Understanding Class 5 Integrators: STEAMPlus™ Class 5 Integrators

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I'm Leanne Keefer. I'm a dental hygienist and director of clinical education for Crosstex. Recently, world news highlighted a disturbing story in Oklahoma where thousands of dental patients were allegedly exposed to blood-borne pathogens.

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This news story highlights the importance of maintaining infection control protocol in the dental setting. What I'd like to talk about are the six different classifications of chemical indicators. Class I is the most simple of all because basically it's a process indicator.

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An example of a class I indicator would be the use of autoclave tape. It reacts to only one parameter of the sterilisation process. Autoclave tape simply responds to heat.

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We use it basically as an external indicator that we can determine if a package has been processed or not. It says nothing about the sterility of inside the package. The CDC requires that every package or pouch have an internal indicator that would ensure that the parameters of sterilisation have been met.

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An example of a multi-parameter indicator is the SureCheck pouch. The SureCheck pouch has both an external as well as an internal multi-parameter indicator. These pouches can be used in either a steam sterilisation process or in a chemical process.

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When the pouch has been processed appropriately, there will be a significant colour change. In the case of steam sterilisation, it goes from a pink to a dark brown colour. If a pouch does not have a built-in chemical indicator such as the SureCheck does, then we have to insert a separate chemical indicator which can be used in the form of strips.

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For those offices that have a dry heat steriliser, while a paper pouch would not be appropriate at dry heat steriliser due to the extended time of sterilisation as well as the higher temperatures, Crosstex does have options for a dry heat steriliser in the all-plastic bag that is a self-sealing, but because it does not have built-in internal and external indicators, a separate chemical indicator has to be used. For dry heat, a class 3, which registers the parameter of heat,

would be placed inside the pouch to assure sterility. Finally, I want to talk about class 5 integrators, which can help to ensure the efficiency of the sterilisation process.

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A class 5 integrator mimics the ability of a biological indicator at three separate and distinct points during the sterilisation process because it will monitor both time and temperature without requiring incubation, as does a biological indicator. These class 5 integrators can detect certain types of sterilisation process failures, which may not be noticed by the physical or other types of chemical monitors. In addition to the fact that class 5 integrators do not contain biological spores, let's talk a little bit more about the technical difference of a class 5 integrator.

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It's designed with a foil pack and a moving front indicator. There is a specialised chemical that will actually respond to the parameter changes during the sterilisation cycle of time, temperature, and heat that it will slowly cause this indicator to move across into the safe zone. This next strip is an example of a class 5 integrator that has gone through the sterilisation process.

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Notice that you can see the blue indicator has moved across the strip into the safe zone. A significant benefit of the class 5 integrator is its ability to provide distinct pass or fail results. The average cost of an integrator strip is less than $1 apiece, yet it can provide the enhanced confidence about the success of the sterilisation process.

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It's also important to note that the class 5 integrator can only be used within a steam sterilisation cycle, whether it's a gravity displacement, dynamic air removal, or an immediate use sterilisation cycle.