Demystifying the Sterilization Process

January 28, 2020
IC.02.02.01 EP2:
The organization implements infection prevention and control activities when doing the following: Performing intermediate and high-level disinfection and sterilization of medical equipment, devices, and supplies.
| Use       | • Flush and wipe as appropriate |
| Transport | • Keep moist, disassemble/sort if required |
| Cleaning  | • Manual/automated- follow IFU |
| Decontamination | • Follow IFU for instrument and supplies |
| Inspect   | • Cleanliness, functionality, integrity |
| Prep/Pack | • Verify compatibility and follow IFU |
| Sterilize | • Follow IFU from INSTRUMENT manufacturer |
| Transport | • Temperature, humidity, dust/debris |
| Store     | • Humidity, weight, package integrity |
| **VERIFY READY FOR USE** | • Package integrity, instrument integrity |
Hello! My name is Tammy and I am a surgical instrument who is here to take you through my journey from the end of a procedure, through my decontamination and sterilization process and back to ready for use once more! Thank you for coming with me on this journey!
After the procedure...the battle begins!

Great job everyone!
Now, as soon as possible I need to start my decontamination journey. We know that bioburden begins to dry within 10 minutes and surveyors will be looking to your organization to walk them through your process for instruments getting from the procedure to the processing area.
Step 1: Use- flush and wipe as appropriate

The best way to keep instruments free of bioburden? Flush and wipe immediately after use. Of course this does NOT mean adding minutes to a procedure, but if we are done using an instrument and it can be wiped immediately prior to the journey to decontamination, this is best practice!
Step 2: Prepare for transport...If Sharp...

Reusable sharps that are contaminated with blood or other potentially infectious materials shall not be stored or processed in a manner that requires employees to reach by hand into the containers where these sharps have been placed.

29 CFR 1910.1030(d)(2)(viii) of the BBP standard:

Immediately or as soon as possible after use, contaminated reusable sharps shall be placed in appropriate containers until properly reprocessed. These containers shall be: (A) Puncture resistant; (B) Labeled or color-coded in accordance with this standard; (C) Leakproof on the sides and bottom; and (D) In accordance with the requirements set forth in paragraph (d)(4)(ii)(E) for reusable sharps.
These labels shall be fluorescent orange or orange-red or predominantly so...
If not cleaned immediately...

Bioburden ❤️ instruments.

Some instruments offer countless places for bioburden to hide and removing ALL of it can be difficult—especially when it has been allowed to dry.

❓ Product?
❓ Process?
❓ People?
Manufacturer’s Instructions for Use...IFU...your “recipe” for success
Personal Protective Equipment!

Included in the instructions for use with your cleaning agents is what staff should be wearing when using the product. This is a BIG deal! Not only do you want to keep your staff safe, but it is very expensive to lose them for injuries or illness!

WARNING: Personnel shall follow their facility policies and procedures and wear appropriate personal protective equipment when handling potentially contaminated equipment.
Cleaning

I am here to teach you all about…
Competency Assessment vs Orientation

Every 3 years...
Pause!
Leadership is the key to success!

That was a lot of information! And that is just a few examples for instrument sterilization! How do we keep everything straight?! That is where leadership comes in. Ensuring that the right people are developing the process for staff to follow as well as ensuring staff are educated and have the tools to be successful in keeping patients safe!
Risk Assessment: Laying the Groundwork.

IC.01.03.01 : The organization identifies risks for acquiring and transmitting infections.

EP1. The organization identifies infection risks based on the following:
- Its geographic location, community, and population served
- The care, treatment, or services it provides
- The analysis of its infection surveillance and control data
Hazard Assessment: PPE

Conduct survey of the workplace to identify

- activities
- tasks
- equipment

that create hazards that can be minimized by use of appropriate personal protective equipment.
<table>
<thead>
<tr>
<th>Patient with</th>
<th>Possible Pathogens</th>
<th>PPE Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diarrhea and/or vomiting</td>
<td>MDROs, C. difficile, GI viruses (e.g., norovirus, rotavirus, etc.)</td>
<td>Based on Facility Hazard Assessment</td>
</tr>
<tr>
<td>Cough</td>
<td>Pertussis, Tuberculosis, respiratory viruses (e.g., influenza, metapneumovirus, etc.)</td>
<td>Based on Facility Hazard Assessment</td>
</tr>
<tr>
<td>Rash</td>
<td>Shingles, Herpes Simplex, Measles, Strep pyogenes</td>
<td>Based on Facility Hazard Assessment</td>
</tr>
<tr>
<td>Facility Identifies Situations</td>
<td>Facility Identifies Risk</td>
<td>Based on Facility Hazard Assessment</td>
</tr>
</tbody>
</table>
Hazard Assessment

Tools are available from multiple sources:
- OSHA:

Resources Include Checklists for:
- Establishing a PPE Program
- Need For PPE
- Training Employees to Use and Care for Eye and Face Protection
Poorly designed and utilized space.
So back to me! I have been soaked, but now I need to scrubbed and cleaned and prepared for sterilization. How do you know how to do that? I come with instructions or my manufacturer can be contacted to get that information!
Step 5: Inspect
Step 6: Prep and pack

Now that I am washed and dried fully, it is time for me to jump into a peel pack or other container in order to undergo sterilization! Sometimes I am placed into a double peel pack so that I do not puncture the pouch—just make sure it isn’t folded over and the manufacturer says it is ok! And please, don’t crowd me! I like a little space!
For organizations that use Joint Commission accreditation for deemed status purposes or that are required by state regulation or directive, Conditions of Participation (CoPs) and/or Conditions for Coverage (CfCs) should be reviewed for applicable mandatory requirements.
Step 7: Sterilization

We have finally made it to sterilization! Wow-hard to believe that there has been so much to do and cover prior to this step, but we are here! The most important thing here- and I cannot stress this enough- **VERIFY** that cycle chosen meets the parameters the **DEVICE** Manufacturer provides.
Chemical Indicators, Biological Indicators...

Product?

Process?

People?
Ensuring a successful cycle

Well the sterilization cycle is over! How do staff know if I am ready for my next patient procedure? We need to ensure that the expected time, temperature and pressure parameters were met as intended. Checking the sterilizer after each load or using computer print-outs are both options!
Step 8: Transport

Now that I am sterile, I need to go back to my home department because I want to get back to procedures! But after all this hard work, we want to be sure that my sterilization is protected on the way and that I am moved safely! A few minutes ago I was in steam that was 270 degrees!
Step 9: Storage

Make sure I am stored in a way that will not compromise my package integrity! Think dust, humidity, crammed packed drawers...
Your staff are your biggest assets when it comes to keeping patients safe! Just as we discussed earlier, they should be trained to ALWAYS verify instruments they are using are STERILE for use! Teach them what to look for and empower them to speak up!!
Questions?