Science.
Applied to Life.™

3M Sterilization Monitoring Solutions

The science of sterilization assurance

Together, we can make a difference.

Now more than ever, patients and dental professionals share a heightened awareness of the dangers posed by cross-contamination. Transmission of infectious disease in dental settings may be rare,[1] but proper infection prevention procedures are critical to your mission of delivering a high standard of care.

For over 60 years, 3M has been a leader in sterilization assurance. We're here to help you meet today's challenges – from demands for quick turnaround and streamlined operations to evolving industry standards. We take a comprehensive approach to sterilization monitoring, with trusted technologies, continuing education and technical support. Sterilization monitoring solutions from 3M are designed to help you protect your patients, your staff and your practice – and to put confidence in your hands.

Inside the meaning of "clean"

Cleaning:

- Physical removal of soils (e.g. debris, blood, saliva)
- Microbes and soil can still be present
- Device can still be infectious

Disinfection

- Physical or chemical destruction of microorganisms
- Less lethal than sterilization
- Not all bacterial spores are killed

Sterilization

- Physical or chemical destruction of microorganisms
- Kills all living organisms, including bacterial spores
- Effectiveness depends on meticulous cleaning

[1] Centers for Disease Control and Prevention. Summary of Infection Prevention Practices in Dental Settings. 2016. https://www.cdc.gov/oralhealth/infectioncontrol/pdf/safe-care2.pdf

Sterilization and verification

There are three critical parameters for successful steam sterilization: time, temperature, and sterilant. (Saturated steam is the go-to sterilant for dental clinics around the world.) If any one of these variables is compromised, then the cycle will not be effective – and processed instruments may not be sterile.

You can't see sterility. Routine process monitoring is the best way to make sure your sterilizers are working properly. A combination of physical, chemical and biological indicators are used to verify sterilization exposure and efficacy, and to help detect procedural errors or equipment malfunctions.

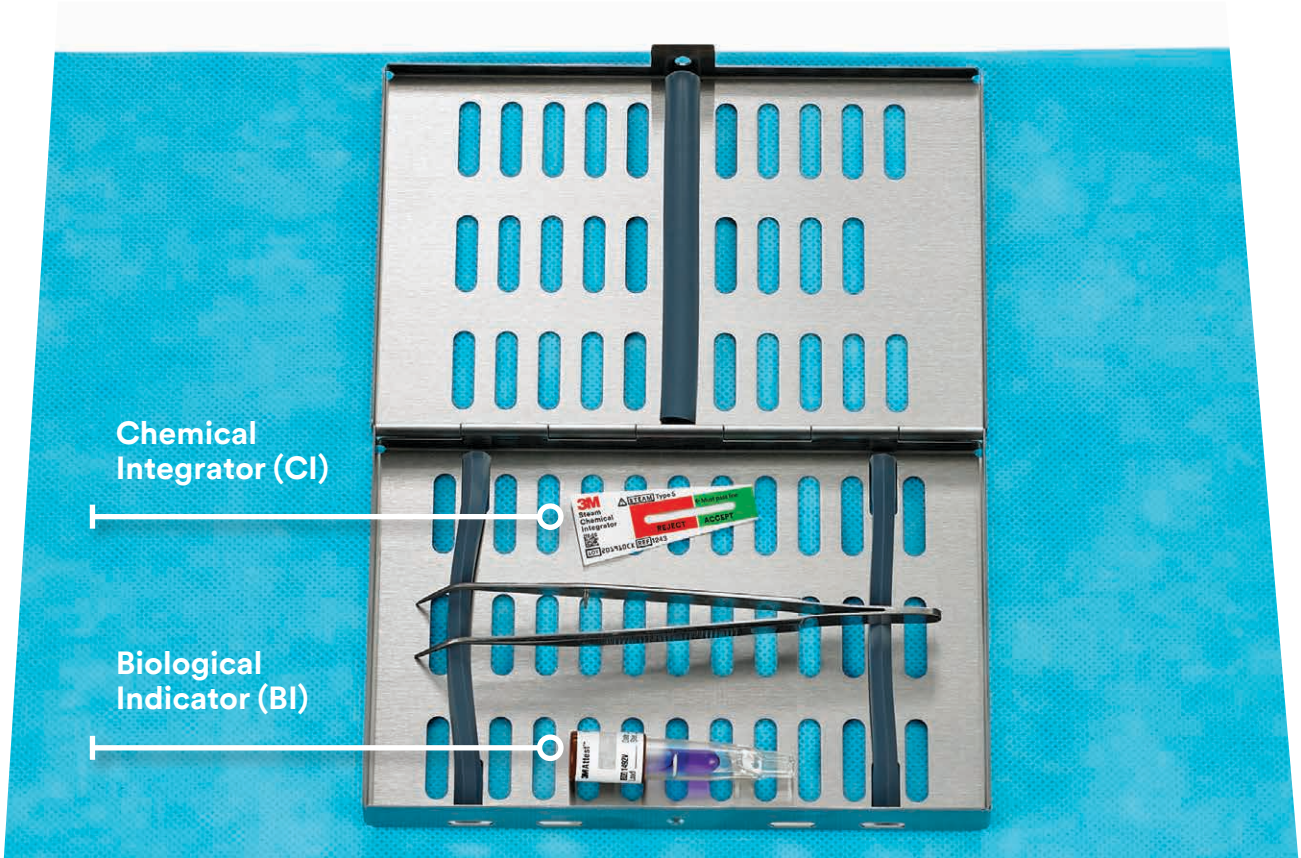
1. **Physical Monitors:** sterilizer recording or printout
   Were correct cycle parameters used?

2. **Chemical Indicators (CIs):**

   Process indicator: tape or label placed on the pack exterior
   Was the pack exposed to the sterilization process?

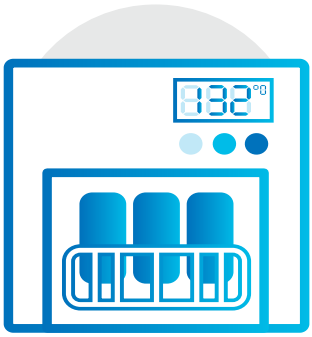
   Integrating indicator: placed inside packs or individual load items
   Did the sterilant penetrate the pack? Were critical process variables attained?

3. **Biological Indicators (BIs):** vial or strip with viable spores resistant to sterilization
   Did the sterilizer effectively kill microorganisms?



5 steps to sterile

Any non-sterile device carries the potential to transmit infectious agents. To prevent cross-contamination, it is critical to properly follow every step in the sterilization process – and to monitor routinely for exposure and efficacy.



1 | Clean & Disinfect

Failure to thoroughly clean and disinfect items for sterilization can jeopardize the entire process. Soil can't be sterilized, so any organic material on instruments must first be cleaned.

For high-level disinfection, check the concentration of disinfectant in the processor/soaking tray to ensure it meets or exceeds the minimum effective concentration.

2 | Prep & Pack

Dry instruments and inspect for cleanliness and functionality. Instruments should be open and unlocked, and any multi-part instruments should be disassembled.

Properly place internal and external chemical indicators to monitor sterilant penetration in the wrapper, pouch or container. Label each pack so items can be easily located in the event of a recall.

3 | Sterilize...

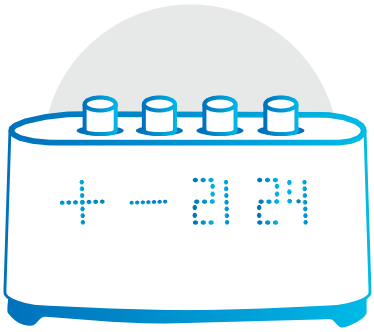
Place the prepared containers in the sterilizer. Successful sterilization depends on the sterilant (e.g. steam) maintaining contact with all instrument surfaces for the prescribed time.

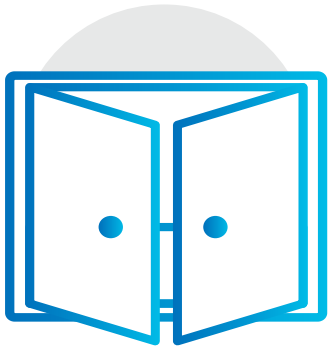
To ensure effective sterilization, monitor the process routinely through equipment displays and printouts, and through the proper use of biological and chemical indicators.

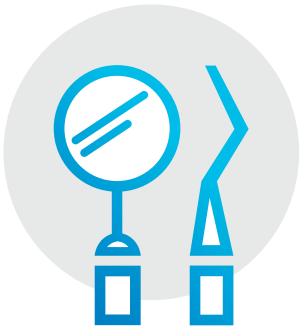
Is your sterilizer doing its job?

The fact that your instruments have been run through the sterilizer does not guarantee they're sterile. Many things can adversely affect the sterilization process. The goal of sterilization monitoring is to catch any problems early – and minimize the number of patients affected.

- Improper loading or packaging
- Sterilizer malfunction
- Incorrect time or temperature
- Incomplete air removal
- Sterilant failing to reach the center of the pack
- Steam quality issues







... & Monitor

Use your sterilizer's recording device or printout to verify that the correct cycle was selected and that parameters were met.

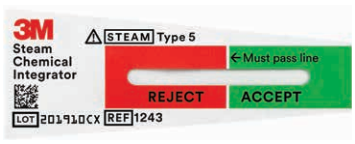
Use an external process indicator (Type 1) on every pack, so you can see at a glance whether the pack has been exposed to sterilization.

Use an internal CI (preferably Type 5 or 6)* in each package.

At least weekly (preferably every day the sterilizer is in use),** conduct routine efficacy monitoring with a BI Process Challenge Device (PCD).

For loads with an implant, use a PCD containing a BI and a Type 5 CI.

If a test BI is positive, and the cause of failure is not immediately identifiable, all items from that load should be recalled and reprocessed – along with all items from any loads processed since the last load with a negative BI result.



* As defined by ANSI/AAMI/ISO 11140-1:2014

** ANSI/AAMI ST79:2017

4 | Store

Remove the package from the sterilizer and fill out your quality system documentation.

Store instruments properly to ensure package integrity and continued sterility.

5 | Issue or Use

The steps you took to monitor sterilization now act as extra safeguards before stored instruments are used.

When you retrieve instruments from storage, verify the package is intact and check again to make sure the external process indicator shows that the package was exposed to sterilization.

When you open the package at the point of use, check any internal chemical indicators to make sure the sterilant penetrated the pack.

Super Rapid Monitoring

Bring rapid sterilization monitoring to your practice with the same expert 3M sterilization assurance technology used in hospitals – now sized and priced for office use. With readout in just 24 minutes, you'll know results before releasing instruments for use, so you can start each consult with confidence.

3M™ Attest™ Mini Auto-reader 490M

- Sized and priced for office use
- Large, easy-to-read display
- Small footprint: 6.1 × 3.2 × 2.1 inches (15.5 × 8.25 × 5.25 cm)
- Connect to PC for digital documentation of biological indicator results
- For use with Attest Super Rapid Biological Indicators 1491 and 1492V

3M™ Attest™ Super Rapid Readout Biological Indicators 1491 (blue cap)
3M™ Attest™ Super Rapid Readout Biological Indicators 1492V (brown cap)

- 24-minute verification time

Steam Sterilization Cycle Type	Temperature	Time	1491	1492V
Gravity Displacement	270°F (132°C)	3 min.	✓	—
		10 min.	✓	—
	275°F (135°C)	3 min.	✓	—
		10 min.	✓	—
Dynamic-air-removal (pre-vacuum and SFPP)	270°F (132°C)	3 min.	—	✓
		4 min.	—	✓
	275°F (135°C)	3 min.	—	✓

3M™ Attest™ Steam Chemical Integrator 1243B

- AAMI Type 5* Integrating Indicator
- Easy-to-read accept/reject window

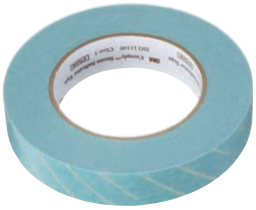
3M™ Comply™ Lead Free Steam Indicator Tape 1355

- AAMI Type 1* Process Indicator
- High-quality adhesive for securely sealing packs
- Stretchable backing minimizes tape "pop-off" during sterilization
- Lead-free ink changes color with exposure to steam sterilization process

*As defined by ANSI/AAMI/ISO 11140-1:2014.

Standard Monitoring

For decades, 3M has been a leader in sterilization assurance for healthcare. Your practice can continue to rely on our trusted monitoring products for accurate and timely information about your sterilization process – so you can continue to deliver a high standard of care.



3M™ Attest™ Biological Incubator

- 14 well capacity
- For use with Attest Biological Indicators 1261P and 1262P

3M™ Attest™ Biological Indicators 1261P (blue cap)

- 24-hour verification time

3M™ Attest™ Biological Indicators 1262P (brown cap)

- 48-hour verification time

Cycle Type	Load Type	Temperature	Time	1261P	1262P
Gravity Displacement	Wrapped	250°F (121°C)	≥20 min.	—	✓
		250°F (121°C)	≥30 min.	—	✓
		270°F (132°C)	≥10 min.	✓	✓
	Unwrapped, non-porous	250°F (132°C)	≥15 min.	—	✓
		270°F (132°C)	≥3 min.	✓	✓
	Unwrapped, porous	270°F (132°C)	≥10 min.	✓	✓
Vacuum Assisted	Wrapped	270°F (132°C)	≥4 min.	—	✓
	Unwrapped, non-porous	270°F (132°C)	≥3 min.	—	✓
	Unwrapped, porous	270°F (132°C)	≥4 min.	—	✓

3M™ Attest™ Steam Chemical Integrator 1243B

- AAMI Type 5* Integrating Indicator
- Easy-to-read accept/reject window

3M™ Comply™ Lead Free Steam Indicator Tape 1355

- AAMI Type 1* Process Indicator
- High-quality adhesive for securely sealing packs
- Stretchable backing minimizes tape "pop-off" during sterilization
- Lead-free ink changes color with exposure to steam sterilization process

*As defined by ANSI/AAMI/ISO 11140-1:2014.

Ordering Information

Chemical Indicators

Product	Other Notes	Packaging
3M™ Comply™ Lead Free Steam Indicator Tape for Disposable Wraps 1355	0.94 in. x 60 yds. (24 mm x 55 mm) AAMI Type 1*	20 rolls/case
3M™ Attest™ Steam Chemical Indicator 1243B	2 in. x ¾ in. (5.1 cm x 1.9 cm) AAMI Type 5*	100 each/bag (10 bags/case)

Super Rapid Readout Biological Indicators

Product	Other Notes	Packaging
3M™ Attest™ Mini Auto-reader 490M	6.1 × 3.2 × 2.1 in. (15.5 × 8.25 × 5.25 cm)	1 unit/box
3M™ Attest™ Super Rapid Readout Biological Indicator 1491 (blue cap)	For Gravity Steam Sterilization** 132°C (270°F) 3 min. and 10 min. 135°C (275°F) 3 min. and 10 min.	50 each/box (4 boxes/case)
3M™ Attest™ Super Rapid Readout Biological Indicator 1492V (brown cap)	For Dynamic Air Removal Steam Sterilization** 132°C (270°F) 3 min. and 4 min. 135°C (275°F) 3 min.	50 each/box (4 boxes/case)
3M™ Attest™ Super Rapid Mini Auto-reader Starter Kit 490MKIT	*Kit includes:* (1) Attest Mini Auto-reader 490M (100) Attest Super Rapid Readout Biological Indicators 1492V (brown cap) (10) Comply Lead Free Steam Indicator Tape 1355, 24mm rolls (1000) Attest Steam Chemical Integrator 1243B	

Standard Readout Biological Indicators

Product	Other Notes	Packaging
3M™ Attest™ Biological Indicator 1261P (blue cap)	For Gravity Sterilization 270°F (132°C)**	25/box (4 boxes/case)
3M™ Attest™ Biological Indicator 1262P (brown cap)	For Gravity Sterilization 250°F (121°C) and Vacuum Assisted Sterilization 270°F (132°C)**	25/box (4 boxes/case)
3M™ Attest™ Biological Incubator 116	Use with Attest BIs 1261P or 1262P	1/case
3M™ Attest™ Biological Monitoring System 116K	*Kit includes:* (1) Attest Biological Incubator (25) Attest Biological Indicators 1262P (1) Log Book for Steam Sterilization	

* As defined by ANSI/AAMI/ISO 11140-1:2014.

** Refer to the indications for use provided in the biological indicator Instructions for Use. The indications for use should align with the sterilization cycle to be monitored.

www.3M.com/dentalprotection

3M Oral Care
2510 Conway Avenue
St. Paul, MN 55144-1000 USA

Phone 1-800-634-2249
Web 3M.com/dental