Duodenoscope Testing Services

Surveillance for Bacterial Contamination of Duodenoscopes after Reprocessing

Outbreaks of bacterial infection associated with endoscopes are often attributed to improperly reprocessed endoscopes. In the past few years, there have been multiple reports of patient exposure to multi-drug resistant organisms, such as carbapenem-resistant Enterobacteriaceae (CRE), from contaminated duodenoscopes.

The complex design of the duodenoscope results in difficult to access parts and hard-to-clean areas. Debris from previous patients may not be completely removed during cleaning, which allows for organisms to survive the disinfection process. As demonstrated by recent outbreaks, multi-drug resistant organisms can be transmitted from patient-to-patient by the contaminated duodenoscopes.

The CDC has provided an interim guidance for epidemiological and surveillance studies to find the root cause. Rather than focus attention solely on the detection of CRE, the CDC recommends that labs look for the presence of large numbers of bacteria and for "high-concern" organisms. The high-concern organisms are not normal skin or environmental flora and represent potential pathogens, such as *Pseudomonas*, *E. coli*, and *Klebsiella* spp.

Sampling Duodenoscopes for Bacteria Testing at EMSL

This method is used in the field to sample 'ready-to-use', fully reprocessed duodenoscopes (after drying) for bacteria specifically located on the distal end. In addition, it's also used for collecting samples from the instrument channel (via the instrument port to the distal end). Ideally, two personnel familiar with the instrument and who are capable of aseptic technique should perform this protocol. One will hold the duodenoscope (facilitator) while the other person samples (sampler) accordingly. It is important to sample gently, while thoroughly, in order for optimal sampling and maintaining the integrity of the duodenoscope.

In the area where the duodenoscope will be sampled:

1. Duodenoscopes should be sampled on a clean surface away from traffic, obvious airflow (e.g. vents) and potential contamination with water. A sectioned-off area of a reprocessing room or a separate room can be designated for duodenoscope sampling.

2. Clean and disinfect the counter where sampling of the duodenoscope will be performed with an EPA-approved disinfectant for hard, non-porous surfaces observing manufacturer's instructions on contact time and disinfection procedure.

3. Sampler and Facilitator: Don sterile gowns, face masks/shields, hair coverings and gloves.

4. Prepare the sampling materials by laying out the sterile diaper pad; placing respectively labeled sampling containers, pre-moistening PBST tubes in a rack, as well as other needed items (e.g. 60-cc syringes).

5. Gather sterile brushes for sampling the duodenoscope.

6. Follow the CDC's interim sampling method for the duodenoscope – distal end and instrument channel.