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HOW TO KNOW YOUR INSTRUMENTS ARE STERILE AND COMPLIANT

By Hu-Friedy
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Let's face it, cleaning and sterilizing instruments for re-use might just be one of the most tedious and dull parts of your day. But the bottom line is that it is also a crucial part of your day. Ensuring that instruments are free of potentially infectious material and debris is critical to the quality care that dental health professionals pledge to provide.

The importance of clean dental instruments

The essential first step in instrument reprocessing is successful cleaning, and it's important to get it right. If an instrument is not properly cleaned and any kind of bioburden or foreign material is left on its surface, it can act as a barrier to the sterilizing agent (usually steam). In effect, if an instrument is not properly cleaned, it cannot be sterile.

All organic and inorganic residue must be removed in order to achieve sterility. Organic material like blood and plaque could lead to a health care associated infection if left on an instrument. Inorganic material such as cements and composites could lead to an instrument rusting or pitting, rendering it unusable and reducing its useful life.

Common process failures

These days, the majority of instrument cleaning is achieved via an automated process such as ultrasonic cleaners or washer-disinfectors. With ultrasonic cleaners, instruments are fully submerged in a detergent solution while bubbles (cavitation) continuously form and burst, removing soil by breaking the bonds that hold debris on instruments. Washer-disinfectors use water and detergent at high temperatures to force debris from instruments both directly via pressure, as well as indirectly through soaking in the water and detergent mixture.

In both automated cleaning processes there are several parameters at play that combine to produce an effective cleaning process:

Washer-Disinfectors	Ultrasonic Cleaners
Time	Cavitation
Temperature	Time
Concentration of detergent	Temperature

Spray arm function	Amount of detergent
Enzyme/detergent soak	Number of instruments

All of these factors work together in order to effectively clean instruments. If one of these parameters fails or is inconsistent, your cleaning process could be in jeopardy! Any number of things could potentially go wrong with each parameter. Below are some examples of things that could cause one of these parameters to fail or be insufficient:

Washer-Disinfectors	Ultrasonic Cleaners
Inadequate water spray/impingement	Ineffective cavitation
Clogged spray arms	Overloading
Overloading and instrument shadowing	Insufficient time, temperature, and/or detergent
Inadequate/improper detergent dosage	

Monitoring the cleaning process

The mechanics of sterilization monitoring are fairly well known – a chemical indicator in each pack and regular biological monitor testing of each sterilizer. These are performed on a routine basis as a check to ensure the sterilization process is functioning properly. But, if an instrument that is not clean cannot be sterilized, isn't it just as important to monitor the cleaning process to ensure it's being performed properly?

Sure, you might glance at the instruments after they have been cleaned to see if there is anything left on them, similar to when you empty the dishwasher at home, but not all blood components are always visible to the naked eye. And what about those areas of an instrument that are not visible, like the hinges on scissors and forceps? A common practice for testing an ultrasonic cleaner is to perform a foil test. This involves placing a piece of foil in a functioning ultrasonic cleaner, and then inspecting it for an even hole pattern. The problem there is that cavitation is just one factor in the ultrasonic cleaning process, as noted above. The foil test doesn't account for the amount of detergent, the length of cleaning time, or the loading basket capacity.

Per CDC guidelines you are required to test your steam sterilizer with a biological indicator at least weekly (preferably daily). The CDC does not provide any guidelines for equipment testing of your washer-disinfector and ultrasonic cleaner, but ANSI/AAMI recommends that washer-disinfectors and ultrasonic cleaners are tested daily.

The solution: Cleaning monitors

If you can't always see leftover debris and the foil test only indicates one of the cleaning parameters, how do you monitor your cleaning process to ensure that it is effective? For a number of years, hospitals have been opting for monitors that use artificial test soils which simulate the presence of blood and tissue, to routinely check cleaning equipment. These tests provide consistent, reliable input on the cleaning process and are significantly superior to visually inspecting instruments.

Hu-Friedy Cleaning Monitors are an example of one of these types of products. These Cleaning Monitors are designed for monitoring the efficiency of the cleaning process when using washer-disinfectors or ultrasonic cleaners. The system consists of equipment-specific monitor strips and

a reusable holder. The monitor strips contain a test soil that mimics the presence of blood and tissue that may be found on an instrument surface after its use. Full removal of the test soil from the strip during a cleaning cycle indicates an effective cleaning process. The test soil is a non-toxic, synthetic soil, so nothing hazardous is added to your cleaning solution. The stainless steel holder keeps the cleaning monitor in place in order to provide an accurate result and in the case of the washer-disinfector monitor, it mimics a hinged instrument and measures the water impingement and removal of soil.

Shop the product

Knowing the number of factors at play during the cleaning process, Hu-Friedy has put together a troubleshooting guide (pictured below) to help you understand what might need to change about your process to achieve a better result.

Clean instruments lead to sterile instruments and knowing whether your instruments are clean is an important element of quality assurance. Adding a product like Hu-Friedy's Cleaning Monitors to your daily or weekly protocols gives invaluable insight into the effectiveness of your cleaning process as well as peace of mind that you are keeping yourself and your patients safe.

Discover a better way to stay compliant

Maintaining a compliance program doesn't have to be a burden. The GreenLight Dental Compliance Center™ by Hu-Friedy is an exclusive membership that keeps all your infection prevention guidelines and regulations conveniently housed in one portal.

GreenLight helps you create customized infection prevention and instrument reprocessing protocols according to CDC Guidelines and your state dental board regulations. GreenLight also saves time on staff training and updates, with improved performance in your infection prevention practices. You'll find more than convenience with GreenLight – you'll also gain the confidence that comes from knowing your facility is in compliance.
Learn more at greenlightcompliancecenter.com.
Additional resources

- View the latest CDC communication on infection prevention in dental settings
- Download a detailed PDF of CDC Guidelines for Infection Control in Dental Health-Care Settings

Content provided by HuFriedyGroup.

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From Patterson Dental's blog, Off the Cusp. View the original blog post:
https://www.offthecusp.com/how-to-know-your-instruments-are-sterile-and-compliant/