

Sterilization Answer Man

Which is more important to your sterilization operation?

- A. the daily Bowie Dick Test***
- B. running BIs in loads***

I have long felt the science of what happens inside the sterilizer during the cycle should be known by each person operating a sterilizer. The more knowledge about the science, the better the process and the outcomes. So, my question is meant to challenge all who participate in this forum to think about the science of sterilization.

Here's my response to the question. It is one person's opinion and others have the right to join in and agree or disagree.

The first assumption is that no FDA cleared cycle removes 100% of the air inside the chamber or load during a normal vacuum cycle (the preconditioning phase and the start of the exposure phase). It is also understood that in order to achieve conditions for sterilization, steam must make contact with all surfaces. I think we can agree with these two statements, even though they seem to conflict with one another.

Steam is a wonderful and forgiving sterilant. It compensates for a lot of packaging and loading sins: too heavy, too complex, too dense, packed too tightly and so on. The extended cycle requirement has its genesis because of this. The Bowie-Dick Test is performed in an empty chamber. For steam penetration and air removal, this one PCD inside an otherwise empty chamber is considered the most difficult air removal and steam penetration challenge.

BIs, on the other hand, are processed with loads and after the cycle, you really don't know if steam penetrated and made contact with all surfaces within individual packages inside the chamber. The negative BI result is a general load process indicator. Also consider that it is possible to achieve a negative BI result even when large quantities of air are in the chamber/load (under lab conditions). Ask your BI manufacturer if they have performed any tests to document the point when the amount of air induced causes a positive BI result. On the other hand, the Bowie-Dick Test can tell you whether the vacuum steam sterilizer is performing correctly (conditioning the load, removing air and allowing steam penetration to all surfaces). That's why the B-D Test is done daily.

So, it's the scheme of things. That is why I rank the B-D test as the most important quality tool in the OR or CS Manager's bag. The BI is also a necessary tool, but can give a negative result even if you have a B-D failed result.

***Feel free to agree or disagree.
The science of the process is the key.***

Let me know your thoughts: s-a-m@rochester.rr.com