



Instrument cassettes: a reasonable and effective approach

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A dental infection control program should provide a **SAFE WORKING ENVIRONMENT** that **reduces the risk** of health-care-associated infections among patients, and occupational exposures among health-care personnel.

One of the major objectives of a comprehensive program is to ensure that appropriate procedures and protocols are in place to minimize the potential for accidental percutaneous sharps injuries by health-care personnel. In this regard, reprocessing and recirculating dental instruments can present unexpected risks and exposures. This complex, multistep process requires specialized equipment, adequate space, and — most important — qualified dental health professionals to properly accomplish the procedures.

While the ultimate goal is to provide sterile instruments for provision of patient care, another important consideration is to select and use technologies and products that promote a safe work environment for those involved in cleaning and sterilization procedures. Central to this approach is the recommendation that contaminated instruments should be handled carefully, and as little as possible, in order to prevent sharps accidents.

It was not long ago when dental personnel routinely cleaned contaminated instruments at sinks with small scrub brushes and without wearing gloves. Instruments were then placed in heat sterilizers, either unwrapped or wrapped, in one of many packaging materials such as bags, paper wraps, and pouches. These disposable packaging materials remain acceptable containers for preparation of instruments prior to sterilization and are used by many dental practices.

But depending on how instruments and packages are handled and subsequently loaded into a sterilizer, there is a potential for personnel to be accidentally stuck with a sharp instrument. This can happen during cleaning, with one that may have poked through a bag or pouch in the sterilization cycle, or during storage. Previously, accidental exposures by one of these means were common. Yet, most incidents typically were not reported due to the prevailing attitude that they “were just part of the accepted risks of the job.”

The introduction of instrument cassettes into hospitals, and later into dental schools and practices, has provided an appropriate alternative approach for reprocessing instruments. This addresses many of the sharps issues encountered by health professionals when handling sharp, contaminated

instruments. One major feature is that the use of cassettes requires less handling of contaminated instruments.

This can substantially decrease the risk of sharps injuries during reprocessing and provision of dental treatment. Another advantage is their capacity to hold a complete set of instruments for a single procedure, thereby eliminating the need to prepare and process multiple packages of instruments. Individuals responsible for instrument reprocessing also find they can save time by keeping instruments together for a specific procedure through the cleaning, rinsing, packaging, sterilization, and storage components of the reprocessing cycle.

The design and configuration of these instrument containers are also noteworthy in that, when loaded properly, one cannot place too many instruments in a cassette. Instrument rails or racks inside the cassette are specifically designed to hold a certain number of instruments.

Rails that are made of soft, flexible material can even prevent scratching of instrument surfaces and possibly extend instrument life. This design feature also can help to maintain instrument sterility during storage since processed items are less able to move in the holder and subsequently poke through sterilization wraps.

The overwhelming majority of available cassettes are perforated, allowing for more thorough cleaning of instruments when cassettes are placed in ultrasonic cleaners or instrument washers. Penetration of steam or unsaturated chemical vapor to instrument surfaces during heat sterilization is best accomplished via penetration through these holes. Cassette internal design also can be modified to provide separate sections for rubber dam clamps, anesthetic syringes, burs, amalgam wells, and other heat stable items. Inclusion of a built-in needle recapping device further reduces the potential for accidental needlestick injuries during patient care.

Briefly summarized, when instrument cassettes are integrated and used appropriately in a dental infection control program, they can increase organization and improve safety in multiple areas of a dental facility. **DE**

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