



# Optical instruments

Steps of ophthalmic instruments decontamination

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# Sterilization

Can be achieved through many different methods.

Common methods in the sterilization of ophthalmic instruments include:

- ❖ chemical sterilization (liquid, gas)
- ❖ heating (moist heat).



# Heating & steam

- ▶ Although heating provides the most reliable way to rid objects, it is not always appropriate. Heating can cause damage to heat-sensitive materials, including fiber optics, electronics, and some plastics.

- ▶ Steam sterilization is the oldest, cheapest

Steam sterilization is achieved through the use of an autoclave. The autoclave acts as a large pressure cooker. It operates by using steam under pressure as the sterilizing agent. High pressures enable the steam to reach high temperatures, increasing its heat content and killing power.

Moist heat kills microorganisms by causing coagulation of proteins

Death is caused by irreversible damage to all metabolic functions of the organism. The more moisture present, the more heat can be carried, making steam one of the most effective carriers of heat and effective methods of sterilization.



**Autoclave**



# Quality control

The proper use of sterilization is an important and crucial aspect of infection control and prevention. Quality control methods must be used to assure effective management of the sterilization process. Quality control can be achieved through monitoring devices. These are tools to validate the autoclaving process.



# Cont.

Mechanical or physical monitoring includes:

- ▶ printouts.
- ▶ Charts
- ▶ gauges
- ▶ digital displays.

These measure: time, temperature, and pressure and provide real-time evaluation of the sterilization conditions, resulting in a permanent record.



# Sterile storage

A commonly used product for sterile storage is sterilization peel pouches.

Peel pouches are appropriate for small, lightweight instruments. An appropriate size pouch should be chosen to allow for circulation of steam.



sterilization peel pouches





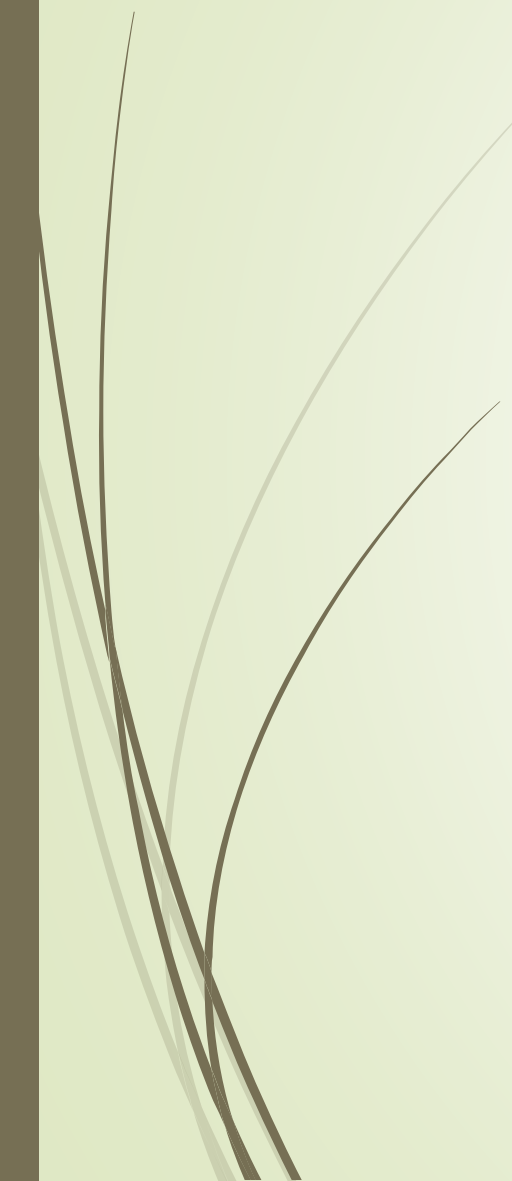
## Cont.

When storing packages, items should not be stored on floors or windowsills or areas other than designated shelves or counters. Do not use elastic bands or paper clips to secure packages together. These items can compromise the integrity of the package.

The shelf life of a package does not expiry rather it is event related. The shelf life depends on the quality of the packaging material, storage conditions during transport, and the amount of handling.



# Take the time to do it right



Proper handling and processing of ophthalmic instruments is crucial to infection control and prevention and the safety of your patients.