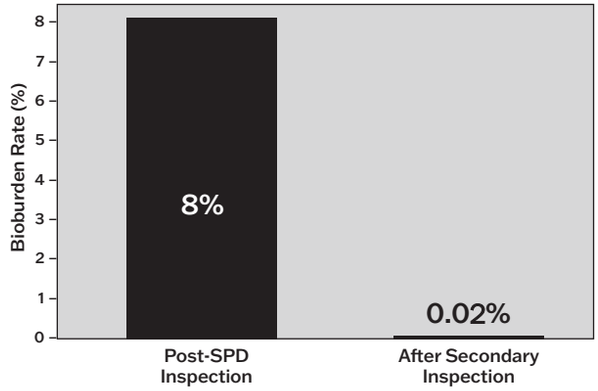
Ensuring Sterility at Scale: A One-Year Analysis of SteriCUBE® in a High-Volume Surgical Facility

A study of nearly 15,000 trays evaluating bioburden detection, secondary inspection protocols, and sterile processing efficiency.

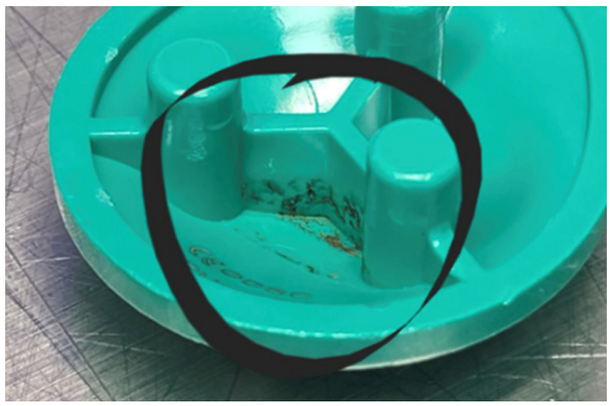
High-volume surgical facilities often face concerns regarding bioburden identified on instruments upon arrival in the operating room (OR). At this facility, high surgical volume requires more personnel to assist the Sterile Processing Department (SPD) in checking and processing instruments. To facilitate SPD, SteriCUBE provides LoanSTAR® Specialists, who partner with SPD staff and vendors to assist with CUBE use. One of the most important roles of the Specialists is to perform secondary checks on instruments post-SPD inspection. Two LoanSTAR® Specialists were placed within this facility as opposed to the standard single specialist seen in lower volume hospitals.

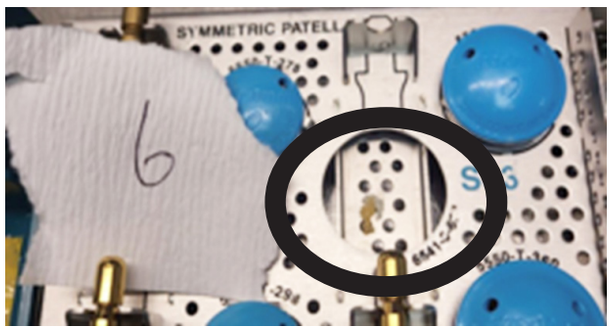
A primary concern among SteriCUBE users is the potential for contamination within a multi-tray sterilization chamber. If bioburden is identified within one tray, many institutions consider the whole CUBE contaminated. Recognizing the importance of addressing this risk, LoanSTAR® Specialists instituted a secondary inspection protocol. Over a one-year period, Specialists examined nearly 15,000 trays, and determined approximately 8% of post-SPD inspection trays contained visible foreign bodies or bioburden.[1] After secondary inspection by the Specialists, bioburden incidence was reduced to 0.02% of trays.

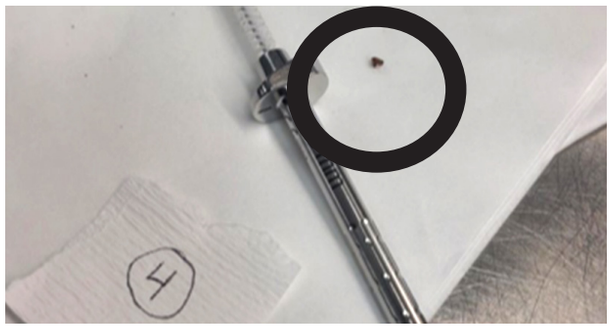
Bioburden Reduction Following Secondary Inspection Protocol



Examples of bioburden found:







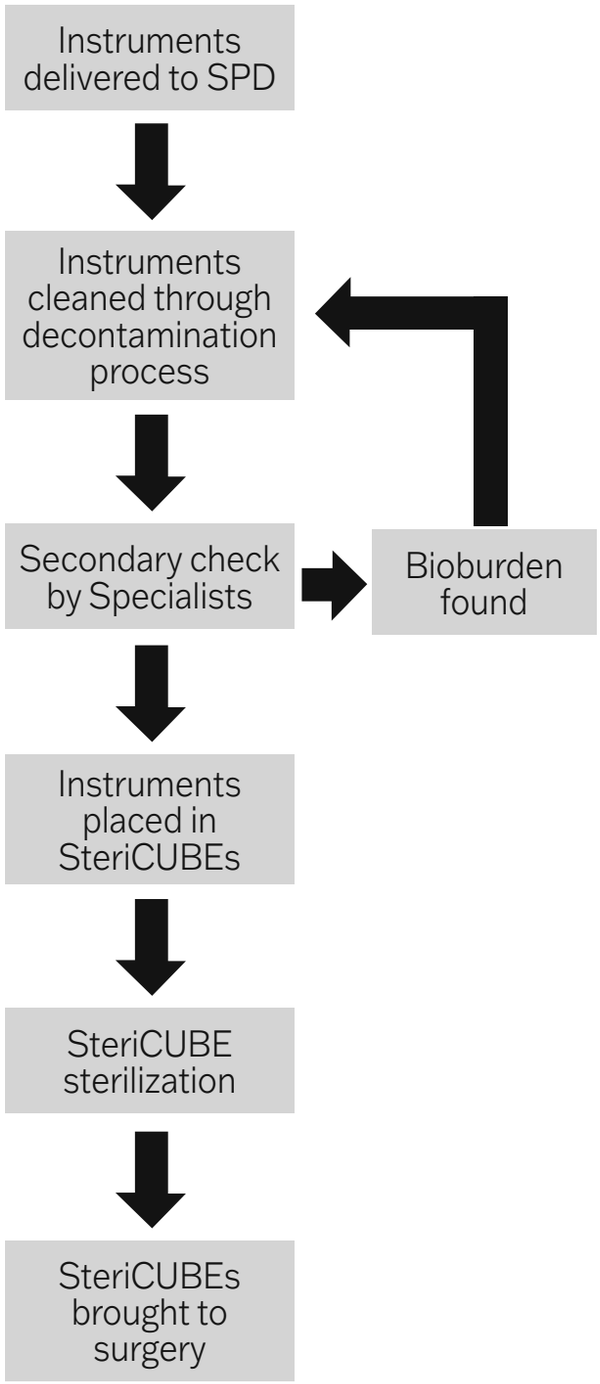
[1]*Data on file.*

SteriCUBE technology has significantly improved operational efficiency within both the SPD and the OR. The system's ability to sterilize multiple instrument trays simultaneously increases SPD workflow, and the elimination of blue wrap has produced time savings and reduced material waste. SPD staff no longer spend valuable time wrapping vendor loaner trays; allowing reallocation of labor towards higher-value responsibilities.

Furthermore, blue wrap has been known to introduce preventable delays due to tears or holes identified after handling or transport. These issues render trays unusable and require reprocessing; often interrupting surgical schedules. By implementing SteriCUBEs, the facility has reduced this recurring issue. As a result, SPD workflow efficiency has further improved and OR turnover times have become expedited.

In addition to these workflow advantages, integrating a dual specialist approach to analyzing trays has demonstrated it is possible for high-volume facilities to drastically reduce bioburden and foreign bodies within sterilized trays, while improving procedural efficiency.

SPD Department Inspection Process



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