evolve as better ways are discovered

Additional Notes on High Level Disinfection

- If it goes into the patient's room, it is then considered dirty. Only bring in what you need
- High level disinfection can limit the freedom to try multiple masks on patients
- Use mask fitting guides to help avoid using multiple sizes
- Pre-measure any container possible.
- Post step by step instructions for each process in the cleaning area.

Things I've learned on my journey through the world of high level disinfection

- The difficulty of finding what the exact temperature range is of "warm" water.
- Masks often disassemble into more parts than you realize.
- Alconox is amazing and will remove Ten20 paste off of anything.
- Log absolutely everything.
- Set timers for every process. You will be asked.
- Read the manufacture guidelines multiple times prior to developing your processes.
- Get a second opinion.
- You pre-clean things before you clean them.
- Rinsing is not always done with running water.
- We have had 6 different surveys in our lab in the last 2 years. Expect to learn something new every time.
- I had no idea how much I didn't know.

Questions

What experiences have you had in your facilities?

What processes have/have not worked?

What has been the most helpful?