

Sterilization Monitoring

Sterilization of medical equipment is a two-step process involving:

- (i) Decontamination (aka cleaning) to remove >80% of microbes; and
- (ii) Sterilization to kill the remaining microbes.

Steam autoclaves are the most efficient and non-toxic method of sterilization in a physician office setting.

Because of the difficulty in proving the sterility of a medical instrument, the effectiveness of the *sterilization process* must be monitored. Three complementary types of monitoring are required:

- **Mechanical/Digital indicators** to monitor the autoclave's physical parameters (time, temperature and pressure) for each cycle/load;
- **Chemical indicators** - external indicators on the outside of each wrapped package and internal chemical indicators inside each package, which change color when exposed to the right conditions for sterilization; and
- **Biological Indicators** that confirm the actual annihilation of microbial spores.

All three types of monitors are important to confirming that the conditions necessary to achieve sterility have been met.

Among these, biological indicators may be the most unfamiliar to physicians. Options for biological monitoring include:

- Purchasing a self-contained testing kit with incubator for on-site monitoring; or
- Purchasing only the spore strips, and then transporting them to a microbiology laboratory that offers environmental testing. (Unfortunately, few laboratories in the province offer this service.)