

INFECTION CONTROL INFORMATION

August 2004



PRODUCT EVALUATIONS

The following product evaluations have been recently posted on the DIS Web site (www.brooks.af.mil/dis/productevaluations.htm):

- ICX™ Waterline Treatment Tablet
- Synopsis of Dental Waterline Treatment Products and Devices
This synopsis provides information and a cost analysis of 18 waterline treatment products.
- VioNexus™ No Rinse Spray Antiseptic Handwash
- 1SHOT Safety Syringe

NEW INFECTION CONTROL PRODUCTS

New and innovative products are marketed each month and DIS is unable to evaluate all of them. Because DIS has not had the opportunity to evaluate these products, **we cannot confirm manufacturers' claims** about them. If you would like additional information about the products or are interested in evaluating them please visit <http://www.brooks.af.mil/dis/newproducts.htm> or the manufacturer's Web site for more information on the following products.

- **Vista-Red™** unit-dose caries indicator (Vista Dental Products, www.vista-dental.com)
- **Vista-Blue™** unit-dose methylene blue solution (Vista Dental Products, www.vista-dental.com)
- **Flexo® Saliva Ejectors** (Bosworth Company, www.bosworth.com)
- **Team Vista™ dental waterline cleaner** (Vista Research Group, www.vistaclean.com)
- **Bioview™ Indicators** (North Bay Bioscience, www.nbbs.com)
- **Latex-free autoclave tape** (SPS Medical, www.spsmedical.com)
- **Enzymax PAX®** for instrument care and cleaning (Hu-Friedy, www.hu-friedy.com)

2005 DENTAL INFECTION CONTROL SAFETY COURSE CO-SPONSORED BY: OSAP AND THE FEDERAL DENTAL SERVICES

The next co-sponsored Organization for Safety and Asepsis Procedures (OSAP)/Federal Services Dental Infection Control course is scheduled for **Monday, 24 January—Thursday, 27 January 2005** in Atlanta, Ga. We will be covering a broad range of topics and have guest speakers from the Centers for Disease Control and Prevention, dental schools, and the Federal Services again this year. As in previous years, OSAP will handle registration issues. There will be a limited number of USAF command sponsored quotas that will be assigned by the MAJCOMS. The course also meets criteria for AFIT funding. The course is not scheduled to end until 1600 on Thursday, 27 January 2005; travel arrangements should be made accordingly. Registration information can be found by visiting www.osap.org. For additional information, the USAF point of contact is Lt Col Jennifer Harte at DSN 792-7668, commercial (847) 688-7668, or jennifer.harte@ndri.med.navy.mil.

A tentative course schedule and answers to frequently asked questions about the course can be found by visiting: www.brooks.af.mil/dis/announcements.htm.



FREQUENTLY ASKED QUESTIONS

Heat Sterilizing Extracted Teeth

Question: Since we have to heat sterilize teeth before use in educational settings, do you recommend a special technique?

Answer: Before use in an educational setting, extracted teeth should be heat-sterilized to allow for safe handling. The following steps for sterilization of amalgam-free teeth are recommended before used in an educational setting:

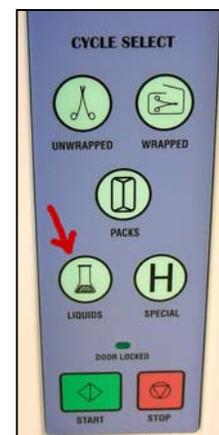


1. Wear personal protective equipment (e.g., gloves, mask, protective eyewear) when handling extracted teeth.
2. Do not heat sterilize any teeth containing amalgam. If it is necessary to use extracted teeth containing amalgam, immerse in 10% formalin for two weeks before use in an educational setting.
3. Clean and thoroughly rinse any amalgam-free teeth to be sterilized.
4. Place amalgam-free teeth in a heat-resistant glass container.
5. Fill the heat-resistant container **no more than half-way** with deionized or distilled water or saline, and cover loosely (e.g., place

foil over the top of the beaker, use a cork to close a flask).

6. Process through a steam sterilizer at 121°C for 40 minutes using a **fluid or liquid cycle**.

7. At the end of the cycle, remove the container slowly without shaking to avoid the boiling over of the water.



Thank you to Chris Miller, PhD and the Indiana University School of Dentistry for sharing this protocol.

Diluting Bleach for Cleaning Dental Unit Waterlines

Question: We are no longer able to purchase 5.25% sodium hypochlorite (i.e., bleach) to clean our dental unit waterlines. The new packaging states that the bleach concentration is 6%. What is the correct dilution to use when cleaning the dental unit waterlines?

Answer: DIS recently became aware that 5.25% sodium hypochlorite is no longer available. When using a 6% bleach product, to correct for the higher concentration and effectively clean dental unit waterlines, you should use a 1:11 dilution (**1 part bleach and 10 parts water**). DIS recently completed a synopsis on alternatives to using bleach to clean dental unit waterlines. The synopsis of commercially available waterline treatment products can be found by visiting www.brooks.af.mil/dis/2QTR04/PRODUCTEVALUATIONS/waterlinesynopsis.htm. Although, many of the products are more expensive than bleach, they offer advantages such as being user-friendlier and less likely to cause damage to dental units than bleach. Also, many are continuous use and therefore eliminate time-consuming weekly treatment procedures.





FROM THE LITERATURE

Preventing Biofilm Formation in Dental Unit Waterlines

McDowell JW, Paulson DS, Mitchell JA. A Simulated-Use Evaluation of a Strategy for Preventing Biofilm Formation in Dental Unit Waterlines. *J Am Dent Assoc*;135:799–805.

The authors used a simulated-use dental unit waterline system to evaluate the ability of a test product, A-dec ICX™ (A-dec, Newburg, Ore), to prevent biofilm formation. They evaluated buffered distilled water and hard water models versus mixed-challenge suspensions of *Staphylococcus aureus*, *Klebsiella pneumoniae* and *Pseudomonas aeruginosa*. The authors documented development of significant biofilm in untreated test units, while treated test units showed no indication of biofilm formation throughout the 16-week study. Student *t* tests and 95% confidence intervals performed on the plate count data confirmed that untreated test units had significantly greater bacterial populations than did treated test units ($P < 0.05$). Qualitative images by scanning electron microscopy verified these findings. In this simulated clinical-use study, the test product effectively reduced bacterial counts in incoming water and produced water quality exceeding stated recommendations of the American Dental Association. The test product provides an approach to dental unit waterline maintenance that is simple to use and that, by continuously preventing biofilm formation, reduces concerns about bacterial contamination in dental unit water.



DIS comment: A-dec's ICX™ waterline treatment product, an effervescent tablet, is added each time the bottle is refilled and takes 60 seconds to dissolve prior to use. The active ingredients are sodium percarbonate, silver nitrate and cationic surfactants that reportedly provide both immediate and sustained residual protection against biofilm formation. This is the first waterline treatment product in tablet form as compared with other available products that are primarily antimicrobial liquid solutions or cartridges impregnated with an antimicrobial agent. Advantages of a tablet-form product include: elimination of dilution procedures; saves storage space; less time involved in the treatment process; and a potential for increased compliance. The study evaluated several clinically relevant situations and potential problems when maintaining water quality: the effects of periods of inactivity and water hardness. Acceptable water quality was achieved under all conditions evaluated in the study. This study was supported by the manufacturer of the ICX™ waterline tablet (A-dec) and the authors did acknowledge that more studies are warranted to continue evaluation of the product's efficacy in a variety of situations. Nevertheless, the study does provide evidence that A-dec ICX™ offers clinicians another choice in maintaining dental unit water quality.