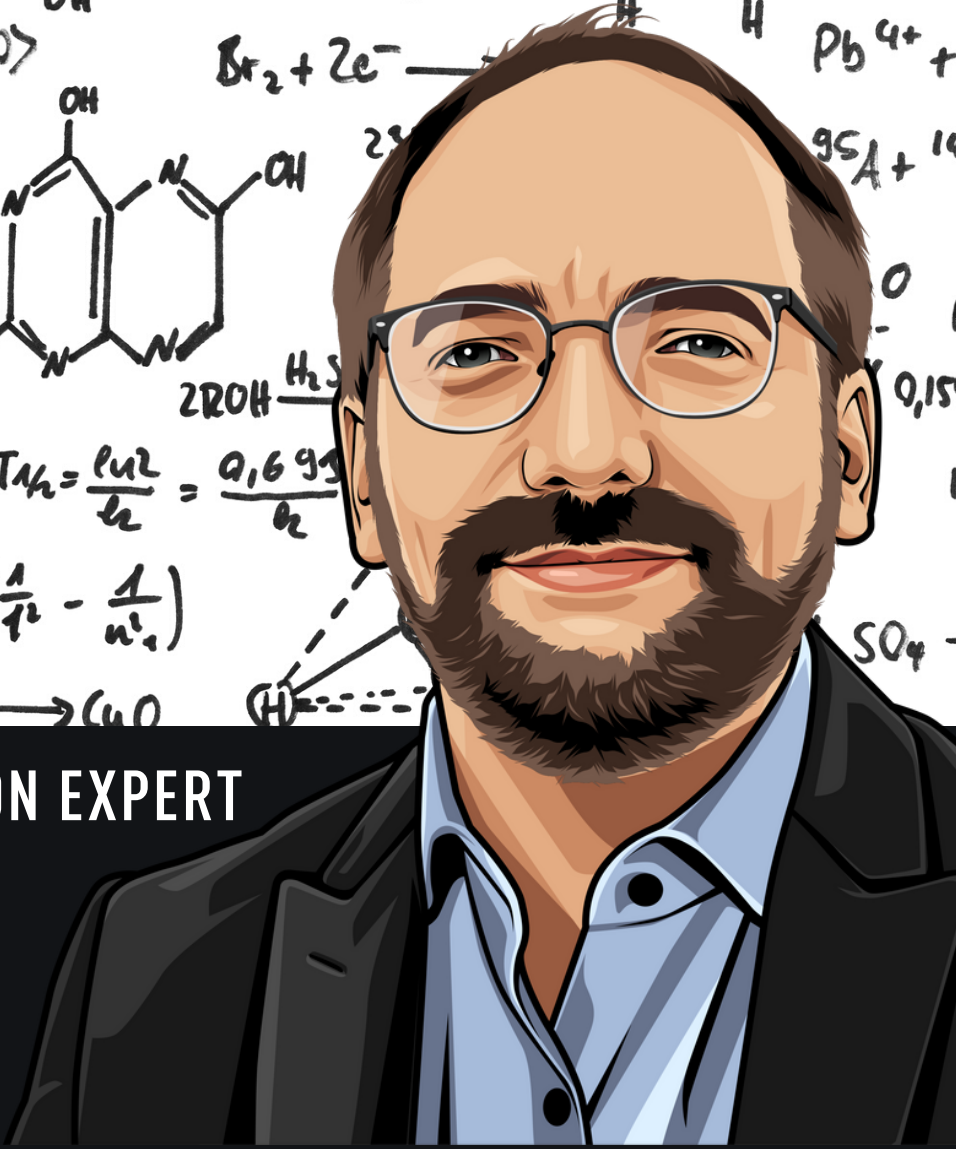
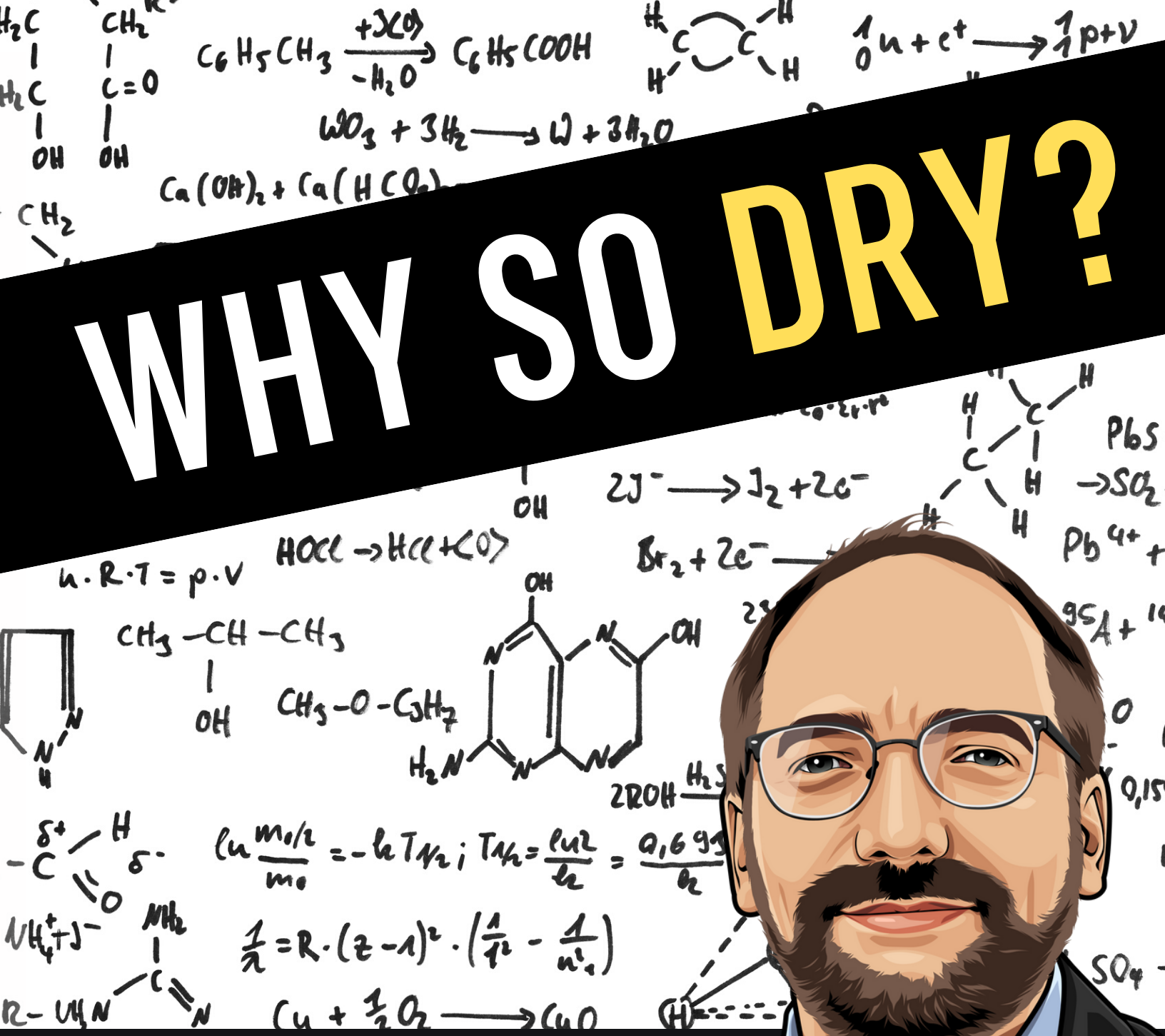


# WHY SO DRY?



LOW TEMP STERILIZATION EXPERT

**BEYOND**  
**CLEAN**

Jean-Luc Lemyre | Senior Manager R&D | Stryker

*Beyond Clean Low Temp Sterilization Expert™:*

## WHY SO DRY?

*Jean-Luc Lemyre | Senior Manager R&D | Stryker*

Proper cleaning, rinsing, and drying of medical devices are critical steps to successful low temperature sterilization. While the importance of cleaning is obvious to most people, why is drying so significant?

To understand this, we should first discuss how water behaves under low pressure. Low temperature sterilization starts by evacuating the chamber of all its air. Lower pressure favors the passage of water into the vapor phase - it evaporates. This water vapor is in turn removed from the chamber by the sterilizer pump. This results in a longer time for the sterilizer to achieve its target pressure, potentially triggering a cycle abort if this takes longer than the prescribed duration.

Then there is more. Zooming in on a single water molecule, it requires heat to free itself from the liquid phase and get into the vapor phase. This heat is taken from other nearby water molecules that make up the larger droplet or from the load. This process cools down the droplet and its immediate surroundings. The water droplet can even freeze! These cold spots cause excessive and localized condensation of the hydrogen peroxide solution. This can reduce the cycle lethality and even leave residual sterilant droplets in the load at the end of the cycle.

How dry is dry enough? A good guideline is that no visible water should be present, even tiny droplets. But be mindful that water gets trapped in all sorts of locations where it is not visible: in the body of some devices, under tray corners/brackets/gaskets, and even in damaged instruments. All this hidden water also needs to be removed prior to sterilization.

Drying is important because water in the load can result in annoying cycle aborts and create risks for the SPD workers and patients. Fortunately, with the right tools, processes, and education, drying problems can be solved.

The information presented is for educational purposes only for healthcare professionals. Stryker is not dispensing medical advice. A healthcare professional must always refer to the package insert, product label and/or instructions for use, including the instructions for cleaning and sterilization (if applicable), before using any sterilization product. Stryker Corporation or its divisions or other corporate affiliated entities own, use or have applied for the following trademarks or service marks: Stryker. All other trademarks are trademarks of their respective owners or holders.

Copyright © 2022 Stryker.  
D0000118725

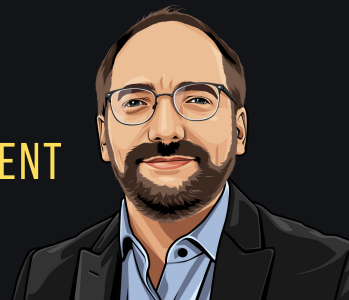
Have more low temp sterilization questions? Contact Jean-Luc at: [jeanluc.lemlyre@stryker.com](mailto:jeanluc.lemlyre@stryker.com)

*Beyond Clean Low Temp Sterilization Expert™ Biography:*

# JEAN-LUC LEMYRE

SENIOR MANAGER RESEARCH & DEVELOPMENT

**stryker**



Jean-Luc is passionate about science and innovation and has been involved in R&D for two decades, ranging from fundamental academic research to product development. He joined TSO<sub>3</sub> in 2016 where he was introduced to low-temperature sterilization of medical devices using hydrogen peroxide and ozone. Today, Jean-Luc is a Senior Manager of R&D at Stryker following the acquisition of TSO<sub>3</sub>. In this role, he leads a team of scientists and engineers dedicated to innovating for the benefit of sterile processing professionals. During his career, Jean-Luc has been involved in several product improvements along with the associated regulatory clearances. He is also an active member of standards development committees with AAMI and ISO.

Before discovering his passion for sterile processing, he started his career doing R&D in the field of personal protective equipment. He has a PhD in chemistry from Université Laval in the beautiful Québec City, where he still lives with his family.

**BEYOND CLEAN**