



**EVALUATING SAFETY DEVICES IN USAF DENTAL CLINICS**

**KEY TERMS**

**Engineering controls:** controls that isolate or remove the bloodborne pathogens hazard from the workplace. Examples include sharps disposal containers, self-sheathing needles, safer medical devices, such as sharps with engineered sharps injury protections and needleless systems.

**Work practice controls:** controls that reduce the likelihood of exposure by altering the manner in which a task is performed (e.g., prohibiting recapping of needles by a two-handed technique).

**Sharps with Engineered Sharps Injury Protection:** a nonneedle sharp or a needle device used for withdrawing body fluids, accessing a vein or artery, or administering medications or other fluids, with a built-in safety feature or mechanism that effectively reduces the risk of an exposure incident.

In 2001, OSHA revised their Bloodborne Pathogen Standard. The revisions clarify the need for developing a program to prevent sharps injuries that includes a process to identify, evaluate, and select engineering and work practice controls. Under the revised OSHA Bloodborne Pathogen Standard, employees directly responsible for patient care (e.g., dentists, hygienists, and



dental assistants) should actively participate in this program. Safety devices

should be evaluated based on the nature of existing exposures and type of work performed. The revised OSHA requirements make clear that employers must implement safer medical devices that are appropriate, commercially available, and effective. No one medical device is appropriate in all circumstances of use. For purposes of this standard, an “appropriate” safer medical device includes only devices whose use, based on reasonable judgment in individual cases, will not jeopardize patient or employee safety or be medically contraindicated. Many safer versions of sharp devices used in hospital settings have become available, and their impact on reducing injuries has been studied. The impact of safer medical devices in other health-care settings suggests that devices with engineered safety features could reduce percutaneous injuries in dental settings as well (e.g., safety scalpels, IV safety catheters). IV safety equipment has been evaluated in USAF medical treatment facilities (MTF) and is required in all USAF MTFs, including dental treatment facilities (DTF). Aspirating anesthetic syringes that incorporate safety features have been developed for dental use, but the low injury rates in dentistry limit assessment of their effect on reducing injuries among dental health-care personnel (DHCP).



The dental infection control officer (ICO) at each DTF is considered the local authority on dental-specific safety devices and, at a minimum, is responsible for the following:

- being knowledgeable about available safety devices for dentistry;
- discussing the advantages/disadvantages of each device with the MTF ICO and DHCP; and
- addressing any staff member concerns or questions.

To help the dental ICO with the above tasks, the USAF Dental Evaluation and Consultation Service (DECS) will periodically evaluate and/or provide information on safety devices (e.g., safety anesthetic syringes, safety scalpels). The information is available on the DECS Web site. Other organizations that provide information about safety devices can be found in Table 1.

The dental ICO should follow local MTF policy regarding the use and evaluation of safety devices, as well as any documentation requirements. The MTF will likely require a clinical evaluation involving dental staff members that will use the device. This is beneficial because it provides DHCP with the opportunity to offer input when selecting a safety device and before it is purchased in large quantities. Also, it helps to ensure staff members are familiar with the device before implementation. Organizations providing sample clinical evaluation questionnaires to help DTFs with the evaluation process can be found in Table 1.

It's important to document safety device evaluation results and reasons for selecting the device for use or not selecting it. Additionally, most MTFs require annual documentation (e.g., in the exposure control plan, annual infection control plan, or meeting minutes) addressing items such as the effectiveness of safety devices currently used in each work section; the availability of new or improved devices; and whether the use of a safety device or one with a different design could have prevented occupational exposure incidents. The dental ICO may be asked to provide input on these items and should follow local policy.

**Table 1: Select Resources to Assist DHCP when Selecting Safety Devices**

**Screening and Device Evaluation Forms**

- Centers for Disease Control and Prevention: Sample Screening and Device Evaluation Forms  
[www.cdc.gov/OralHealth/infectioncontrol/forms.htm](http://www.cdc.gov/OralHealth/infectioncontrol/forms.htm)
- Training for Development of Innovative Control Technologies (TDICT) Project, University of California - San Francisco: Safety Feature Evaluation Forms - Design Criteria for Evaluation of Several Medical Devices  
[www.tdict.org](http://www.tdict.org)

**Information about Safety Devices**

- List of Devices Designed to Prevent Percutaneous Injury and Exposures to Bloodborne Pathogens in the Health-Care Setting (Developed by the University of Virginia's International Health Care Worker Safety Center).  
[www.healthsystem.virginia.edu/internet/epinet/](http://www.healthsystem.virginia.edu/internet/epinet/)
- Needlestick-Prevention Device Selection Guide (Sponsored by ECRI, an independent nonprofit health services research agency).  
[www.ecri.org/](http://www.ecri.org/)

**Selected References (Updated October 2010)**

CDC. NIOSH Bloodborne Infectious Diseases HIV/AIDS, Hepatitis B Virus, and Hepatitis C Virus Web site:  
[www.cdc.gov/niosh/topics/bbp/](http://www.cdc.gov/niosh/topics/bbp/). Accessed October 2010.

CDC. *Workbook for Designing, Implementing, and Evaluating a Sharps Injury Prevention Program*. Available at:  
[www.cdc.gov/sharpsafety/index.html](http://www.cdc.gov/sharpsafety/index.html). Accessed October 2010.

US Department of Labor Occupational Safety and Health Administration 29 CFR Part 1910.1030 Occupational Exposure to Bloodborne Pathogens, Needlestick and Other Sharps Injuries; Final Rule. Federal Register 2001; 66 (12); 5317-25. As amended from and includes Federal Register 1991 29 CFR Part 1910.1030 Occupational Exposure to Bloodborne Pathogens; Final Rule. 56(235);64174-82.

US Department of Labor, Occupational Safety and Health Administration. Enforcement procedures for the Occupational Exposure to Bloodborne Pathogens CPL 2-2.69; November 27, 2001.