Medical Device Pasteurization – An Alternative High-Level Disinfection Process that Doesn't Require Chemicals

FACTS YOU ALREADY KNOW

- Potent, harsh chemicals such as chlorine, iodophors and aldehydes are used in the United States for high level disinfection of semi-critical reusable medical devices.
- These chemistries carry associated risks [1]
  - Risks to workers when handling many of these chemicals
  - Risk to patients if any residual chemistry remains on a medical device
  - Survival of organisms within biofilm, which harbors and protects microbes on device surfaces and is resistant to some chemistries
  - Genetic variations and natural mutations continue to occur in many known organisms that are making them more resistant to disinfection chemicals.[2]

A SOLUTION YOU MAY NOT KNOW ABOUT

- There is a **simpler alternative HLD process that doesn't require chemicals** – an underutilized moist heat method that can be used to achieve high level disinfection: ***Pasteurization***.
- A medical device can be pasteurized by fully immersing it in heated water for a specific amount of time at a specific temperature to achieve microbial destruction.
- Global standards recommend that to achieve HLD, the process should apply, at minimum, a temperature of 65°C (ISO 15883).
- In the U.S., a 6-log reduction (which equates to a 99.9999% reduction) of the original population of mycobacteria is required for HLD.
- **A full immersion pasteurization using a Cenorin™ 610 Washer-Pasteurizer/High Level Disinfector at a temperature of 72°C for 30 minutes has been shown to achieve HLD for typical medical devices used in anesthesia, pulmonary procedures, sleep labs and respiratory care.***
- **The Cenorin wash/pasteurization cycle *achieved a greater than 7-9 log reduction for all required test organisms.*** These results are an order of magnitude larger than the requirements set forth by US standards.

*Devices used in the testing posed a high level disinfection challenge.
**Full documentation is available for reports and quality review.

SIMPLE, SAFE, ECONOMICAL

The question is, why make HLD processes more risky, complicated, and costly than they need to be? There is a pasteurization solution readily available for heat-sensitive medical devices. Studies have shown pasteurization processes to be simple, safe, and economical. [3]

References

1. https://www.cdc.gov/infectioncontrol/guidelines/disinfection/disinfection-methods/chemical.html
2. https://europepmc.org/articles/pmc88911
3. https://www.ncbi.nlm.nih.gov/pubmed/16850667

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