



**InCONTROL Fact Sheet  
NUMBER 17**

Updated April 2008

**Base Dental Laboratory Infection Control Practices**

Dental prostheses, appliances, and items used in their fabrication (e.g., impressions, occlusal rims, and bite registrations) are potential sources for cross-contamination and should be handled in a manner that prevents exposure of dental health-care personnel (DHCP), patients, or the office environment to infectious agents. It is important that laboratory technicians maintain the health and well being of patients and clinic personnel by preventing the spread of infectious disease. Infection-control procedures help reduce the spread of pathogenic microorganisms by breaking the chain of infection during vital periods in the fabrication, repair, and delivery of prostheses.



**What are the proper procedures for handling items before leaving the dental operatory and before entering the laboratory?**

- Rinse under running tap water to remove blood/saliva
- Disinfect\* using an EPA-registered intermediate-level (i.e., tuberculocidal claim) disinfectant according to manufacturer instructions (e.g., contact time)
- Rinse thoroughly with tap water to remove residual disinfectant
- No single disinfectant is ideal or compatible with all items (*Consult with manufacturers regarding the stability of specific materials [e.g., impression materials].*)
- Include specific information on the DD Form 2322 or other mechanism, such as an impression tag, regarding disinfection techniques (i.e., solution used and duration).



For example: "Disinfected with \_\_\_\_\_ for \_\_\_\_ minutes"

*\*To accomplish sub-surface disinfection of acrylic items, place the item in a resealable plastic bag containing an intermediate-level disinfectant and place in an ultrasonic bath for the recommended contact time.*

**What are the proper procedures for handling outgoing items from the laboratory?**

- Clean and disinfect before delivery to patient
- After disinfection, rinse and place in plastic bag with diluted mouthwash until insertion
- Do not store in disinfectant before insertion
- Annotate the DD Form 2322 with the disinfection technique used.

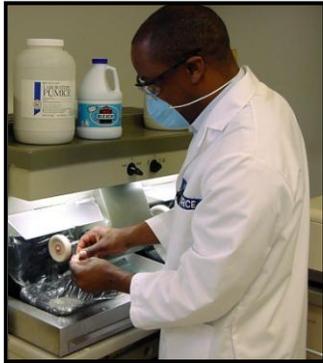
For example: "This case has been disinfected with \_\_\_\_\_ for \_\_\_\_ minutes"

1. Local Case No.	2. Name of Treatment Facility, Mailing Address & Autovon No.	3. ADL Case No.
4. Patient's Name (Last, First, Middle Initial) Patient Tooth:	5. SSN 133-45-6789	6. Grade 7. Age 02 24
9. Beneficiary Type ADAF	10. Organization, Duty and Home Telephone Nos.	11. Date Forwarded
12. Type of Prosthesis or Restoration FCG #2	13. Shade and Mold by Guide	14. Date Delivered
16. Prosthesis Design		
Request (s) (Check appropriate boxes):		
18. <input type="checkbox"/> Process	19. <input checked="" type="checkbox"/> Fully Fabricate	20. <input type="checkbox"/> Bitque Baka
		21. <input type="checkbox"/> Consultation
22. <input checked="" type="checkbox"/> Diagnostic Casts 23. <input checked="" type="checkbox"/> Jaw Relation Record 24. <input type="checkbox"/> Radiographs 25. <input type="checkbox"/> Other (See remarks)		
26. Clinician's Remarks/Instructions:		
Please fabricate a full gold crown for tooth #2.		
Thank you.		
<div style="border: 1px solid red; padding: 5px; display: inline-block;">             Note from the Dental Lab:              Case disinfected with DECSIDE for 2 minutes.              Please rinse before delivery.           </div>		
27. Typed Name and Grade of Dental Officer Capt Dental		
DD Form 2322, OCT 83		

### Why is there a separate area in the laboratory for receiving impressions?

A separate receiving and disinfecting area should be established to reduce contamination in the production area. It is suggested that the area have running water and handwashing facilities. This area should be cleaned and disinfected on a regular basis and at least daily. Generally, the amount of cleaning and disinfection is determined by the amount of use.

### What personal protective equipment should be worn in the dental laboratory?



Bringing contaminated items and materials into the dental laboratory increases the potential for cross contamination. Since all disinfection procedures must be completed before items are brought to the laboratory (e.g., in the dental operator) most items can be treated as “noninfectious”. However, personal protective equipment (e.g., gloves, mask, protective eyewear, face shield, laboratory coats) is often necessary for safety reasons. For example, using rotary equipment increases the risk of exposure to aerosols, spatter, and projectiles. It is also suggested that when pouring impressions, gloves be worn as well as protective eyewear and gowns. This protects the technician from spatter of fluids that may occur.

### How are laboratory items disinfected or sterilized?



By following the procedure of disinfecting items (e.g., impression, prostheses) before entering the laboratory, the need to disinfect/sterilize laboratory items (e.g., burs, polishing points, rag wheels, or laboratory knives) after every case may not be indicated. If laboratory items (e.g., burs, polishing points, rag wheels, laboratory knives) are used on contaminated or potentially contaminated appliances, prostheses, or other materials, they

should be cleaned and heat-sterilized between cases. Items that cannot withstand heat-sterilization (e.g., case pans, articulators, lathes) should be cleaned and disinfected according to the manufacturer’s instructions. Any heat-tolerant item that was used in the patient’s mouth (e.g., metal impression trays, facebow forks, orthodontic pliers) must be cleaned and heat-sterilized before reuse.

### Special Considerations

- *Appliances previously worn by the patient (e.g., dentures, partial dentures):*

Even if the appliance was cleaned and disinfected before the adjustment or repair, it is necessary to clean and disinfect all items (e.g., rag wheels, polishing point, burs, lathes) before reuse.

- *Casts:*

Care must be taken when disinfecting casts, therefore preventing contamination is important. However, casts frequently become inadvertently contaminated making disinfection necessary. To facilitate drainage of the disinfectant, place casts on their ends before spraying them. If disinfecting the cast before shipment, allow it to dry before wrapping and packaging for shipment.



**Are there any special safety or infection-control precautions we should follow when using a lathe?**

The opportunity exists for injury and the spread of infectious organisms when operating a dental lathe from the rotary action of the wheels, stones, and bands. Therefore using protective eyewear, a safety Plexiglas shield on the front of the lathe, and an adequate ventilation system is recommended. The use of a mask is highly recommended as well. If gloves are worn when operating the lathe (or any rotary equipment), extreme caution is indicated to avoid getting the gloves caught in the lathe.



Pumice used to polish appliances/prostheses is particularly susceptible to contamination with microorganisms because of the warm wet environment. To decrease the potential spread of microorganisms, pumice can be mixed with clean water and diluted 1:10 bleach or other appropriate disinfectant. This mixture should be changed at least daily. At a minimum, clean and disinfect rag wheels daily, however heat sterilization is preferable. The pumice/polish machine should be cleaned and disinfected at a minimum daily according to manufacturer directions. It is also suggested that fresh pumice and pan liners be used daily.

**Selected References and Additional Resources (Updated October 2010)**

CDC. Guidelines for infection control in dental health-care settings – 2003. *MMWR* 2003; 52(No. RR-17):1–66.

Miller CH, Palenik CJ. Laboratory and Radiographic Asepsis. In: Miller CH, Palenik DJ, eds. *Infection Control and Management of Hazardous Materials for the Dental Team*, 4<sup>th</sup> ed St. Louis: Mosby: 2009:207–215.

Merchant, VA. Infection Control in the Dental Laboratory Environment. In: Molinari JA, Harte JA eds. *Cottone's Practical Infection Control in Dentistry*, 3<sup>rd</sup> ed. Baltimore: Lippincott Williams & Wilkins, 2009:246–260.

Plummer K, Karpay R, Plamondon T, Mills S. Laboratory asepsis. OSAP Position Paper 1998: 1–6.

USAF Guidelines for Infection Control in Dentistry