

Dental Infection Control Assessment

National Migrant Resource program, Inc.

# DENTAL INFECTION CONTROL ASSESSMENT

A Study Conducted

by the

NATIONAL MIGRANT RESOURCE PROGRAM, INC.  
CAPITAL OF TEXAS Hwy. S., Ste. 220  
AUSTIN, TEXAS 78746

for

THE PUBLIC HEALTH SERVICE REGION VI

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## Executive Summary

The following report and list of recommendations are the cumulative result of a project undertaken during the spring and fall of 1993 by the National Migrant Resource Program Inc., on behalf of Region VI of the Public Health Service.

Eighteen dental sites were visited in migrant and community health centers to determine the level of compliance with the Centers for Disease Control and Prevention's (CDC) recommendations and guidelines related to infection control and the Occupational Safety and Health Administration (OSHA) standards. Dental Directors in all of the sites were very gracious and cooperative, providing the surveyors with an ability to make a true assessment of normal day-to-day activities in the dental clinic of a federally funded health care center.

The surveyors found dental practices in migrant and community health centers to be at risk for OSHA fines and employees to be at possible risk for exposure to communicable disease. Although staff were committed to safe dental care, they lacked the resources to be optimally trained and staffed. Additionally, spacial considerations hampered the most well intentioned attempts at full compliance with infection control practices.

Areas of greatest concern include: lack of providers (additional hygienist would be a cost effective addition); absence of space for laboratories, x-ray developing and employee changing rooms; antiquated equipment; and lack of time to devote to the process of establishing infection control plans and familiarizing employees with the plan.

Since it was not the intent of this study to review dental practices in other settings (such as small privately owned or large group practices), or to compare migrant and community health dental practices with other practice entities, this report does not address the comparative level of non-compliance with OSHA and CDC standards. However, a basic assumption can be made that a federally funded dental practice is likely to have fewer financial resources with which to keep current with standards and make improvements than the average private practice. While it is clear that use of federal money for capitol improvements is limited, it is believed that dental care is a needed and necessary part of primary health care delivery. Funding formulas should include incentives for dental care. Due to the obvious desire and attempts of providers observed to provide good care to persons served and to comply with appropriate practice standards, it is believed that the return on a minimal amount of resources for the provision of high quality dental care will yield a positive disproportionate return.

## INTRODUCTION

Region VI of the U.S. Public Health Service contracted with the National Migrant Resource Program, Inc. to conduct a study of infection control practices among migrant and community health center dental programs. The objectives of the study were to:

- ascertain the current level of compliance among PHS Region VI migrant and community health center dental programs with the Centers for Disease Control and Prevention's (CDC) recommendations and guidelines related to infection control;
- study the level of compliance with the Occupational Safety and Health Administration (OSHA) Proposed Standard on Occupational Exposure to Bloodborne Pathogens;
- collect data on infection control practices to be used in developing recommendations and strategies for improving infection control programs in all migrant and community health center dental programs; and,
- develop recommendations that will lead to improved infection control practices in migrant and community health centers.

## METHODOLOGY

### Assessment Tool

The study, funded through the Office of the Assistant Secretary for Health, sought to investigate infection control practices through on-site evaluations by experts in infection control and dentistry. A Dental Infection Control Assessment was developed by a Dental Infection Control Advisory Committee made up of fourteen people including dentists, infection control experts, lay people, and a representative from the business sector. In developing the assessment, the Infection Control Advisory Committee used the *Title 29 Code of Federal Regulation Part 1910.1030 - Occupational Exposure to Bloodborne Pathogens* (adopted by the U.S. Department of Labor Occupational Safety and Health Administration on December 6, 1991), the "Recommendations for Preventing Transmission of Human Immunodeficiency Virus and Hepatitis B Virus to Patients During Exposure-Prone Invasive Procedures" (*Morbidity and Mortality Weekly Report*, July 12, 1991), and the June 1988 report, "Update: Universal Precautions for Prevention of Transmission of Human Immunodeficiency Virus, Hepatitis B Virus and Other Bloodborne Pathogens in Health Care Settings."

## **On-Site Assessments**

Following the development of the assessment tool Drs. Thayer Lyon and Warren Parker, dentists with Professor Emeritus standing at Baylor College of Dentistry, were chosen to complete the on-site assessments. Prior to performing the on-site assessments, Drs. Lyon and Parker were trained and calibrated by Dr. Marjorie Maxwell in the use of the assessment tool. Dr. Maxwell is a known expert in the field of dental infection control, and a certified AIDS educator and infection control consultant who has published a manual entitled *Dental Management of Patients with HIV*. She has worked as a consultant for the University of California - Davis, School of Medicine, the Dental Division of the California Department of Health Services, and the U.S. Public Health Service Regions VIII and IX. In fact, much of the Dental Infection Control Assessment was adapted from a tool previously developed by Dr. Maxwell.

Eighteen community and migrant health centers in Region VI were chosen for on-site evaluation. Region VI encompasses the states of Arkansas, Louisiana, Oklahoma, New Mexico and Texas. The Dental Infection Control Assessment tool was applied in nine centers, evaluated for necessary changes and then used to guide nine additional on-site evaluations. During the on-site visit Drs. Parker and Lyon collected data on the use of protective barriers, waste management, handling and disposal of sharps, sterilization of instruments and handpieces, use of anti-retraction valves, dental staff immunization for Hepatitis B, and compliance with OSHA standards.

## **The Pre-Site Questionnaire**

A Dental Infection Control Pre-Site Questionnaire was developed to save time on-site by providing the reviewers background information prior to the site visit (see Appendix 1). The pre-site questionnaire was not as useful as originally hoped because of the length of time required for completion by the respondents; the difference in question interpretation by respondents and; duplication of information obtained during the site visits. Nevertheless, the questionnaire did yield some valuable information which is discussed below.

### ***Practice Description***

One dentist from each participating site was asked to describe the practice at their center. Response to the questionnaire revealed that all of the sites visited provided dental treatment a minimum of eight hours per day, five days per week. The patient load ranged from 10-40 patients per day. Every site had at least one full-time dentist and one full-time dental assistant. The largest clinic had three full-time dentists. All but one site had a minimum of one part-time dental hygienist. Receptionists and

clerical staff were generally shared with the medical staff.

The dental programs varied in the services provided from preventive and general primary care to emergency dental care and surgery. Some sites provided limited endodontic, periodontic, orthodontic, and pediatric services.

### ***Physical Facilities***

Dentists completing the questionnaire were asked to provide a physical description of the facility. All of the treatment rooms were described as having tile floors.

Counter-tops were described as stainless steel, formica or linoleum. Sinks were available in every treatment room, but two sites did not have dental unit clean water systems and half of the sites did not have dental unit anti-retraction valves installed.

In the lab, four of the eighteen sites were described as having inadequate counter-top space. Two of the sites were described as having inadequate light to see small details.

Staff facilities were inadequate. Ten of the 18 centers lacked a place for staff to change clothes. Most providers were contaminating the bathrooms by using them as changing rooms. Eight of the 18 centers did not have a place to store clean clothes. All of the respondents stated there was a separate refrigerator for staff food, but the surveyors found that in some cases one refrigerator was used for both food and dental materials.

The reception areas were often described as overcrowded and uncomfortable. Some were overcrowded due to business equipment such as copy machines and computers taking up space. Several respondents noted the high noise level in the reception areas. A few reception areas were described as having ample seating, magazines, televisions and windows.

Three of the 18 sites *did not* have an eye wash station available. Most (14) did not have the hot water source disconnected.

### ***Other Practice Information***

Most of the respondents documented that staff was assigned responsibilities (i.e., operatory breakdown, sterilization, flushing water lines, disinfecting unit, etc.) on a daily or weekly basis. However, few of the sites were able to back this up with documentation.

All of the respondents stated that a janitorial service was used and that OSHA

infection control procedures were followed by the janitorial service. Every site indicated that a procedure manual with standard operating procedures and exposure control plan was available, but 50 percent of the respondents were not familiar with a universal precaution procedure specific to their center.

When asked about staff medical records and immunization, all of the dentists responded that Hepatitis B vaccine was provided at no cost to employees. However, one dentist responded that the employer did not inform employees of the benefits of vaccination. In response to questions about staff having rubella titer or vaccine, annual TB tests, and tetanus booster shots, many of the dentists were unable to answer because they did not have access to personnel records, which are confidential.

Eleven respondents reported that incidents of needlesticks and blood exposure had occurred at their clinic and corrective measures were instituted to prevent recurrence after the incidents. Most of the respondents indicated that in-service training was implemented following the incident. Two centers reported that confidential files for incident reports had not been established.

All but one respondent reported that staff had been trained on infection control (usually by video), but some centers failed to maintain a record of attendance.

Most of the respondents reported the presence of standard personal protective equipment in the clinic. Only one respondent said that protective clothing was not available. Generally, sterile and non-sterile latex gloves as well as heavy duty gloves were available, but only three centers made use of over-gloves. Dome and surgical masks and face shields were plentiful. Safety glasses were always available, but safety goggles were almost never available. Contaminated protective clothing was reported to be laundered on-site, by professional laundry services, and, in some cases, in the homes of staff persons, a practice that is not allowed by OSHA standards.

## **INTERPRETATION OF DENTAL INFECTION CONTROL ASSESSMENT**

The Dental Infection Control Assessment (see Appendix 2) was completed by Drs. Parker and Lyon at each site. Tabulation of the combined results for all 18 sites is provided (see Appendix 3). Below is a description of the findings in narrative form.

### **I. Physical Description of Facility**

### ***A. Treatment Rooms***

Overall, treatment rooms were considered adequate. There were no signs of visible blood, bioburden, or waste. However, in many instances the space allocated for dental activities was not optimal.

### ***B. Laboratory***

Clean and contaminated areas of the laboratory were not always easily identified. In some instances, the "lab" was just a corner of the room.

### ***C. Staff Facilities and Reception Area***

Staff did not always remember to remove personal protective equipment before entering staff facilities and reception areas. This was found to be particularly true when staff were in a hurry.

### ***D. Sterilization Area***

Ventilation was a concern in the sterilization areas. In one instance, the staff was using too much gluteraldehyde and the smell was overpowering. Once again the amount of space was a problem.

### ***E. Darkroom***

The surveyors found the darkroom to be an area of significant concern. Some of the centers did not have a darkroom and used day-light automatic x-ray developers. The surveyors found that in many instances the dental assistants and hygienists failed to change gloves between opening the film packet and picking up the film. Although training can correct the problem, the surveyors felt that in at least one instance the area used was too small to develop film without contaminating something.

## **II. Infection Control Practices**

### ***A. Handwashing***

In several instances, the liquid soap used for handwashing was supplied by the janitorial service and it could not be documented that it was an antiseptic type. In one



case, the liquid in the soap dispenser turned out to be hand lotion. Although 13 centers lacked foot and elbow controls, at least one site had laser-activated controls.

Generally, staff maintained clean hands and used appropriate techniques when washing their hands. Training was recommended for all staff regarding when hands should be washed. There was a lack of consistency when gloves must be changed. The problem usually related to forgetting something and having to retrieve it in the middle of a procedure. Some staff members did not know they should wash their hands between glove changes during a procedure. The surveyors found a few instances of excessive jewelry and/or use of false fingernails among the dental assistants.

### ***B. Tray and Operatory Setup***

The surveyors found tray and operatory setups to be completed in an efficient and aseptic manner. In response to question 10, "Are medicaments dispensed prior to procedure?", the surveyors noted that some medicaments will evaporate or "set up" if dispensed too early. Question 11, referring to the use of a "retrieving device," received the lowest percentage (41 percent) of correct procedures observed in this category. (See recommendations pertaining to the appropriate use of retrieving devices.)

### ***C. Operatory Procedures***

All of the staff who were observed during operatory procedures wore disposable gloves, gowns, and lab coats or uniforms. Additionally, 100 percent of the persons observed wore masks whenever the handpiece or ultrasonic instrument was in use. In three instances, dental assistants failed to wear protective eyewear. Two dentists routinely used a rubber dam (when possible). Use of a rubber dam is a preferred technique but is not mandatory. There was an alarming rate of dentists who failed to use appropriate technique for recapping needles (11 percent). Several dentists used a two-handed technique that is considered to be extremely dangerous and could result in exorbitant fines from OSHA. Ironically, the same dentists who failed to protect themselves from infection by recapping needles inappropriately, took special care to pass sharp instruments to assistants and hygienists in a safe manner. Likewise, hygienists and assistants had a 100 percent rate of using correct technique for passing sharps. Observations during operatory technique (extractions) indicated a less-than-desirable percentage of instances when dentists and staff cross-contaminated personal protective equipment (9 percent), touched contaminated items such as the back of a chair (14 percent), or failed to wash hands and reglove if hands became contaminated during the procedure (21 percent). The surveyors noted that providers failed to avoid self-contamination when removing personal protective equipment because of the

sequence used for removal. For example, the provider removed gloves before removing the face mask. Thirty four percent of the staff observed failed to wash hands after removing contaminated gloves.

#### ***D. Operatory Breakdown***

There were enough problems noted with operatory breakdown to suggest that re-training is needed. During observation of operatory breakdown procedures, the use of disinfectants such as glutaraldehyde and hypochlorite were noted to be odious, expensive, and destructive to rubber items, chairs, etc. In some instances the staff failed to wait the appropriate length of time before wiping down counters, chairs, etc., after spraying with disinfectant. Although a number of professional disinfectants including Lysol are recommended, the use of barriers where possible is preferred to save time and ensure aseptic technique. Water lines were not flushed frequently enough or for the recommended 20-30 seconds. In some cases the lines were flushed only at the end of each day. Suction lines were not always disinfected with appropriate solution (44 percent), hoses were not always cleaned (44 percent), and face shields and eye wear were decontaminated only 33 percent of the time. On a more positive note, the appropriate personal protective equipment was worn during 100 percent of the breakdowns observed and staff never failed to wash their hands following clean-up.

#### ***E. Hygiene Procedures***

This section specifically addresses the performance of dental hygienists. The number of observations recorded reflects a lack of hygienists in some clinics. The surveyors noted that most clinics do not give appropriate preventive oral hygiene care to patients if there is not a dental hygienist because it is not cost-effective for the dentist to perform hygiene procedures. This is an obvious failure within a system dedicated to preventive care. Also noted was the lack of written procedures for dental hygienists. However, overall techniques used by hygienists were found to be exemplary. A low rating was found in question 6, which refers to the use of a high-speed evacuation when using rotary or ultrasonic instruments. The hygienist cannot efficiently work a high-speed evacuation without an assistant, as was often the case.

#### ***F. X-Ray Procedures***

In most cases radiographs were exposed, developed and mounted by the dental assistant. The surveyors found X-Ray to be a very weak area due to lack of space, lack of training, staff turnover, low visibility of the activity itself, and failure of the dentist to pay attention to the process or methods employed. Assistants are forced to

be very creative with the available facilities. Many of the problems previously noted regarding the use and misuse of barriers such as gloves were prevalent.

### ***G. Instrument Processing***

The first area of concern noted in this section was the failure of staff to wear heavy-duty gloves when handling instruments. In every instance, the gloves were available but staff stated they could not feel the instruments when the gloves were worn. A second area which was noted was the failure to use proper engineering controls when removing tips and sharp blades. Other areas of concern include: absence of an ultrasonic unit; improper use of the ultrasonic (i.e., over-filling); failure to initial and date sterilized packages; incorrect time and temperature settings used for heat sterilization; failure to change cleaner solution in the ultrasonic unit frequently enough; failure to test cold sterilization solution for activity; lack of knowledge regarding activity indicators for cold sterilization; and failure to conduct spore tests on a timely basis.

### ***H. Lab Procedures***

As noted above, lab areas were not easily identified. In some instances the lab was shared with the sterilization and x-ray developing areas. This makes it hard, if not impossible, to clean and de-contaminate or to distinguish between "clean" and "dirty" spaces (68 percent). The surveyors felt that questions 2 and 3 could be misleading in terms of the rate of compliance because impressions do not have to be disinfected for 10 minutes before sending to the commercial lab if the commercial lab is informed.

Observations of laboratory procedures showed high rates of non-compliance with acceptable practices. Disposable trays or liners were seldom used (63 percent), barriers were not used to turn on switches and handle machines (38 percent), and contaminated surfaces, machines and supplies were not disinfected following use if contaminated (25 percent).

### ***I. Waste Management***

There was only one instance in which regulated infectious waste was not disposed of properly. In that instance the dentist was observed throwing an extracted tooth into the trash basket. All sharps were disposed of in puncture-resistant containers and contaminated waste was placed in a leak-proof bag. Labels for bio-hazardous contents were usually available but were not always used.

Laundry was an area of significant concern. Staff sometimes failed to wear gloves when sorting or handling contaminated laundry. In some cases employees were

known to be laundering contaminated uniforms and work clothes in their homes, a practice prohibited by OSHA standards.

### III. Daily and Weekly Routines

Suction traps were not emptied and cleaned with disinfectant with appropriate frequency in 33 percent of the centers visited. One center had not explained OSHA infection control procedures to the janitorial service. Other areas of concern in this section include failure to disinfect the nitrous system (33 percent), absence of a back wash system to disinfect the water system (82 percent), failure to use spore tests for heat sterilizers (25 percent) or to keep records of spore tests (22 percent), failure to disinfect operatory walls as needed (40 percent) and floor of operatory and lab (29 percent), and failure to flush water lines several minutes at the start of each day (17 percent).

## RECOMMENDATIONS

1. Increased funding for treatment room, x-ray and laboratory space.
2. Because it is not always possible to have a changing room for staff, training should be implemented to remind staff to remove their personal protective equipment (PPE) in a sequence that avoids cross-contamination. Rather than changing clothes and removing personal protective equipment in the bathroom, a container should be placed in the operatory room. Staff should remove contaminated gowns and coats, roll them up, and carry them to the container while wearing gloves. PPE should be removed prior to entering staff and reception areas.
3. The hot water must be disconnected in eye wash stations.
4. Daily and weekly work assignments such as operatory breakdown, sterilization, flushing of water lines, etc., should be documented. Scheduling activities tends to avoid situations like excess formaldehyde buildup in chemclaves. Staff should be asked to sign off on duties as they are completed.
5. Contracts with janitorial services should document the contractor's familiarity and compliance with OSHA infection control procedures.
6. If film is developed using a daylight loader there is chance of contamination of the film. If one person uses bad technique, it contaminates everyone's project. In cases where additional space is not possible, a film sleeve can be used. In either case, it is recommended that very rigid protocols be developed and

followed to avoid contamination during x-ray film exposure, developing procedures and mounting. Dental directors should make a special effort to monitor the performance of persons handling x-rays. New staff should be oriented to the procedures and protocols. (See attachment 4 for article relating to radiology in dental practices.)

7. Safety goggles should be purchased for all personnel.
8. New sinks with elbow/knee controls or motion activated controls should be purchased. Where this is not possible, staff should be educated to use towels when shutting off the water.
9. As a general rule, staff should wait 10 minutes after spraying disinfectant to ensure the destruction of pathogens. If barriers are used, the disinfectant and 10-minute-rule are not necessary. Increased use of barriers is recommended for cost savings, protection of high-cost equipment, and time efficiency. Dry cleaner bags may be used for covering chairs, bracket tables, carts, cuspidors, hoses, and x-ray heads, etc. Tape can be used on switches, and drinking straws on toggle switches. Over-gloves (food service handler gloves) or baggies are highly recommended for handling any item that should remain uncontaminated. Disinfectant should be used on exposed areas in the morning and evenings at a minimum. Professional Lysol is an excellent disinfectant. Be certain to clean surfaces with a water based solution prior to use of a phenol alcohol solution. Another good rule of thumb is to autoclave anything that can be autoclaved.
10. Dental hygienists are cost-effective professionals, and will significantly expand the number of patients a practice is able to serve. Also, there should be a 2:1 ratio between dental assistants and dentists to ensure optimal efficiency. Consider using dental assistants with hygienists when using high-speed evacuation equipment. High-speed evacuation decreases splatter and increases efficiency.
11. Instrument processing is a very labor-intensive and time-consuming activity. Increasing the number of handpieces available for use will help eliminate rushed processing and reduce incidence of errors.
12. Mouthpieces should be made available for CPR.
13. Although centers can save money on spore test processing by purchasing an incubator and performing the test in-house, in those cases where space and personnel are at a premium, a reputable laboratory should be contracted with.
14. Always comply with the strictest standards available for infection control. Call

the state health department to determine if your state has a more stringent rule than OSHA.

15. Education, training, and record keeping are important features of maintaining a healthy environment. Failure of centers to have infection control plans that are specific to their clinic, lack of familiarity with the plan, lack of documentation on incident reports, and lack of on-going training all indicate that dental personnel are overwhelmed with the daily business of serving people. A specific amount of time should be set aside for dental directors or their designees to bring the center up to speed with infection control procedures that are specific to the center (rather than adopting a commercial plan), to develop training programs, to ensure that employees are properly vaccinated, etc.
16. General training is recommended for all staff in the following areas: appropriate infection control during clinical procedures (i.e., eye protection, sharps handling, sequencing of PPE removal and hand washing); proper mechanical needle capping technique (one hand technique); water line flushing; proper cleaning, packaging, sterilization and dispensing; use of face shields; lab procedures; and use (or overuse) of regulated waste bags for bio-hazardous waste. Training should be on-going, interactive, and include demonstrations. Ancillary providers should be targeted for specific training in areas such as the dangers of wearing false fingernails and proper x-ray handling techniques.
17. Familiarity and use of the American Dental Association Regulatory Compliance Manual is recommended for remaining current with regulations and standards relating to dental practice.

Appendix 1

Dental Infection Control Pre-Site Questionnaire

## DENTAL INFECTION CONTROL PRE-SITE QUESTIONNAIRE

### INSTRUCTIONS FOR DENTAL OFFICE PERSONNEL

1. The accompanying form is an assessment tool to be completed by your office prior to your site visit.
2. Complete each section of the assessment tool as you research your office for the appropriate information.
3. This assessment tool will be utilized by you and a reviewer during your site visit to help you implement/maintain your infection control program.
4. Please send the form to: E. Roberta Ryder  
NMRP/MCN  
1515 Capital of Texas Highway South, Suite 220  
Austin, Texas 78746

at least two weeks prior to your scheduled visit date so that the reviewers can become familiar with your office and maximize the time spent on site.

Thank you for your assistance.

Other: Age of equipment, cost of repairs, cost of hazardous waste disposal compliance all goes in cost analysis section.

Add Hazard Communications check list to this and add state regulation on state regulation waste disposal question; are you familiar with your federal, state, county, and local regulated waste disposal and are you now complying? List your regulated waste.

\*This infection control assessment instrument and methodology were developed by the National Migrant Resource Program and the Migrant Clinicians Network for the Region VI Dental Infection control Advisory Committee and based on efforts by the Alameda County Dental Health Bureau through a grant from the California Department of Health Services, Office of AIDS.



# DENTAL INFECTION CONTROL PRE-SITE QUESTIONNAIRE

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# DENTAL INFECTION CONTROL PRE-SITE VISIT QUESTIONNAIRE

## I. DESCRIPTION OF PRACTICE

### A. OFFICE HOURS:

Monday	_____	to	_____	;	_____	to	_____	;	_____	to	_____
Tuesday	_____	to	_____	;	_____	to	_____	;	_____	to	_____
Wednesday	_____	to	_____	;	_____	to	_____	;	_____	to	_____
Thursday	_____	to	_____	;	_____	to	_____	;	_____	to	_____
Friday	_____	to	_____	;	_____	to	_____	;	_____	to	_____
Saturday	_____	to	_____	;	_____	to	_____	;	_____	to	_____

B. PATIENT LOAD - Number of Patients seen in office on an average day \_\_\_\_\_  
 Calculate dentist to assistant ratio by dividing total number of  
 dentists by total number of dental assistants, i.e., DDS/DA+RDA =  
 \_\_\_\_\_

### C. STAFFING

	<u>Number Part Time</u>	<u>Number Full Time</u>
DDS/DMD .....	_____	_____
RDH .....	_____	_____
RDA .....	_____	_____
DA .....	_____	_____
RECEPTIONIST .....	_____	_____
CLERICAL STAFF .....	_____	_____
LAB TECH. ....	_____	_____
OTHERS:	_____	_____

DESCRIBE OTHERS: \_\_\_\_\_

D. DENTAL SERVICES PROVIDED: \_\_\_\_\_

II. PHYSICAL DESCRIPTION OF FACILITY

A. TREATMENT ROOMS: Total Number \_\_\_\_\_

(Indicate Y/N)

	Operatory							
	1	2	3	4	5	6	7	8
1. Is sink available?	_____	_____	_____	_____	_____	_____	_____	_____
2. Are dental unit anti-retraction valves installed?	_____	_____	_____	_____	_____	_____	_____	_____
3. Dental unit clean water system?	_____	_____	_____	_____	_____	_____	_____	_____
4. Waste basket in this operatory?	_____	_____	_____	_____	_____	_____	_____	_____
5. Waste basket liners present?	_____	_____	_____	_____	_____	_____	_____	_____
6. Describe floor coverings: _____								
7. Describe current countertop use in treatment rooms: _____								

B. LAB AREA

1. Lab separated from the operatories and sterilizing area ..... Y/N
2. Sink available ..... Y/N
3. Sink size, adequate to prevent splash ..... Y/N
4. Lathe is hooded ..... Y/N
5. Lighting is adequate to see small detail ..... Y/N
6. Countertop space adequate to perform functions ..... Y/N
7. Describe the lab: \_\_\_\_\_
8. Describe the functions performed in the lab: \_\_\_\_\_
9. Describe the equipment in the lab: \_\_\_\_\_
10. Describe lab floor covering: \_\_\_\_\_

C. STAFF FACILITIES

1. Staff have separate lounge/dining area ..... Y/N
2. Staff provided clothes changing room ..... Y/N
3. Clean clothes storage area available ..... Y/N
4. Does restroom have sink and scap available ..... Y/N
5. Is there a separate refrigerator for staff food ..... Y/N

D. RECEPTION AREA

1. Describe the reception area: \_\_\_\_\_  
\_\_\_\_\_

E. STERILIZATION AREA

- 1. Sterilizing area is separate from lab and operatories ..... Y/N
- 2. Sink is available ..... Y/N

F. STORAGE AREAS FOR UNCONTAMINATED SUPPLIES

Describe location and condition of storage:

Area 1 \_\_\_\_\_  
Area 2 \_\_\_\_\_  
Area 3 \_\_\_\_\_

G. X-RAY AREA (If Other Than Operatory)

- 1. Describe condition of area: \_\_\_\_\_  
\_\_\_\_\_
- 2. X-Ray control switch, foot or elbow activated..... Y/N

H. X-RAY DEVELOPING: COMPONENTS AVAILABLE INCLUDING:

- 1. Auto Processor ..... Y/N  
Type: \_\_\_\_\_
- 2. Manual tank system ..... Y/N
- 3. Darkroom ..... Y/N
- 4. Does the darkroom have a rotating door or easy-open door?..... Y/N
- 5. Is there a waste container present? ..... Y/N

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

I. EYE WASH STATION

- Available..... Y/N
- Located in operatory..... Y/N
- Located in lab..... Y/N
- Hot water source disconnected..... Y/N

### III. STAFF INFORMATION/MONITORING/DOCUMENTATION

#### A. STAFF RESPONSIBILITIES

(Please mark an X under responsibilities performed by each staff member.  
If staff members have dual roles, please check as many as apply.)

STAFF MEMBER	Op. Set Up	Operatory Procedures	Operatory Breakdown	X-Ravs	Steril.	*Daily/ **Weekly Routines	Lab	Recept./ Clerical
DDS						D/W		
RDH								
DA 1								
DA 2								
DA 3								
DA 4								
RECEPT.								
CLERICAL								
LAB TECH								
OTHERS								
DESCRIBE OTHERS:								

Note: \* Daily Routine includes waste disposal, flushing water lines.  
\*\*Weekly routine includes disinfecting floor, drawers, entire unit, chair.

- Does office use a janitorial service for removal of infectious waste? Y/N
- If yes, do they follow OSHA infection control procedures? Y/N

#### B. POLICY AND PROCEDURE MANUAL/EXPOSURE CONTROL PLAN

- Does office have procedure manual; i.e., standard operating procedures and exposure control plan? Y/N
  - Does exposure control plan contain exposure determinations? Y/N
  - Does exposure control plan include schedule and method of implementation. Y/N
  - Does manual contain infection control procedures? Y/N
  - Are there separate infection control protocols for known high risk individuals? Y/N
- If so, describe procedures \_\_\_\_\_

#### C. STAFF MEDICAL RECORDS AND IMMUNIZATIONS

- Is vaccine provided at no cost to employee? Y/N
  - Do employers inform employees of benefits of vaccine? Y/N
  - Is vaccine be available at a reasonable time and place? Y/N
  - Is vaccine provided by licensed health care provider? Y/N
  - Have all staff had rubella titers or vaccine? Y/N
  - Have all staff received annual T.B. test? Y/N
  - Have all staff received tetanus booster within the past 10 years? Y/N
- COMMENTS: \_\_\_\_\_

D. POST-EXPOSURE PROTOCOL

- 1. Has office established confidential files for incident reports on needlesticks and blood exposure? ..... Y/N
- 2. Have any incidents occurred? ..... Y/N  
If yes, were they handled and documented in accordance with OSHA guidelines? ..... Y/N  
If yes to number 2, were corrective measures instituted to prevent recurrence? ..... Y/N

E. EDUCATION, TRAINING, AND RECORD KEEPING

- 1. Have all staff attended a class on infection control? ..... Y/N
- 2. Circle the following educational subject areas that have been provided to the staff members:
  - a. An accessible copy of the Bloodborne Pathogens Standard and an explanation of its contents.
  - b. Epidemiology and symptoms of bloodborne diseases.
  - c. Modes of transmission of bloodborne pathogens.
  - d. The office Exposure Control Plan and means to obtain a copy.
  - e. How to recognize tasks that may involve exposure.
  - f. Use and limitations of engineering controls, work practices, and personal protective equipment.
  - g. Type, use, location, handling, decontamination and disposal of personal protective equipment.
  - h. Explanation of basis for selection of personal protective equipment.
  - i. HBV vaccine information: efficacy, safety, method of administration, benefits, and that it is offered free.
  - j. Actions to take and who to contact in an emergency involving infectious materials.
  - k. Post-exposure procedures including reporting and medical follow-up.
  - l. Employers requirements for post-exposure evaluation and follow-up.
  - m. Signs and labels for biohazards.
- 3. Is there a record of attendance? ..... Y/N
- 4. Is there a record of content and instructor? ..... Y/N
- 5. Have all staff signed acknowledgment forms for attendance at infection control class? ..... Y/N
- 6. How does the dentist monitor staff compliance with Infection Control guidelines?

Describe: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

#### IV. MATERIALS AND EQUIPMENT

Please provide information on the materials and equipment which are available.

##### A. GLOVES

	<u>Stocked</u>	<u>Location in Office</u>	<u>Manufacturer</u>
1. Sterile latex	Y/N	_____	_____
2. Non-sterile latex	Y/N	_____	_____
3. Heavy-duty	Y/N	_____	_____
4. Overgloves	Y/N	_____	_____
5. Other	Y/N	_____	_____
6. Several sizes of 1 & 2	Y/N	_____	_____

##### B. MASKS

	<u>Stocked</u>	<u>Location in Office</u>	<u>Manufacturer</u>
1. Dome	Y/N	_____	_____
2. Surgical	Y/N	_____	_____
3. Face Shields	Y/N	_____	_____
Description: _____		_____	_____

##### C. EYEWEAR

	<u>Stocked</u>	<u>Location in Office</u>
1. Safety Glasses	Y/N	_____
2. Safety Goggles	Y/N	_____
3. Face Shields	Y/N	_____
4. Solid Side Shields	Y/N	_____
5. Others _____		_____

##### D. PROTECTIVE CLOTHING (for Staff with exposure potential)

1. Is protective clothing available?..... Y/N
2. How is contaminated protective clothing laundered?.....  
.....

##### E. SURFACE DISINFECTANTS

	<u>Stocked</u>	<u>Brand Name</u>	<u>Dilution Used</u>	<u>Freq. of Prep.</u>
1. Iodophor	Y/N	_____	_____	_____
2. Hypochlorite (bleach)	Y/N	_____	_____	_____
3. Phenol compound	Y/N	_____	_____	_____
4. Quaternary ammonium compound	Y/N	_____	_____	_____
5. Other: _____	Y/N	_____	_____	_____

##### F. ULTRASONIC CLEANER

	<u>Manufacturer</u>	<u>Location</u>
1. Ultrasonic cleaner Y/N How many?	_____	_____
2. Do you use the ultrasonic cleaner for processing instruments? Y/N		
3. Ultrasonic cleaning solution	<u>Brand Name</u> _____	<u>How often Changed</u> _____

G. STERILIZERS

			<u>Manufacturer</u>	<u>Comments</u>
1.	Chemiclave	Y/N	_____	_____
2.	Dry Heat	Y/N	_____	_____
3.	Autoclave/steam	Y/N	_____	_____
4.	Ethylene oxide	Y/N	_____	_____
5.	Steriliz. Bags	Y/N	_____	_____
6.	Steriliz. Wraps	Y/N	_____	_____
7.	Spore Tests	Y/N	_____	_____
8.	Spore Tests:	how often _____		
	testing in-house _____	testing service _____		records kept _____

H. COLD STERILANTS

	<u>Brand Stocked</u>	<u>Dilution Name</u>	<u>Frequency of Use</u>	<u>Length of of Prep.</u>	<u>Length of Immersion</u>
1.	Glutaraldehyde	_____	_____	_____	_____
2.	Other:	_____	_____	_____	_____

I. DISPOSAL OF WASTES AND SHARPS

		<u>Location</u>
1.	Sharps disposal container present	Y/N _____
2.	Bags for contaminated waste present	Y/N _____
3.	Containers for solid waste present	Y/N _____
4.	Bio hazard labels available	Y/N _____

J. OTHER

1. Surface barrier protection (Plastic wrap, paper, foil) Y/N  
Please describe: \_\_\_\_\_

	<u>Brand Name</u>	<u>How Dispensed</u>
2.	Hard Cleaner/Scap Y/N	_____
3.	Bottle Brushes Available.....	Y/N
4.	CPR Equipment .....	Y/N
	Resuscitation One Way Valve Mouth Piece .....	Y/N
	Ambubag.....	Y/N
5.	Are individual nitrous oxide masks available?.....	Y/N
6.	How many handpieces do you have?	
	# High Speed _____	# Autoclavable _____
	# Slow Speed _____	# Autoclavable _____

COMMENTS: \_\_\_\_\_



HAZARD COMMUNICATION CHECKLIST FOR EMPLOYER OR PROGRAM COORDINATOR

- Do you have a copy of the Hazard Communication Standard?
- Do you have a program coordinator? (It can be you [the dentist] or another person in your office. The program coordinator will be responsible for implementation of the Hazard Communication Program.)
- Has your staff understood and been thoroughly familiar with the Hazard Communication Standard?
- Develop and implement a written Hazard Communication Program.
- Fill in the information indicated in the instructions for "Hazard Communication Program for this office."
- Compile a list of products in your office that contain hazardous chemicals.
- Obtain Material Safety Data Sheets (MSDSs).
- Establish and maintain a file for MSDSs.
- Establish and maintain a file for MSDS requests to suppliers.
- Advise your employees of the location and availability of these materials.
- Make sure all containers of products that contain hazardous chemicals are labeled.
- Develop and implement a training program for all employees.
- Maintain records of training sessions.
- Obtain comments from employees regarding the training program.
- Provide training for all new employees as soon as possible after their employment.
- Review the training program periodically and update if necessary.
- In which of these areas do you need the most help?

See also OSHA compliance standard as background.

\*This is ADA copyrighted material and will have to be substantially revised.

Appendix 2

Dental Infection Control Assessment Tool

THE NATIONAL MIGRANT RESOURCE PROGRAM/MIGRANT CLINICIANS NETWORK  
DENTAL INFECTION CONTROL ASSESSMENT\*

DENTAL OFFICE INFECTION CONTROL ASSESSMENT

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\*This infection control assessment instrument and methodology were developed by the National Migrant Resource Program and the Migrant Clinicians Network for the Region VI Dental Infection control Advisory Committee and based on efforts by the Alameda County Dental Health Bureau through a grant from the California Department of Health Services, Office of AIDS.

THE NATIONAL MIGRANT RESOURCE PROGRAM/MIGRANT CLINICIANS NETWORK

DENTAL INFECTION CONTROL ASSESSMENT

I. PHYSICAL DESCRIPTION OF FACILITY

A. TREATMENT ROOMS

(Indicate operatory number or Y/N; "adequate" condition means free of visible blood, bio-burden or waste)

	Operatory							
	1	2	3	4	5	6	7	8
1. Sink size, adequate to prevent splash	_____	_____	_____	_____	_____	_____	_____	_____
2. Sink condition, adequate .....	_____	_____	_____	_____	_____	_____	_____	_____
3. Countertop space, adequate for use ....	_____	_____	_____	_____	_____	_____	_____	_____
4. Countertop condition, adequate .....	_____	_____	_____	_____	_____	_____	_____	_____
5. Drawer condition, adequate .....	_____	_____	_____	_____	_____	_____	_____	_____
6. Operatory equipment condition, adequate	_____	_____	_____	_____	_____	_____	_____	_____

B. LABORATORY

1. Are clean and contaminated areas easily identified?..... Y/N

C. STAFF FACILITIES

1. Do staff remove personal protective equipment before entering .. Y/N

D. RECEPTION AREA

1. Do staff remove personal protective equipment before entering...Y/N

E. STERILIZATION AREA

- 1. Sink size is adequate to prevent splash ..... Y/N
- 2. Sink condition, adequate ..... Y/N
- 3. Countertop condition, adequate ..... Y/N
- 4. Is there adequate ventilation?..... Y/N
- 5. Is there adequate space available for safe/functional movements? ..... Y/N

F. DARKROOM

- 1. Are clean and contaminated areas easily identified?..... Y/N
- 2. Is there a designated spot for contaminated film packets? ..... Y/N
- 3. Is there a designated spot for uncontaminated films ..... Y/N
- 4. Are hand wipes available for use after glove removal..... Y/N

## II. INFECTION CONTROL PRACTICES

### A. HANDWASHING

#### 1. Evaluate the handwashing area

- |  |     |
|--|-----|
| a. Is liquid disinfectant soap available? ....                       | Y/N |
| b. Are disposable paper towels available? ....                       | Y/N |
| c. Can paper towels be reached without touching anything else? ..... | Y/N |
| d. Are foot/elbow controls available? .....                          | Y/N |

(Observe handwashing of 3 staff during provision of routine dental care.)

#### 2. Observe hands before and after washing

	Staff Member		
	1	2	3
a. Are nails short? .....	Y/N	Y/N	Y/N
b. Are nails clean? .....	Y/N	Y/N	Y/N
c. Are hands free of dermatitis, open cuts? ..	Y/N	Y/N	Y/N
d. Are hands free of jewelry, nail polish, and false fingernails? .....	Y/N	Y/N	Y/N
e. Are hands visibly clean? .....	Y/N	Y/N	Y/N

#### 3. Observe handwashing during routine care:

- |   |     |     |     |
|---|-----|-----|-----|
| a. Do staff avoid touching the soap dispenser and faucet with clean hands? .... | Y/N | Y/N | Y/N |
| b. Do staff lather well and wash for at least 10 seconds? .....                 | Y/N | Y/N | Y/N |
| c. Do staff rub all parts of hands vigorously? .....                            | Y/N | Y/N | Y/N |
| d. Do staff rinse thoroughly with water? .....                                  | Y/N | Y/N | Y/N |

#### 4. Are hands washed at appropriate times?

- |   |     |     |     |
|---|-----|-----|-----|
| a. Before gloving? .....                | Y/N | Y/N | Y/N |
| b. After removing gloves? .....         | Y/N | Y/N | Y/N |
| c. Before leaving the operatory? .....  | Y/N | Y/N | Y/N |
| d. Before handling clean objects? ..... | Y/N | Y/N | Y/N |
| e. Before set-up of operatory? .....    | Y/N | Y/N | Y/N |

#### 5. Is surgical scrub different than routine? .....

- |     |     |     |
|-----|-----|-----|
| Y/N | Y/N | Y/N |
|-----|-----|-----|

**B. TRAY AND OPERATORY SETUP**  
 (Observe 2 staff members)

	<u>Staff Member</u>		<u>Comments</u>
	<u>A</u>	<u>B</u>	
1. Are clean hands or gloves used for tray preparations.....	Y/N	Y/N	_____
2. Are tray set-ups done in clean area.....	Y/N	Y/N	_____
3. Is tray preparation efficient and aseptic.....	Y/N	Y/N	_____
4. Are surgical trays set up aseptically? .....	Y/N	Y/N	_____
5. Are all supplies used in tray preparation easily accessible with minimal opening of drawers and cabinets?.....	Y/N	Y/N	_____
6. Are procedure supply tubs or drawers available with all non-sterilizable items that may be used during a procedure.....	Y/N	Y/N	_____
7. Provide specific examples of disposable barriers used in appropriate ways .....	Y/N	Y/N	_____
8. Are x-rays placed on view box and chart placed in "clean area"? .....	Y/N	Y/N	_____
9. Is complete instrumentation present for procedure? (provide omissions).....	Y/N	Y/N	_____
10. Are medicaments dispensed prior to procedure? (provide examples and omissions)	Y/N	Y/N	_____
11. Is a "retrieving device" made accessible to use in getting uncontaminated supplies during treatment? e.g. cotton pliers, overgloves, plastic bag	Y/N	Y/N	_____

C-1. OPERATORY PROCEDURES

Procedure 1

Observe 2 staff and 2 procedures if possible.

	Staff	Staff	Not	Comments
	A	B	Observed	
Did staff:				
1. wear disposable gloves?	Y/N	Y/N	_____	_____
2. wear masks whenever the handpiece, laser, or ultrasonic instrument is used?	Y/N	Y/N	_____	_____
3. wear face shields/protective eyewear?	Y/N	Y/N	_____	_____
3. wear a gown, lab coat, or uniform?	Y/N	Y/N	_____	_____
4. utilize rubber dam where possible?	Y/N	Y/N	_____	_____
5. recap needles using forceps or a singlehanded technique or place them safely in uncontaminated area?	Y/N	Y/N	_____	_____
6. utilize high speed evacuation when using rotary or ultrasonic instruments?	Y/N	Y/N	_____	_____
7. pass sharp instruments safely?	Y/N	Y/N	_____	_____
8. avoid cross-contamination of mask, glasses or face shield?	Y/N	Y/N	_____	_____
9. avoid unnecessary touching—while wearing contaminated gloves—of themselves, instruments, equipment, or surfaces?	Y/N	Y/N	_____	_____
10. stop to wash and reglove if hands became contaminated during procedure?	Y/N	Y/N	_____	_____
11. avoid unnecessary interruptions? (efficient use of chair-side time)	Y/N	Y/N	_____	_____
12. use overgloves, retrieving tool, or remove gloves and wash hands to retrieve clean items during procedures?	Y/N	Y/N	_____	_____
13. change gowns/uniforms if they became visibly contaminated or wet?	Y/N	Y/N	_____	_____
14. remove gloves when treatment was completed and contaminated instruments had been removed?	Y/N	Y/N	_____	_____
15. in removing PPE does operator avoid self contamination	Y/N	Y/N	_____	_____
16. put gloves directly into wastebasket or onto tray after removing them?	Y/N	Y/N	_____	_____
17. wash hands immediately after removing gloves?	Y/N	Y/N	_____	_____

C-2. OPERATORY PROCEDURES

Did staff:	Procedure 2			Not Observed	Comments
	Staff A	Staff B			
1. wear disposable gloves?	Y/N	Y/N			
2. wear masks whenever the handpiece, laser, or ultrasonic instrument is used?	Y/N	Y/N			
3. wear face shields/protective eyewear?	Y/N	Y/N			
3. wear a gown, lab coat, or uniform?	Y/N	Y/N			
4. utilize rubber dam where possible?	Y/N	Y/N			
5. recap needles using forceps or a singlehanded technique or place them safely in uncontaminated area?	Y/N	Y/N			
6. utilize high speed evacuation when using rotary or ultrasonic instruments?	Y/N	Y/N			
7. pass sharp instruments safely?	Y/N	Y/N			
8. avoid cross-contamination of mask, glasses or face shield?	Y/N	Y/N			
9. avoid unnecessary touching—while wearing contaminated gloves—of themselves, instruments, equipment, or surfaces?	Y/N	Y/N			
10. stop to wash and reglove if hands became contaminated during procedure?	Y/N	Y/N			
11. avoid unnecessary interruptions? (efficient use of chair-side time)	Y/N	Y/N			
12. use overgloves, retrieving tool, or remove gloves and wash hands to retrieve clean items during procedures?	Y/N	Y/N			
13. change gowns/uniforms if they became visibly contaminated or wet?	Y/N	Y/N			
14. remove gloves when treatment was completed and contaminated instruments had been removed?	Y/N	Y/N			
15. in removing PPE does operator avoid self contamination	Y/N	Y/N			
16. put gloves directly into wastebasket or onto tray after removing them?	Y/N	Y/N			
17. wash hands immediately after removing gloves?	Y/N	Y/N			



D-1. OPERATORY BREAKDOWN #1

Observe preparation between patients:

	Not Observed	Comments
1. Are appropriate PPE worn during decontamination?	Y/N	_____
2. Are contaminated instruments handled and transported appropriately?	Y/N	_____
3. Are surface covers handled and transported appropriately?	Y/N	_____
4. Are appropriate disinfectants (e.g., iodophors or hypochlorite) or other tuberculocide used?	Y/N	_____
5. Is spray/wipe/spray technique (or other appropriate 2 step technique) used for disinfection?	Y/N	_____
6. Are disposable sharps placed in an approved sharps container in a safe manner?	Y/N	_____
7. Are water lines flushed for 20-30 seconds?	Y/N	_____
8. Is handpiece washed, removed, and taken to the sterilization room?	Y/N	_____
9. Is air-water syringe disinfected or replaced?	Y/N	_____
10. Is suction line disinfected with appropriate solution?	Y/N	_____
11. Are hands washed following clean up?	Y/N	_____
12. Is appropriate time left before reentry of operator for introduction of clean instrumentation?	Y/N	_____
13. Are face shields/eyewear decontaminated?	Y/N	_____
14. Are the hoses cleaned off?	Y/N	_____
15. Is breakdown logically sequenced?	Y/N	_____

D-2. OPERATORY BREAKDOWN #2

Observe preparation between patients:

	Not Observed	Comments
1. Are appropriate PPE worn during decontamination?	Y/N	
2. Are contaminated instruments handled and transported appropriately?	Y/N	
3. Are surface covers handled and transported appropriately?	Y/N	
4. Are appropriate disinfectants (e.g., iodophors or hypochlorite) or other tuberculocide used?	Y/N	
5. Is spray/wipe/spray technique (or other appropriate 2 step technique) used for disinfection?	Y/N	
6. Are disposable sharps placed in an approved sharps container in a safe manner?	Y/N	
7. Are water lines flushed for 20-30 seconds?	Y/N	
8. Is handpiece washed, removed, and taken to the sterilization room?	Y/N	
9. Is air-water syringe disinfected or replaced?	Y/N	
10. Is suction line disinfected with appropriate solution?	Y/N	
11. Are hands washed following clean up?	Y/N	
12. Is appropriate time left before reentry of operator for introduction of clean instrumentation?	Y/N	
13. Are face shields/eyewear decontaminated?	Y/N	
14. Are the hoses cleaned off?	Y/N	
15. Is breakdown logically sequenced?	Y/N	

E. HYGIENE PROCEDURES

Did staff:

		Not Observed	Comments
1. wear disposable gloves?	Y/N	_____	_____
2. wear masks when cavitron is used?	Y/N	_____	_____
3. wear face shields/protective eyewear?	Y/N	_____	_____
4. wear a gown, lab coat, or uniform?	Y/N	_____	_____
5. recap needles using forceps, singlehanded technique or place them safely in uncontaminated area?	Y/N	_____	_____
6. utilize high speed evacuation when using rotary or ultrasonic instruments?	Y/N	_____	_____
7. Does hygienist avoid contaminating the chart while making written entries?	Y/N	_____	_____
8. Does hygienist keep tray with scalers/curettes organized and easy to access?	Y/N	_____	_____
9. Does hygienist maintain stable hand rests and position the patient to prevent fatigue and accidental slipping?	Y/N	_____	_____
10. avoid cross-contamination of mask, glasses or face shield?	Y/N	_____	_____
11. avoid unnecessary touching, while wearing contaminated gloves, of self, instruments, equipment, or surfaces?	Y/N	_____	_____
12. stop to wash and reglove if hands became contaminated during procedure?	Y/N	_____	_____
13. avoid unnecessary interruptions? (efficient use of chair-side time)	Y/N	_____	_____
14. use overgloves, retrieving tool, or remove gloves and wash hands to retrieve clean items during procedures?	Y/N	_____	_____
15. change gowns/uniforms if they became visibly contaminated or wet?	Y/N	_____	_____
16. remove gloves when treatment was completed and contaminated instruments had been removed?	Y/N	_____	_____
17. in removing PPE does operator avoid self contamination?	Y/N	_____	_____
18. put gloves directly into wastebasket or onto tray after removing them?	Y/N	_____	_____
19. wash hands immediately after removing gloves?	Y/N	_____	_____

F-1. X-RAY PROCEDURES #1

TAKING RADIOGRAPHS

	Observation <u>1</u>	Not <u>Observed</u>	<u>Comments</u>
1. Are exposed films treated as contaminated?	Y/N		
2. Is x-ray tube disinfected or wrapped for each patient?	Y/N		
3. Are x-ray machine controls and activating switch covered or disinfected after each patient?	Y/N		
4. Is x-ray control switch foot or elbow activated?	Y/N		
5. Do staff avoid cross-contamination during procedure? (state problems)	Y/N		

DEVELOPING IN A DARKROOM

1. Are gloves used to handle film pack in darkroom?	Y/N/NA		
2. Are x-ray films dropped onto a clean surface in darkroom?	Y/N/NA		
3. Are gloves removed before touching clean films	Y/N		
4. Are gloves dropped into waste container or onto designated dirty area .....	Y/N		
5. Is the developer kept clean/uncontaminated?	Y/N		
6. Are gloves worn when changing solution in manual tank system?	Y/N/NA		
7. Is there a waste container?	Y/N		
8. Is the darkroom door kept clean?	Y/N		

QUICK DEVELOPERS

1. Are gloves worn while using quick developer?	Y/N/NA		
2. Is film grasped with clip/pliers without contaminating film?	Y/N		
3. Are gloves used to handle contaminated clip?	Y/N		
4. Are gloves changed after developing film?	Y/N		

CLEANUP

1. If the lead apron is contaminated, is it cleaned and disinfected?	Y/N		
2. Are hands gloved while cleaning and disinfecting contaminated surfaces?	Y/N		
3. Is decontamination complete?			

F-2. X-RAY PROCEDURES #2

Observation      Not  
2                      Observed      Comments

TAKING RADIOGRAPHS

- |  |     |       |       |
|--|-----|-------|-------|
| 1. Are exposed films treated as contaminated?  | Y/N | _____ | _____ |
| 2. Is x-ray tube disinfected or wrapped for each patient?                                      | Y/N | _____ | _____ |
| 3. Are x-ray machine controls and activating switch covered or disinfected after each patient? | Y/N | _____ | _____ |
| 4. Is x-ray control switch foot or elbow activated?  | Y/N | _____ | _____ |
| 5. Do staff avoid cross-contamination during procedure? (state problems)                       | Y/N | _____ | _____ |

DEVELOPING IN A DARKROOM

- |   |        |       |       |
|---|--------|-------|-------|
| 1. Are gloves used to handle film pack in darkroom?                       | Y/N/NA | _____ | _____ |
| 2. Are x-ray films dropped onto a clean surface in darkroom?              | Y/N/NA | _____ | _____ |
| 3. Are gloves removed before touching clean films                         | Y/N    | _____ | _____ |
| 4. Are gloves dropped into waste container or onto designated dirty area? | Y/N    | _____ | _____ |
| 5. Is the developer kept clean/uncontaminated?                            | Y/N    | _____ | _____ |
| 6. Are gloves worn when changing solution in manual tank system?          | Y/N/NA | _____ | _____ |
| 7. Is there a waste container?  | Y/N    | _____ | _____ |
| 8. Is the darkroom door kept clean?                                       | Y/N    | _____ | _____ |

QUICK DEVELOPERS

- |   |        |       |       |
|---|--------|-------|-------|
| 1. Are gloves worn while using quick developer?                 | Y/N/NA | _____ | _____ |
| 2. Is film grasped with clip/pliers without contaminating film? | Y/N    | _____ | _____ |
| 3. Are gloves used to handle contaminated clip?                 | Y/N    | _____ | _____ |
| 4. Are gloves changed after developing film?                    | Y/N    | _____ | _____ |

CLEANUP

- |  |     |       |       |
|--|-----|-------|-------|
| 1. If the lead apron is contaminated, is it cleaned and disinfected?       | Y/N | _____ | _____ |
| 2. Are hands gloved while cleaning and disinfecting contaminated surfaces? | Y/N | _____ | _____ |
| 3. Is decontamination complete?  |     |       |       |

G. INSTRUMENT PROCESSING

Sterilization Procedure Observed? If yes, continue or if not directly observed, ask staff member to assist.

	Y/N	Not Observed	Comments
1. Is sterilization area organized and clean?	Y/N	_____	_____
2. Is the room divided into clean and dirty areas?	Y/N	_____	_____
3. Is "contaminated area" organized?	Y/N	_____	_____
4. Are heavy-duty gloves worn to handle instruments?	Y/N	_____	_____
5. Are sharp blade and tips removed using engineering controls (e.g. needle holder)?	Y/N	_____	_____
6. Are contaminated sharp reusable instruments processed to minimize exposure potential?	Y/N	_____	_____
7. Are instruments placed in ultrasonic unit with appropriate cleaner and completely submerged prior to sterilization?	Y/N	_____	_____
8. Is ultrasonic unit covered during use?	Y/N	_____	_____
9. Is a removable basket used in the ultrasonic cleaner?	Y/N	_____	_____
10. Are bottle brushes available for tubing and suction tips?	Y/N	_____	_____
11. Are instruments rinsed and safely dried prior to hot or cold sterilization?	Y/N	_____	_____
12. Is heat sterilization used for all appropriate items that can withstand heat? (provide omissions)	Y/N	_____	_____
13. Are handpieces sterilized?	Y/N	_____	_____
14. Are instruments safely & adequately wrapped?	Y/N	_____	_____
15. Is sterilizer wrap matched to method?	Y/N	_____	_____
16. Is indicator tape/indicator used on packs?	Y/N	_____	_____
17. Are sterilizer packages initialed and dated?	Y/N	_____	_____
18. Are sterilizer instructions available?	Y/N	_____	_____
19. Are correct time/temperature settings used for heat sterilization?	Y/N	_____	_____
20. Are activity indicators used?	Y/N	_____	_____

G. INSTRUMENT PROCESSING (Cont'd)

	Not Observed	Comments
21. Is the sterilizer handle kept clean?	Y/N	_____
22. Are sterilized instruments removed from sterilizer in an aseptic manner?	Y/N	_____
23. Are patient trays cleaned and disinfected?	Y/N	_____
24. Is ultrasonic cleaner solution changed once or twice daily?	Y/N	_____
25. Are surgical instrument packs dated and re-sterilized after 1 month if unopened?	Y/N	_____
26. Are sterile packs handled with clean gloves?	Y/N	_____
27. Are heat labile instruments cold sterilized in correct solution for correct time? (e.g., 2% glutaraldehyde for 10 hrs.)	Y/N	_____
28. Are instruments totally submerged in solutions in cold sterilizers?	Y/N	_____
29. Are solutions fresh and changed according to manufacturers' recommendations?	Y/N	_____
30. Is cold sterilization solution tested for activity?	Y/N	_____
31. Are "non-critical" instruments disinfected with intermediate level disinfectants?	Y/N	_____
32. Are weekly spore tests utilized?	Y/N	_____

**E. LAB PROCEDURES**

Were lab procedures observed? If yes, continue or if not directly observed, ask staff member to assist.

		<u>Not observed</u>	<u>Comments</u>
1. Are contaminated impressions, retainers, and dentures handled with gloves?	Y/N	_____	_____
2. Are impressions immediately disinfected for 10 minutes before pouring or sending to the commercial lab? .....	Y/N	_____	_____
3. If impressions are not disinfected, is the commercial laboratory informed? .....	Y/N	_____	_____
4. If impressions are not disinfected are the master casts disinfected? .....	Y/N	_____	_____
5. Are the master casts disinfected by the commercial laboratory? .....	Y/N	_____	_____
6. Are prostheses for try-in or delivery to and from the commercial lab disinfected using a tuberculocidal disinfectant? .....	Y/N	_____	_____
7. Are dirty laboratory spaces and supplies separated from clean and is "dirty" easily distinguished from "clean"? .....	Y/N	_____	_____
8. Are clean burs used for each appliance? .....	Y/N	_____	_____
9. Is pumice unit dosed?	Y/N	_____	_____
10. Are disposable trays or liners used?	Y/N	_____	_____
11. If disposable trays are not used, are reusable trays disinfected?	Y/N	_____	_____
12. Are individual heat-sterilizable rag wheels used?	Y/N	_____	_____
13. Does operator avoid contaminating lab surfaces and clean supplies?	Y/N	_____	_____
14. Are overgloves or barriers used to turn on switches and handle machines? .....	Y/N	_____	_____
15. Are contaminated surfaces, machines, and supplies disinfected following use of lab if contaminated?	Y/N	_____	_____



**I. WASTE MANAGEMENT**

If not observed, ask staff member to assist.

Not  
Observed Comments

- |  |     |       |       |
|--|-----|-------|-------|
| 1. Is regulated infectious waste (e.g., sharps, extracted teeth, tissue) disposed of separately? | Y/N | _____ | _____ |
| 2. Are sharps disposed of in puncture-resistant containers?                                      | Y/N | _____ | _____ |
| 3. Is contaminated solid waste placed in leak-proof bags?  | Y/N | _____ | _____ |
| 4. Is contamination limited to inside of disposal bag?   | Y/N | _____ | _____ |
| 5. Are contaminated waste containers labeled with the BIOHAZARD label?                           | Y/N | _____ | _____ |
| 6. Are waste containers maintained upright and not overfilled?                                   | Y/N | _____ | _____ |

**J. LAUNDRY AND OTHER PERSONAL PROTECTIVE EQUIPMENT**

- |  |     |       |       |
|--|-----|-------|-------|
| 1. In this office contaminated laundry is:<br>(check those that apply)<br><input type="checkbox"/> discarded into waste containers for disposal.<br><input type="checkbox"/> decontaminated by an outside laundry service.<br><input type="checkbox"/> decontaminated at home by an unincorporated dentist.<br><input type="checkbox"/> decontaminated in a washer/dryer on-site by staff. |     |       |       |
| 2. Are gloves used to place contaminated laundry in appropriate containers for storage, washing, decontamination or disposal.  | Y/N | _____ | _____ |
| 3. Are soiled linens, gowns, and towels kept away from clinical attire?  | Y/N | _____ | _____ |
| 4. Is container leak-proof if items are wet?   | Y/N | _____ | _____ |
| 5. Is container labeled or color coded for BIOHAZARDOUS contents?  | Y/N | _____ | _____ |
| 6. Do staff avoid sorting or rinsing contaminated laundry?   | Y/N | _____ | _____ |
| 7. When staff take uniforms and work clothes home to launder, is the clothing uncontaminated?  | Y/N | _____ | _____ |
| 8. When washing contaminated linens on site, are gloves and any other personal protective equipment necessary to prevent personal contamination used?  | Y/N | _____ | _____ |

### III DAILY AND WEEKLY ROUTINES

#### A. DAILY ROUTINE

If not observed, ask staff member to assist.

		Not Observed	Comments
1. Are suction traps emptied and cleaned with disinfectant (bleach) or replaced?	Y/N	_____	_____
2. Are soiled linens/gowns/clothes treated as contaminated until laundered?	Y/N	_____	_____
3. Have you explained OSHA infection control procedures to janitorial service?	Y/N	_____	_____
4. Are water lines flushed for several minutes at the start of the day?	Y/N	_____	_____
5. Is floor around chair disinfected?	Y/N	_____	_____
6. Is spray-wipe-spray of high touch surfaces done? (i.e., all counter tops)	Y/N	_____	_____
7. Are bathrooms disinfected at the end of each day?	Y/N	_____	_____
8. Are disinfectant solutions changed daily or according to manufacturers' directions?	Y/N	_____	_____

#### B. WEEKLY ROUTINE

1. Are inside/outside drawers & cabinets disinfected?	Y/N	_____	_____
2. Are floor of operator and lab disinfected?	Y/N	_____	_____
3. Are operator walls disinfected as needed?	Y/N	_____	_____
4. Are spore tests used for heat sterilizer?	Y/N	_____	_____
5. Are spore test records kept?	Y/N	_____	_____
6. Is there a back wash system to disinfect the water system?	Y/N	_____	_____
7. Do you disinfect your nitrous system?	Y/N	_____	_____
8. What is the yearly cost of regulated waste disposal?	Y/N	_____	_____

## Appendix 3

### Data Results

THE NATIONAL MIGRANT RESOURCE PROGRAM

DENTAL INFECTION CONTROL ASSESSMENT

										Total # of Y	Total # of N	Not Observed	Total # of Answers	% of Yes	% of No	% of Not Observed	
I. PHYSICAL DESCRIPTION OF FACILITY																	
A. TREATMENT ROOMS (Indicate operator number or Y/N; "adequate" condition means free of visible blood, bioburden or waste)																	
										Operator							
										1	2	3	4	5	6	7	8
1. SINK SIZE, ADEQUATE TO PREVENT SPLASH										18	18	11	8	5	4	1	1
2. SINK CONDITION, ADEQUATE										18	18	11	8	5	4	1	1
3. COUNTERTOP SPACE, ADEQUATE FOR USE										18	18	11	6	4	3	1	1
4. COUNTERTOP CONDITION, ADEQUATE										18	17	10	6	4	3	1	1
5. DRAWER CONDITION, ADEQUATE										18	17	11	7	5	4	1	1
6. OPERATORY EQUIPMENT CONDITION, ADEQUATE																	
Section A Sub-total										90	88	54	35	23	18	5	5
										318		0	318	1.00	0.00		
B. LABORATORY																	
1. ARE CLEAN AND CONTAMINATED AREAS EASILY IDENTIFIED?										9		8	17	0.53	0.47		
C. STAFF FACILITIES																	
1. DO STAFF REMOVE PERSONAL PROTECTIVE EQUIPMENT BEFORE ENTERING?										12		4	2	18	0.67	0.22	0.11
D. RECEPTION AREA																	
1. DO STAFF REMOVE PERSONAL PROTECTIVE EQUIPMENT BEFORE ENTERING?										11		6	1	18	0.61	0.33	0.06
E. STERILIZATION AREA																	
1. SINK SIZE IS ADEQUATE TO PREVENT SPLASH										17		1	18	0.94	0.06		
2. SINK CONDITION, ADEQUATE										18		0	18	1.00	0.00		
3. COUNTERTOP CONDITION, ADEQUATE										18		0	18	1.00	0.00		
4. IS THERE ADEQUATE VENTILATION?										16		2	18	0.89	0.11		
5. IS THERE ADEQUATE SPACE AVAILABLE FOR SAFE/ FUNCTIONAL MOVEMENTS?										14		4	18	0.78	0.22		
Section E Sub-total										83		7	90	0.92	0.08		
F. DARKROOM																	
1. ARE CLEAN AND CONTAMINATED AREAS EASILY IDENTIFIED?										5		10	15	0.33	0.67		
2. IS THERE A DESIGNATED SPOT FOR CONTAMINATED FILM PACKETS?										5		10	15	0.33	0.67		
3. IS THERE A DESIGNATED SPOT FOR UNCONTAMINATED FILMS?										5		10	15	0.33	0.67		
4. ARE HAND WIPES AVAILABLE FOR USE AFTER GLOVE REMOVAL?										8		7	15	0.53	0.47		
Section F Sub-total										23		37	60	0.38	0.62		

\* In some instances less than 18 responses is appropriate, i.e., not every sight has a lab. In certain cases, only the appropriate number of responses were recorded. When appropriate, "not observed" is tallied into the total percentage.

THE NATIONAL MIGRANT RESOURCE PROGRAM

DENTAL INFECTION CONTROL ASSESSMENT

II. INFECTION CONTROL PRACTICES

A. HANDWASHING

1. EVALUATE THE HANDWASHING AREA

	Total # of Y	Total # of N	Not Observed	Total # of Answers	% of Yes	% of No	% of Not Observed
a. IS LIQUID DISINFECTANT SOAP AVAILABLE?	14	3	1	18	0.78	0.17	0.06
b. ARE DISPOSABLE PAPER TOWELS AVAILABLE?	17	0	1	18	0.94	0.00	0.06
c. CAN PAPER TOWELS BE REACHED WITHOUT TOUCHING ANYTHING ELSE?	16	1	1	18	0.89	0.06	0.06
d. ARE FOOT/ELBOW CONTROLS AVAILABLE? (Observe handwashing of 3 staff during provision of routine dental care).	5	13	0	18	0.28	0.72	0.00
<b>Section A Handwashing Sub-total</b>	<b>52</b>	<b>17</b>	<b>3</b>	<b>72</b>	<b>0.72</b>	<b>0.24</b>	<b>0.04</b>

2. OBSERVE HANDS BEFORE AND AFTER WASHING

	Staff Member						Total # of Y	Total # of N	Not Observed	Total # of Answers	% of Yes	% of No	% of Not Observed
	1	2	3	1	2	3							
a. ARE NAILS SHORT?	YES			NO									
	18	16	15	0	1	0							
b. ARE NAILS CLEAN?	18	17	15	0	0	0							
c. ARE HANDS FREE OF DERMATITIS, OPEN CUTS?	18	17	15	0	0	0							
d. ARE HANDS FREE OF JEWELRY, NAIL POLISH AND FALSE FINGERNAILS?	15	13	12	3	4	3							
e. ARE HANDS VISIBLY CLEAN?	18	17	15	0	0	0							
<b>Section A Observe Hands Question 2 Sub-total</b>	<b>87</b>	<b>80</b>	<b>72</b>	<b>3</b>	<b>5</b>	<b>3</b>	<b>239</b>	<b>11</b>	<b>250</b>	<b>0.96</b>	<b>0.04</b>		

3. OBSERVE HANDWASHING DURING ROUTINE CARE:

a. DO STAFF AVOID TOUCHING THE SOAP DISPENSER AND FAUCET WITH CLEAN HANDS?	10	8	8	6	8	6							
b. DO STAFF LATHER WELL AND WASH FOR AT LEAST 10 SECONDS?	16	15	13	1	1	1							
c. DO STAFF RUB ALL PARTS OF HANDS VIGOROUSLY?	17	15	14	0	1	0							
d. DO STAFF RINSE THOROUGHLY WITH WATER?	17	16	14	0	0	0							
<b>Section A Observe Hands Question 3 Sub-total</b>	<b>60</b>	<b>54</b>	<b>49</b>	<b>7</b>	<b>10</b>	<b>7</b>	<b>163</b>	<b>24</b>	<b>187</b>	<b>0.87</b>	<b>0.13</b>		

4. ARE HANDS WASHED AT APPROPRIATE TIMES?

a. BEFORE GLOVING?	17	13	12	1	2	0							
b. AFTER REMOVING GLOVES?	14	12	11	4	10	1							
c. BEFORE LEAVING THE OPERATORY?	14	9	9	4	7	4							
d. BEFORE HANDLING CLEAN OBJECTS?	17	15	12	1	1	1							
e. BEFORE SET-UP OF OPERATORY?	18	18	13	0	1	1							
<b>Section A Observe Hands Question 4 Sub-total</b>	<b>80</b>	<b>65</b>	<b>57</b>	<b>10</b>	<b>21</b>	<b>7</b>	<b>202</b>	<b>38</b>	<b>240</b>	<b>0.84</b>	<b>0.16</b>		

5. IS SURGICAL SCRUB DIFFERENT THAN ROUTINE?	1	1	1	16	14	11	3	41	44	0.07	0.93		
--	---	---	---	----	----	----	---	----	----	------	------	--	--

THE NATIONAL MIGRANT RESOURCE PROGRAM

DENTAL INFECTION CONTROL ASSESSMENT

	Staff Member				Total # of Y	Total # of N	Not Observed	Total # of Answers	% of Yes	% of No	% of Not Observed
	1	2	1	2							
3. TRAY AND OPERATORY SETUP(observe 2 staff members)											
1. ARE CLEAN HANDS OR GLOVES USED FOR TRAY PREPARATIONS?	Y	Y	N	N	33	0		33	1.00	0.00	
2. ARE TRAY SET-UPS DONE IN CLEAN AREA?	17	16	0	0	33	0		33	1.00	0.00	
3. IS TRAY PREPARATION EFFICIENT AND ASEPTIC?	16	16	0	0	32	0		32	1.00	0.00	
4. ARE SURGICAL TRAYS SET UP ASEPTICALLY?	14	15	0	0	29	0		29	1.00	0.00	
5. ARE ALL SUPPLIES USED IN TRAY PREPARATION EASILY ACCESSIBLE WITH MINIMAL OPENING OF DRAWERS AND CABINETS?	16	15	1	1	31	2		33	0.94	0.06	
6. ARE PROCEDURE SUPPLY TUBS OR DRAWERS AVAILABLE WITH ALL NON-STERILIZABLE ITEMS THAT MAY BE USED DURING A PROCEDURE?	17	16	0	0	33	0		33	1.00	0.00	
7. PROVIDE SPECIFIC EXAMPLES OF DISPOSABLE BARRIERS USED IN APPROPRIATE WAYS.	12	11	5	5	23	10		33	0.70	0.30	
8. ARE X-RAYS PLACED ON VIEW BOX AND CHART PLACED IN A "CLEAN AREA"?	17	16	0	0	33	0		33	1.00	0.00	
9. IS COMPLETE INSTRUMENTATION PRESENT FOR PROCEDURE? (Provide Omissions)	16	16	1	0	32	1		33	0.97	0.03	
10. ARE MEDICAMENTS DISPENSED PRIOR TO PROCEDURE? (Provide examples and omissions)	9	10	7	6	19	13		32	0.59	0.41	
11. IS A "RETRIEVING DEVICE" MADE ACCESSIBLE TO USE IN GETTING UNCONTAMINATED SUPPLIES DURING TREATMENT? e.g. cotton pliers, overgloves, plastic bag	6	7	9	10	13	19		32	0.41	0.59	

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DENTAL INFECTION CONTROL ASSESSMENT

C-1 OPERATORY PROCEDURES

PROCEDURE 1: Extraction

Observe 2 staff and 2 procedures if possible.

DID STAFF:

	Staff A		Staff B		Not Observed
	Yes	No	Yes	No	
1. WEAR DISPOSABLE GLOVES?	18	0	18	0	
2. WEAR MASKS WHENEVER THE HANDPIECE, LASER, OR ULTRASONIC INSTRUMENT IS USED?	13	0	13	0	4
3. WEAR FACE SHIELDS, PROTECTIVE EYEWEAR?	18	0	15	3	
4. WEAR A GOWN, LAB COAT, OR UNIFORM?	18	0	17	0	
5. UTILIZE RUBBER DAM WHERE POSSIBLE?	2	4	1	2	9
6. RECAP NEEDLES USING FORCEPS OR A SINGLEHANDED TECHNIQUE OR PLACE THEM SAFELY IN UNCONTAMINATED AREA?	12	3	7	0	5
7. UTILIZE HIGH SPEED EVACUATION WHEN USING ROTARY OR ULTRASONIC INSTRUMENTS?	10	0	10	0	7
8. PASS SHARP INSTRUMENTS SAFELY?	18	0	17	0	
9. AVOID CROSS-CONTAMINATION OF MASK, GLASSES, OR FACE SHIELD?	17	1	15	2	
10. AVOID UNNECESSARY TOUCHING—WHILE WEARING CONTAMINATED GLOVES—OF THEMSELVES, INSTRUMENTS, EQUIPMENT, OR SURFACES?	16	2	14	3	
11. STOP TO WASH AND REGLOVE IF HANDS BECAME CONTAMINATED DURING PROCEDURE?	5	2	3	3	11
12. AVOID UNNECESSARY INTERRUPTIONS? (efficient use of chair-side time)	18	0	17	0	
13. USE OVERGLOVES, RETRIEVING TOOL, OR REMOVE GLOVES AND WASH HANDS TO RETRIEVE CLEAN ITEMS DURING PROCEDURES?	11	2	10	5	5
14. CHANGE GOWNS/UNIFORMS IF THEY BECAME VISIBLY CONTAMINATED OR WET?	7	0	6	0	14
15. REMOVE GLOVES WHEN TREATMENT WAS COMPLETED AND CONTAMINATED INSTRUMENTS HAD BEEN REMOVED?	18	0	17	0	
16. IN REMOVING PERSONAL PROTECTIVE EQUIPMENT DOES OPERATOR AVOID SELF CONTAMINATION?	17	1	15	2	
17. PUT GLOVES DIRECTLY INTO WASTEBASKET OR ONTO TRAY AFTER REMOVING THEM?	18	0	17	0	
18. WASH HANDS IMMEDIATELY AFTER REMOVING GLOVES?	14	4	9	8	

Total # of Y	Total # of N	Not Observed	Total # of Answers	% of Yes	% of No	% of Not Observed
36	0	0	36	1.00	0.00	0.00
26	0	4	30	0.87	0.00	0.13
33	3	0	36	0.92	0.08	0.00
35	0	0	35	1.00	0.00	0.00
3	6	9	18	0.17	0.33	0.50
19	3	5	27	0.70	0.11	0.19
20	0	7	27	0.74	0.00	0.26
35	0	0	35	1.00	0.00	0.00
32	3	0	35	0.91	0.09	0.00
30	5		35	0.86	0.14	0.00
8	5	11	24	0.33	0.21	0.46
35	0	0	35	1.00	0.00	0.00
21	7	5	33	0.64	0.21	0.15
13	0	14	27	0.48	0.00	0.52
35	0	0	35	1.00	0.00	0.00
32	3	0	35	0.91	0.09	0.00
35	0	0	35	1.00	0.00	0.00
23	12	0	35	0.66	0.34	0.00
471	47	55	573	0.82	0.08	0.10

Section C-1 Sub-total 250 19 221 28 55

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DENTAL INFECTION CONTROL ASSESSMENT

C-2 OPERATORY PROCEDURES	PROCEDURE 2: Root Canal Filling				Total # of Y	Total # of N	Not Observed	Total # of Answers	% of Yes	% of No	% of Not Observed
	Staff A	Staff B	Not Observed	Staff C							
DID STAFF:	Yes	No	Yes	No							
1. WEAR DISPOSABLE GLOVES?	18	0	17	0	35	0	0	35	1.00	0.00	0.00
2. WEAR MASKS WHENEVER THE HANDPIECE, LASER, OR ULTRASONIC INSTRUMENT IS USED?	16	0	16	0	32	0	1	33	0.97	0.00	0.03
3. WEAR FACE SHIELDS, PROTECTIVE EYEWEAR?	18	0	17	1	35	1	0	36	0.97	0.03	0.00
4. WEAR A GOWN, LAB COAT, OR UNIFORM?	18	0	17	0	35	0	0	35	1.00	0.00	0.00
5. UTILIZE RUBBER DAM WHERE POSSIBLE?	3	10	1	7	4	17	5	26	0.15	0.65	0.19
6. RECAP NEEDLES USING FORCEPS OR A SINGLEHANDED TECHNIQUE OR PLACE THEM SAFELY IN UNCONTAMINATED AREA?	10	6	7	0	17	6	6	29	0.59	0.21	0.21
7. UTILIZE HIGH SPEED EVACUATION WHEN USING ROTARY OR ULTRASONIC INSTRUMENTS?	14	1	14	0	28	1	3	32	0.88	0.03	0.09
8. PASS SHARP INSTRUMENTS SAFELY?	17	0	17	0	34	0	1	35	0.97	0.00	0.03
9. AVOID CROSS-CONTAMINATION OF MASK, GLASSES, OR FACE SHIELD?	17	1	18	0	35	1	0	36	0.97	0.03	0.00
10. AVOID UNNECESSARY TOUCHING--WHILE WEARING CONTAMINATED GLOVES--OF THEMSELVES, INSTRUMENTS, EQUIPMENT, OR SURFACES?	17	1	17	1	34	2	0	36	0.94	0.06	0.00
11. STOP TO WASH AND REGLOVE IF HANDS BECAME CONTAMINATED DURING PROCEDURE?	5	0	5	0	10	0	14	24	0.42	0.00	0.58
12. AVOID UNNECESSARY INTERRUPTIONS? (efficient use of chair-side time)	18	0	18	0	36	0	0	36	1.00	0.00	0.00
13. USE OVERGLOVES, RETRIEVING TOOL, OR REMOVE GLOVES AND WASH HANDS TO RETRIEVE CLEAN ITEMS DURING PROCEDURES?	8	2	9	5	17	7	6	30	0.57	0.23	0.20
14. CHANGE GOWNS/UNIFORMS IF THEY BECAME VISIBLY CONTAMINATED OR WET?	7	0	7	0	14	0	12	26	0.54	0.00	0.46
15. REMOVE GLOVES WHEN TREATMENT WAS COMPLETED AND CONTAMINATED INSTRUMENTS HAD BEEN REMOVED?	17	0	14	1	31	1	0	32	0.97	0.03	0.00
16. IN REMOVING PPE DOES OPERATOR AVOID SELF CONTAMINATION?	18	0	17	0	35	0	0	35	1.00	0.00	0.00
17. PUT GLOVES DIRECTLY INTO WASTEBASKET OR ONTO TRAY AFTER REMOVING THEM?	18	0	17	0	35	0	0	35	1.00	0.00	0.00
18. WASH HANDS IMMEDIATELY AFTER REMOVING GLOVES?	18	0	9	6	27	6	0	33	0.82	0.18	0.00
Section C-2 Sub-total	257	21	237	21	494	42	48	584	0.85	0.07	0.08



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DENTAL INFECTION CONTROL ASSESSMENT

D-1 OPERATORY BREAKDOWN #1

Observe preparation between patients:

	YES	NO	NOT OBSERVED	Total # of Y	Total # of N	Not Observed	Total # of Answers	% of Yes	% of No	% of Not Observed
1. ARE APPROPRIATE PPE WORN DURING DECONTAMINATION?	18	0		18	0	0	18	1.00	0.00	0.00
2. ARE CONTAMINATED INSTRUMENTS HANDLED AND TRANSPORTED APPROPRIATELY?	17	1		17	1	0	18	0.94	0.06	0.00
3. ARE SURFACE COVERS HANDLED AND TRANSPORTED APPROPRIATELY?	17	0	1	17	0	1	18	0.94	0.00	0.06
4. ARE APPROPRIATE DISINFECTANTS (e.g. iodophors or hypochlorite) OR OTHER TUBERCULOCIDE USED?	15	3		15	3	0	18	0.83	0.17	0.00
5. IS SPRAY/WIPE/SPRAY TECHNIQUE (or other appropriate 2 step technique) USED FOR DISINFECTION?	15	3		15	3	0	18	0.83	0.17	0.00
6. ARE DISPOSABLE SHARPS PLACED IN AN APPROVED SHARPS CONTAINER IN A SAFE MANNER?	14	2	2	14	2	2	18	0.78	0.11	0.11
7. ARE WATER LINES FLUSHED FOR 20-30 SECONDS?	11	4	3	11	4	3	18	0.61	0.22	0.17
8. IS HANDPIECE WASHED, REMOVED, AND TAKEN TO THE STERILIZATION ROOM?	10	0	8	10	0	8	18	0.56	0.00	0.44
9. IS AIR-WATER SYRINGE DISINFECTED OR REPLACED?	14	0	4	14	0	4	18	0.78	0.00	0.22
10. IS SUCTION LINE DISINFECTED WITH APPROPRIATE SOLUTION?	9	8	1	9	8	1	18	0.50	0.44	0.06
11. ARE HANDS WASHED FOLLOWING CLEAN UP?	18	0		18	0	0	18	1.00	0.00	0.00
12. IS APPROPRIATE TIME LEFT BEFORE REENTRY OF OPERATOR FOR INTRODUCTION OF CLEAN INSTRUMENTATION?	13	5		13	5	0	18	0.72	0.28	0.00
13. ARE FACE SHIELDS/EYEWEAR DECONTAMINATED?	6	12		6	12	0	18	0.33	0.67	0.00
14. ARE THE HOSES CLEANED OFF?	10	8		10	8	0	18	0.56	0.44	0.00
15. IS BREAKDOWN LOGICALLY SEQUENCED?	13	5		13	5	0	18	0.72	0.28	0.00
Section D-1 Sub-total	200	51	19	200	51	19	270	0.74	0.19	0.07

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				Total # of Y	Total # of N	Not Observed	Total # of Answers	% of Yes	% of No	% of Not Observed
<b>D-2 OPERATORY BREAKDOWN #2</b>										
	<b>YES</b>	<b>NO</b>	<b>NOT OBSERVED</b>							
<b>Observe preparation between patients:</b>										
1.	ARE APPROPRIATE PPE WORN DURING DECONTAMINATION?	18	0							
2.	ARE CONTAMINATED INSTRUMENTS HANDLED AND TRANSPORTED APPROPRIATELY?	18	0							
3.	ARE SURFACE COVERS HANDLED AND TRANSPORTED APPROPRIATELY?	16	1	1						
4.	ARE APPROPRIATE DISINFECTANTS (e.g. iodophors or hypochlorite) OR OTHER TUBERCULOCIDE USED?	15	3							
5.	IS SPRAY/WIPE/SPRAY TECHNIQUE (or other appropriate 2 step technique) USED FOR DISINFECTION?	15	3							
6.	ARE DISPOSABLE SHARPS PLACED IN AN APPROVED SHARPS CONTAINER IN A SAFE MANNER?	16	2							
7.	ARE WATER LINES FLUSHED FOR 20-30 SECONDS?	9	8	1						
8.	IS HANDPIECE WASHED, REMOVED, AND TAKEN TO THE STERILIZATION ROOM?	14	2	2						
9.	IS AIR-WATER SYRINGE DISINFECTED OR REPLACED?	15	0	3						
10.	IS SUCTION LINE DISINFECTED WITH APPROPRIATE SOLUTION?	9	9	0						
11.	ARE HANDS WASHED FOLLOWING CLEAN UP?	18	0							
12.	IS APPROPRIATE TIME LEFT BEFORE REENTRY OF OPERATOR FOR INTRODUCTION OF CLEAN INSTRUMENTATION?	13	5							
13.	ARE FACE SHIELDS/EYEWEAR DECONTAMINATED?	7	11							
14.	ARE THE HOSES CLEANED OFF?	10	8							
15.	IS BREAKDOWN LOGICALLY SEQUENCED?	18	0							
<b>Section D-2 Sub-total</b>				<b>211</b>	<b>52</b>	<b>7</b>	<b>270</b>	<b>0.78</b>	<b>0.19</b>	<b>0.03</b>

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DENTAL INFECTION CONTROL ASSESSMENT

				Total # of Y	Total # of N	Not Observed	Total # of Answers	% of Yes	% of No	% of Not Observed	
<b>E. HYGIENE PROCEDURES*</b>											
<b>DID STAFF:</b>				<b>YES</b>	<b>NO</b>	<b>NOT OBSERVED</b>					
1.	WEAR DISPOSABLE GLOVES?	11	0		11	0	0	11	1.00	0.00	0.00
2.	WEAR MASKS WHEN CAVITRON IS USED?	9	0	2	9	0	2	11	0.82	0.00	0.18
3.	WEAR FACE SHIELDS/PROTECTIVE EYEWEAR?	11	0		11	0	0	11	1.00	0.00	0.00
4.	WEAR A GOWN, LAB COAT OR UNIFORM?	11	0		11	0	0	11	1.00	0.00	0.00
5.	RECAP NEEDLES USING FORCEPS, SINGLEHANDED TECHNIQUE OR PLACE THEM SAFELY IN UNCONTAMINATED AREA?	1	0	10	1	0	10	11	0.09	0.00	0.91
6.	UTILIZE HIGH SPEED EVACUATION WHEN USING ROTARY OR ULTRASONIC INSTRUMENTS?	2	5	4	2	5	4	11	0.18	0.45	0.36
7.	DOES HYGIENIST AVOID CONTAMINATING THE CHART WHILE MAKING WRITTEN ENTRIES?	9	1	1	9	1	1	11	0.82	0.09	0.09
8.	DOES HYGIENIST KEEP TRAY WITH SCALERS/ CURETTES ORGANIZED AND EASY TO ACCESS?	9	0	2	9	0	2	11	0.82	0.00	0.18
9.	DOES HYGIENIST MAINTAIN STABLE HAND RESTS AND POSITION THE PATIENT TO PREVENT FATIGUE AND ACCIDENTAL SLIPPING?	9	0	2	9	0	2	11	0.82	0.00	0.18
10.	AVOID CROSS-CONTAMINATION OF MASK, GLASSES, OR FACE SHIELD?	11	0		11	0	0	11	1.00	0.00	0.00
11.	AVOID UNNECESSARY TOUCHING, WHILE WEARING CONTAMINATED GLOVES, OF SELF, INSTRUMENTS, EQUIPMENT OR SURFACES?	11	0		11	0	0	11	1.00	0.00	0.00
12.	STOP TO WASH AND REGLOVE IF HANDS BECAME CONTAMINATED DURING PROCEDURE?	3	0	8	3	0	8	11	0.27	0.00	0.73
13.	AVOID UNNECESSARY INTERRUPTIONS? (efficient use of chair-side time)	11	0		11	0	0	11	1.00	0.00	0.00
14.	USE OVERGLOVES, RETRIEVING TOOL, OR REMOVE GLOVES AND WASH HANDS TO RETRIEVE CLEAN ITEMS DURING PROCEDURES?	5	2	4	5	2	4	11	0.45	0.18	0.36
15.	CHANGE GOWNS/UNIFORMS IF THEY BECAME VISIBLY CONTAMINATED OR WET?	4	0	8	4	0	8	12	0.33	0.00	0.67
16.	REMOVE GLOVES WHEN TREATMENT WAS COMPLETED AND CONTAMINATED INSTRUMENTS HAD BEEN REMOVED?	11	0		11	0	0	11	1.00	0.00	0.00
17.	IN REMOVING PPE DOES OPERATOR AVOID SELF CONTAMINATION?	11	0		11	0	0	11	1.00	0.00	0.00
18.	PUT GLOVES DIRECTLY INTO WASTEBASKET OR ONTO TRAY AFTER REMOVING THEM?	11	0		11	0	0	11	1.00	0.00	0.00
19.	WASH HANDS IMMEDIATELY AFTER REMOVING GLOVES?	9	2		9	2	0	11	0.82	0.18	0.00
<b>Section E Sub-total</b>		<b>159</b>	<b>10</b>	<b>41</b>	<b>159</b>	<b>10</b>	<b>41</b>	<b>210</b>	<b>0.76</b>	<b>0.05</b>	<b>0.20</b>

\* Response was not recorded in the absence of a Dental Hygienist.

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				Total # of Y	Total # of N	Not Observed	Total # of Answers	% of Yes	% of No	% of Not Observed
<b>F-1 X-RAY PROCEDURES #1</b>										
<b>TAKING RADIOGRAPHS</b>				<b>YES</b>	<b>NO</b>	<b>NOT OBSERVED</b>				
1.	ARE EXPOSED FILMS TREATED AS CONTAMINATED	17	0		17	0	0	17	1.00	0.00
2.	IS X-RAY TUBE DISINFECTED OR WRAPPED FOR EACH PATIENT?	17	1	1	17	1	1	19	0.89	0.05
3.	ARE X-RAY MACHINE CONTROLS AND ACTIVATING SWITCH COVERED OR DISINFECTED AFTER EACH PATIENT?	14	3	1	14	3	1	18	0.78	0.17
4.	IS X-RAY CONTROL SWITCH FOOT OR ELBOW ACTIVATED?	1	16	1	1	16	1	18	0.06	0.89
5.	DO STAFF AVOID CROSS-CONTAMINATION DURING PROCEDURE? (state problems)	13	4	1	13	4	1	18	0.72	0.22
Section F-1 Radiographs Sub-total		62	24	4	62	24	4	90	0.69	0.27
<b>DEVELOPING IN A DARKROOM</b>										
1.	ARE GLOVES USED TO HANDLE FILM PACK IN DARKROOM?	14	2	2	14	2	2	18	0.78	0.11
2.	ARE X-RAY FILMS DROPPED ONTO A CLEAN SURFACE IN DARKROOM?	6	8	3	6	8	3	17	0.35	0.47
3.	ARE GLOVES REMOVED BEFORE TOUCHING CLEAN FILMS?	8	8		8	8	0	16	0.50	0.50
4.	ARE GLOVES DROPPED INTO WASTE CONTAINER OR ONTO DESIGNATED DIRTY AREA?	14	1	1	14	1	1	16	0.88	0.06
5.	IS THE DEVELOPER KEPT CLEAN/ UNCONTAMINATED?	6	10		6	10	0	16	0.38	0.63
6.	ARE GLOVES WORN WHEN CHANGING SOLUTION IN MANUAL TANK SYSTEM?	2	6	6	2	6	6	14	0.14	0.43
7.	IS THERE A WASTE CONTAINER?	15	0		15	0	0	15	1.00	0.00
8.	IS THE DARKROOM DOOR KEPT CLEAN?	14	1		14	1	0	15	0.93	0.07
Section F-1 Developing Sub-total		79	36	12	79	36	12	127	0.62	0.28
<b>QUICK DEVELOPERS</b>										
1.	ARE GLOVES WORN WHILE USING QUICK DEVELOPER?	5	1	12	5	1	12	18	0.28	0.06
2.	IS FILM GRASPED WITH CLIP/PLIERS WITHOUT CONTAMINATING FILM?	1	5		1	5	0	6	0.17	0.83
3.	ARE GLOVES USED TO HANDLE CONTAMINATED CLIP?	4	2		4	2	0	6	0.67	0.33
4.	ARE GLOVES CHANGED AFTER DEVELOPING FILM?	3	3		3	3	0	6	0.50	0.50
Section F-1 Quick Developers Sub-total		13	11	12	13	11	12	36	0.36	0.31
<b>CLEANUP</b>										
1.	IF THE LEAD APRON IS CONTAMINATED, IS IT CLEANED AND DISINFECTED?	8	5	3	8	5	3	16	0.50	0.31
2.	ARE HANDS GLOVED WHILE CLEANING AND DISINFECTING CONTAMINATED SURFACES?	17	1		17	1	0	18	0.94	0.06
3.	IS DECONTAMINATION COMPLETE?	11	7		11	7	0	18	0.61	0.39
Section F-1 Clean-Up Sub-total		36	13	3	36	13	3	52	0.69	0.25

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DENTAL INFECTION CONTROL ASSESSMENT

				Total # of Y	Total # of N	Not Observed	Total # of Answers	% of Yes	% of No	% of Not Observed
<b>F-2 X-RAY PROCEDURES #2</b>										
	<b>YES</b>	<b>NO</b>	<b>NOT OBSERVED</b>							
<b>TAKING RADIOGRAPHS</b>										
1. ARE EXPOSED FILMS TREATED AS CONTAMINATED	13	1	1	13	1	1	15	0.87	0.07	0.07
2. IS X-RAY TUBE DISINFECTED OR WRAPPED FOR EACH PATIENT?	12	2		12	2	0	14	0.86	0.14	0.00
3. ARE X-RAY MACHINE CONTROLS AND ACTIVATING SWITCH COVERED OR DISINFECTED AFTER EACH PATIENT?	11	2		11	2	0	13	0.85	0.15	0.00
4. IS X-RAY CONTROL SWITCH FOOT OR ELBOW ACTIVATED?	1	11		1	11	0	12	0.08	0.92	0.00
5. DO STAFF AVOID CROSS-CONTAMINATION DURING PROCEDURE? (state problems)	10	3		10	3	0	13	0.77	0.23	0.00
Section F-2 Radiographs Sub-total				47	19	1	67	0.70	0.29	0.01
<b>DEVELOPING IN A DARKROOM</b>										
1. ARE GLOVES USED TO HANDLE FILM PACK IN DARKROOM?	11	0	1	11	0	1	12	0.92	0.00	0.08
2. ARE X-RAY FILMS DROPPED ONTO A CLEAN SURFACE IN DARKROOM?	5	6	1	5	6	1	12	0.42	0.50	0.08
3. ARE GLOVES REMOVED BEFORE TOUCHING CLEAN FILMS?	8	5		8	5	0	13	0.62	0.38	0.00
4. ARE GLOVES DROPPED INTO WASTE CONTAINER OR ONTO DESIGNATED DIRTY AREA?	12	0		12	0	0	12	1.00	0.00	0.00
5. IS THE DEVELOPER KEPT CLEAN/ UNCONTAMINATED?	5	7		5	7	0	12	0.42	0.58	0.00
6. ARE GLOVES WORN WHEN CHANGING SOLUTION IN MANUAL TANK SYSTEM?	1	0	10	1	0	10	11	0.09	0.00	0.91
7. IS THERE A WASTE CONTAINER?	12	0		12	0	0	12	1.00	0.00	0.00
8. IS THE DARKROOM DOOR KEPT CLEAN?	11	1		11	1	0	12	0.92	0.08	0.00
Section F-2 Developing Sub-total				65	19	12	96	0.68	0.20	0.13
<b>QUICK DEVELOPERS</b>										
1. ARE GLOVES WORN WHILE USING QUICK DEVELOPER?	2	1	10	2	1	10	13	0.15	0.08	0.77
2. IS FILM GRASPED WITH CLIP/PLIERS WITHOUT CONTAMINATING FILM?	2	2		2	2	0	4	0.50	0.50	0.00
3. ARE GLOVES USED TO HANDLE CONTAMINATED CLIP?	2	1		2	1		3	0.67	0.33	0.00
4. ARE GLOVES CHANGED AFTER DEVELOPING FILM?	4	1		4	1	0	5	0.80	0.20	0.00
Section F-2 Quick Developers Sub-total				10	5	10	25	0.40	0.20	0.40
<b>CLEANUP</b>										
1. IF THE LEAD APRON IS CONTAMINATED, IS IT CLEANED AND DISINFECTED?	8	2	2	8	2	2	12	0.67	0.17	0.17
2. ARE HANDS GLOVED WHILE CLEANING AND DISINFECTING CONTAMINATED SURFACES?	12	1		12	1	0	13	0.92	0.08	0.00
3. IS DECONTAMINATION COMPLETE?	9	4		9	4	0	13	0.69	0.31	0.00
Section F-2 Clean Up Sub-total				29	7	2	38	0.76	0.18	0.05

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				Total # of Y	Total # of N	Not Observed	Total # of Answers	% of Yes	% of No	% of Not Observed
<b>G. INSTRUMENT PROCESSING</b>										
<b>STERILIZATION PROCEDURE OBSERVED?</b>										
if yes, continue or if not directly observed, ask staff member to assist.										
1. IS STERILIZATION AREA ORGANIZED AND CLEAN?	17	0		17	0	0	17	1.00	0.00	0.00
2. IS THE ROOM DIVIDED INTO CLEAN AND DIRTY AREAS?	15	2		15	2	0	17	0.88	0.12	0.00
3. IS "CONTAMINATED AREA" ORGANIZED?	16	1		16	1	0	17	0.94	0.06	0.00
4. ARE HEAVY-DUTY GLOVES WORN TO HANDLE INSTRUMENTS?	13	5		13	5	0	18	0.72	0.28	0.00
5. ARE SHARP BLADE AND TIPS REMOVED USING USING ENGINEERING CONTROLS (e.g. needle holder)	5	10	2	5	10	2	17	0.29	0.59	0.12
6. ARE CONTAMINATED SHARP REUSABLE INSTRUMENTS PROCESSED TO MINIMIZE EXPOSURE POTENTIAL?	15	1	1	15	1	1	17	0.88	0.06	0.06
7. ARE INSTRUMENTS PLACED IN ULTRASONIC UNIT WITH APPROPRIATE CLEANER AND COMPLETELY SUBMERGED PRIOR TO STERILIZATION?	14	2		14	2		16	0.88	0.13	0.00
8. IS ULTRASONIC UNIT COVERED DURING USE?	15	2	1	15	2	1	18	0.83	0.11	0.06
9. IS A REMOVABLE BASKET USED IN THE ULTRASONIC CLEANER?	15	1	1	15	1	1	17	0.88	0.06	0.06
10. ARE BOTTLE BRUSHES AVAILABLE FOR TUBING AND SUCTION TIPS?	12	5	1	12	5	1	18	0.67	0.28	0.06
11. ARE INSTRUMENTS RINSED AND SAFELY DRIED PRIOR TO HOT OR COLD STERILIZATION?	15	2	1	15	2	1	18	0.83	0.11	0.06
12. IS HEAT STERILIZATION USED FOR ALL APPROPRIATE ITEMS THAT CAN WITHSTAND HEAT? (provide omissions)	17	1		17	1	0	18	0.94	0.06	0.00
13. ARE HANDPIECES STERILIZED?	17	2		17	2	0	19	0.89	0.11	0.00
14. ARE INSTRUMENTS SAFELY & ADEQUATELY WRAPPED?	18	0		18	0	0	18	1.00	0.00	0.00
15. IS STERILIZER WRAP MATCHED TO METHOD?	18	0		18	0	0	18	1.00	0.00	0.00
16. IS INDICATOR TAPE/INDICATOR USED ON PACKS?	16	1		16	1	0	17	0.94	0.06	0.00
17. ARE STERILIZER PACKAGES INITIALED AND DATED	8	9		8	9	0	17	0.47	0.53	0.00
18. ARE STERILIZER INSTRUCTIONS AVAILABLE?	15	3		15	3	0	18	0.83	0.17	0.00
19. ARE CORRECT TIME/TEMPERATURE SETTINGS USED FOR HEAT STERILIZATION?	17	1		17	1	0	18	0.94	0.06	0.00
20. ARE ACTIVITY INDICATORS USED?	12	6		12	6	0	18	0.67	0.33	0.00

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				Total # of Y	Total # of N	Not Observed	Total # of Answers	% of Yes	% of No	% of Not Observed			
G. INSTRUMENT PROCESSING (cont'd)				YES	NO	NOT OBSERVED							
21.	IS THE STERILIZER HANDLE KEPT CLEAN?	13	0	5	13	0	5	18	0.72	0.00	0.28		
22.	ARE STERILIZED INSTRUMENTS REMOVED FROM STERILIZER IN AN ASEPTIC MANNER?	16	0	2	16	0	2	18	0.89	0.00	0.11		
23.	ARE PATIENT TRAYS CLEANED AND DISINFECTED?	16	1	1	16	1	1	18	0.89	0.06	0.06		
24.	IS ULTRASONIC CLEANER SOLUTION CHANGED ONCE OR TWICE DAILY?	9	7	1	9	7	1	17	0.53	0.41	0.06		
25.	ARE SURGICAL INSTRUMENT PACKS DATED AND RESTERILIZED AFTER 1 MONTH IF UNOPENED?	8	8		8	8	0	16	0.50	0.50	0.00		
26.	ARE STERILE PACKS HANDLED WITH CLEAN GLOVES?	14	5		14	5	0	19	0.74	0.26	0.00		
27.	ARE HEAT LABILE INSTRUMENTS COLD STERILIZED IN CORRECT SOLUTION FOR CORRECT TIME? (e.g., 2% glutaraldehyde for 10 hours)	12	3	1	12	3	1	16	0.75	0.19	0.06		
28.	ARE INSTRUMENTS TOTALLY SUBMERGED IN SOLUTIONS IN COLD STERILIZERS?	14	1	1	14	1	1	16	0.88	0.06	0.06		
29.	ARE SOLUTIONS FRESH AND CHANGED ACCORDING TO MANUFACTURERS' RECOMMENDATIONS?	16	1	2	16	1	2	19	0.84	0.05	0.11		
30.	IS COLD STERILIZATION SOLUTION TESTED FOR ACTIVITY?	8	11	1	6	11	1	18	0.33	0.61	0.06		
31.	ARE "NON-CRITICAL" INSTRUMENTS DISINFECTED WITH INTERMEDIATE LEVEL DISINFECTANTS?	12	3	2	12	3	2	17	0.71	0.18	0.12		
32.	ARE WEEKLY SPORE TESTS UTILIZED?	8	11		8	11	0	19	0.42	0.58	0.00		
				434	105	23	434	105	23	562	0.77	0.19	0.04

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H. LAB PROCEDURES

WERE LAB PROCEDURES OBSERVED? YES NO NOT OBSERVED  
 If yes, continue or if not directly observed, ask staff member to assist.

	YES	NO	NOT OBSERVED
1. ARE CONTAMINATED IMPRESSIONS, RETAINERS, AND DENTURES HANDLED WITH GLOVES?	15	1	
2. ARE IMPRESSIONS IMMEDIATELY DISINFECTED FOR 10 MINUTES BEFORE POURING OR SENDING TO THE COMMERCIAL LAB?	11	5	
3. IF IMPRESSIONS ARE NOT DISINFECTED, IS THE COMMERCIAL LABORATORY INFORMED?	4	2	10
4. IF IMPRESSIONS ARE NOT DISINFECTED ARE THE MASTER CASTS DISINFECTED?	4	5	7
5. ARE THE MASTER CASTS DISINFECTED BY THE COMMERCIAL LABORATORY?	8	2	6
6. ARE PROSTHESES FOR TRY-IN OR DELIVERY TO AND FROM THE COMMERCIAL LAB DISINFECTED USING A TUBERCULOCIDAL DISINFECTANT?	13	1	2
7. ARE DIRTY LABORATORY SPACES AND SUPPLIES SEPARATED FROM CLEAN AND IS "DIRTY" EASILY DISTINGUISHED FROM "CLEAN"?	6	10	
8. ARE CLEAN BURS USED FOR EACH APPLIANCE?	11	3	2
9. IS PUMICE UNIT DOSED?	11	3	2
10. ARE DISPOSABLE TRAYS OR LINERS USED?	6	10	
11. IF DISPOSABLE TRAYS ARE NOT USED, ARE REUSABLE TRAYS DISINFECTED?	14	0	2
12. ARE INDIVIDUAL HEAT-STERILIZABLE RAG WHEELS USED?	8	6	2
13. DOES OPERATOR AVOID CONTAMINATING LAB SURFACES AND CLEAN SUPPLIES?	7	5	4
14. ARE OVERGLOVES OR BARRIERS USED TO TURN ON SWITCHES AND HANDLE MACHINES?	9	6	1
15. ARE CONTAMINATED SURFACES, MACHINES, AND SUPPLIES DISINFECTED FOLLOWING USE OF LAB IF CONTAMINATED?	9	4	3

Section H Sub-total 136 63 41

Total # of Y	Total # of N	Not Observed	Total # of Answers	% of Yes	% of No	% of Not Observed
15	1	0	16	0.94	0.06	0.00
11	5	0	16	0.69	0.31	0.00
4	2	10	16	0.25	0.13	0.63
4	5	7	16	0.25	0.31	0.44
8	2	6	16	0.50	0.13	0.38
13	1	2	16	0.81	0.06	0.13
6	10	0	16	0.38	0.63	0.00
11	3	2	16	0.69	0.19	0.13
11	3	2	16	0.69	0.19	0.13
6	10	0	16	0.38	0.63	0.00
14	0	2	16	0.88	0.00	0.13
8	6	2	16	0.50	0.38	0.13
7	5	4	16	0.44	0.31	0.25
9	6	1	16	0.56	0.38	0.06
9	4	3	16	0.56	0.25	0.19
136	63	41	240	0.57	0.26	0.17



THE NATIONAL MIGRANT RESOURCE PROGRAM

DENTAL INFECTION CONTROL ASSESSMENT

			Total # of Y	Total # of N	Not Observed	Total # of Answers	% of Yes	% of No	% of Not Observed
<b>I. WASTE MANAGEMENT</b>									
	YES	NO			NOT OBSERVED				
If not observed, ask staff member to assist.									
1.	IS REGULATED INFECTIOUS WASTE (e.g., sharps, extracted teeth, tissue) DISPOSED OF SEPARATELY?	17	1			18	0.94	0.06	0.00
2.	ARE SHARPS DISPOSED OF IN PUNCTURE-RESISTANT CONTAINERS?	18	0			18	1.00	0.00	0.00
3.	IS CONTAMINATED SOLID WASTE PLACED IN LEAK-PROOF BAG?	18	0			18	1.00	0.00	0.00
4.	IS CONTAMINATION LIMITED TO INSIDE OF DISPOSAL BAG?	18	0			18	1.00	0.00	0.00
5.	ARE CONTAMINATED WASTE CONTAINERS LABELED WITH THE BIOHAZARD LABEL?	13	5			18	0.72	0.28	0.00
6.	ARE WASTE CONTAINERS MAINTAINED UPRIGHT AND NOT OVERFILLED?	18	0			18	1.00	0.00	0.00
Section I Sub-total			102	6		108	0.94	0.06	0.00
<b>J. LAUNDRY AND OTHER PERSONAL PROTECTIVE EQUIPMENT</b>									
1.	IN THIS OFFICE CONTAMINATED LAUNDRY IS: (check those that apply)								
	DISCARDED INTO WASTE CONTAINERS FOR DISPOSAL	7				7			
	DECONTAMINATED BY AN OUTSIDE LAUNDRY SERVICE	5				5			
	DECONTAMINATED AT HOME BY AN UNINCORPORATED DENTISTS.	4				4			
	DECONTAMINATED IN A WASHER/DRYER ON SITE BY STAFF.	1				1			
	OTHER	2				2			
2.	ARE GLOVES USED TO PLACE CONTAMINATED LAUNDRY IN APPROPRIATE CONTAINERS FOR STORAGE, WASHING, DECONTAMINATION OR DISPOSAL	11	4	3		18	0.61	0.22	0.17
3.	ARE SOILED LINENS, GOWNS, AND TOWELS KEPT AWAY FROM CLINICAL ATTIRE?	12	1	5		18	0.67	0.06	0.28
4.	IS CONTAINER LEAK-PROOF IF ITEMS ARE WET?	13	2	3		18	0.72	0.11	0.17
5.	IS CONTAINER LABELED OR COLOR CODED FOR BIOHAZARDOUS CONTENTS?	13	4	1		18	0.72	0.22	0.06
6.	DO STAFF AVOID SORTING OR RINSING CONTAMINATED LAUNDRY?	11	1	6		18	0.61	0.06	0.33
7.	WHEN STAFF TAKE UNIFORMS AND WORK CLOTHES HOME TO LAUNDRY, IS THE CLOTHING UNCONTAMINATED?	4	5	9		18	0.22	0.28	0.50
8.	WHEN WASHING CONTAMINATED LINENS ON SITE, ARE GLOVES AND ANY OTHER PERSONAL PROTECTIVE EQUIPMENT NECESSARY TO PREVENT PERSONAL CONTAMINATION USED?	1	0	17		18	0.06	0.00	0.94
Section I Sub-total			84	17	44	145	0.58	0.12	0.30

THE NATIONAL MIGRANT RESOURCE PROGRAM

DENTAL INFECTION CONTROL ASSESSMENT

III. DAILY AND WEEKLY ROUTINES

A. DAILY ROUTINE

If not observed, ask staff member to assist.

YES NO NOT OBSERVED

	YES	NO	NOT OBSERVED	Total # of Y	Total # of N	Not Observed	Total # of Answers	% of Yes	% of No	% of Not Observed
1. ARE SUCTION TRAPS EMPTIED AND CLEANED WITH DISINFECTANT (bleach) OR REPLACED?	11	6	1	11	6	1	18	0.61	0.33	0.06
2. ARE SOILED LINENS/GOWNS/CLOTHES TREATED AS CONTAMINATED UNTIL LAUNDERED?	11	3	4	11	3	4	18	0.61	0.17	0.22
3. HAVE YOU EXPLAINED OSHA INFECTION CONTROL PROCEDURES TO JANITORIAL SERVICE?	16	1	1	16	1	1	18	0.89	0.06	0.06
4. ARE WATER LINES FLUSHED FOR SEVERAL MINUTES AT THE START OF THE DAY?	14	3	1	14	3	1	18	0.78	0.17	0.06
5. IS FLOOR AROUND CHAIR DISINFECTED?	11	2	6	11	2	6	19	0.58	0.11	0.32
6. IS SPRAY-WIPE-SPRAY OF HIGH TOUCH SURFACES DONE? (i.e., all counter tops)	14	4		14	4	0	18	0.78	0.22	0.00
7. ARE BATHROOMS DISINFECTED AT THE END OF EACH DAY?	13	0	6	13	0	6	19	0.68	0.00	0.32
8. ARE DISINFECTANT SOLUTIONS CHANGED DAILY OR ACCORDING TO MANUFACTURERS' DIRECTIONS?	15	2	1	15	2	1	18	0.83	0.11	0.06
Section A Sub-total	105	21	20	105	21	20	146	0.72	0.14	0.14

B. WEEKLY ROUTINE

1. ARE INSIDE/OUTSIDE DRAWERS & CABINETS DISINFECTED?	14	5		14	5	0	19	0.74	0.26	0.00
2. ARE FLOOR OF OPERATORY AND LAB DISINFECTED	8	5	5	8	5	5	18	0.44	0.28	0.28
3. ARE OPERATORY WALLS DISINFECTED AS NEEDED	6	6	6	6	6	6	18	0.33	0.33	0.33
4. ARE SPORE TESTS USED FOR HEAT STERILIZER?	12	4	2	12	4	2	18	0.67	0.22	0.11
5. ARE SPORE TEST RECORDS KEPT?	14	4		14	4	0	18	0.78	0.22	0.00
6. IS THERE A BACK WASH SYSTEM TO DISINFECT THE WATER SYSTEM?	2	9		2	9	0	11	0.18	0.82	0.00
7. DO YOU DISINFECT YOUR NITROUS SYSTEM?	4	3	2	4	3	2	9	0.44	0.33	0.22
Section B Sub-total	60	36	15	60	36	15	111	0.54	0.32	0.14

8. WHAT IS THE YEARLY COST OF REGULATED WASTE DISPOSAL?

(4) DO NOT KNOW

(1) \$1248

(1) \$1500

(1) \$540 year

(1) \$9000 year

(1) 3 boxes per week/1 box Sharps per month

(1) \$2400 year

(1) Do Not Know

(1) \$60 month

(1) \$260 per month

## Appendix 4

Article: Infection Control in Dental Radiology

# Infection Control In Dental Radiology



Rebecca Scruggs Wilder, RDH, MS  
Charlotte A. Peterson, RDH, BS

*The requirements mandated by the Occupational Safety and Health Administration (OSHA) have forced the dental profession to modify the methods used to accomplish routine procedures. This article focuses on the area of dental radiology. It suggests methods which dental hygienists can use to expose and process dental radiographs aseptically. It also provides information to assist in the development of written standard operating procedures for radiology in the dental office.*

It is estimated that approximately 300,000 dental healthcare workers are at risk of exposure to human immunodeficiency virus (HIV) and Hepatitis B virus (HBV).<sup>1</sup> Since dental hygienists are exposed to blood, saliva, and other potentially infectious materials, they have been classified by the Occupational Safety and Health Administration (OSHA) as having a risk of exposure.<sup>2</sup>

Dental hygienists are challenged daily with exposing and processing dental radiographs using proper aseptic procedures. In the practice setting, the same operator usually places the lead apron and thyroid shield on the patient, places the film in the patient's mouth, positions the x-ray tube head, exposes the film, removes the film from the mouth, and often processes the film in another area of the office. A break in the chain of asepsis can occur at any of these steps. A lack of infection control in radiology puts the dental hygienist, as well as other staff members and patients, at risk of exposure. The potential for cross-contamination not only exists in the x-ray exposure room but also in the darkroom while the film is processed. White and Glaze<sup>3</sup> investigated the potential for transmission of infectious organisms from the patient to radiographic equipment and then back to another patient. They found that infectious organisms may live for 48 hours on the dental x-ray tube head. Bachman et al<sup>4</sup> found that contaminated film may cross-contaminate radiographic equipment, since bacteria are not destroyed by the developing process. Since the hepatitis virus can survive up to 7 days or longer on any surface,<sup>5</sup> efficient infection control practices by the dental hygienist are essential.

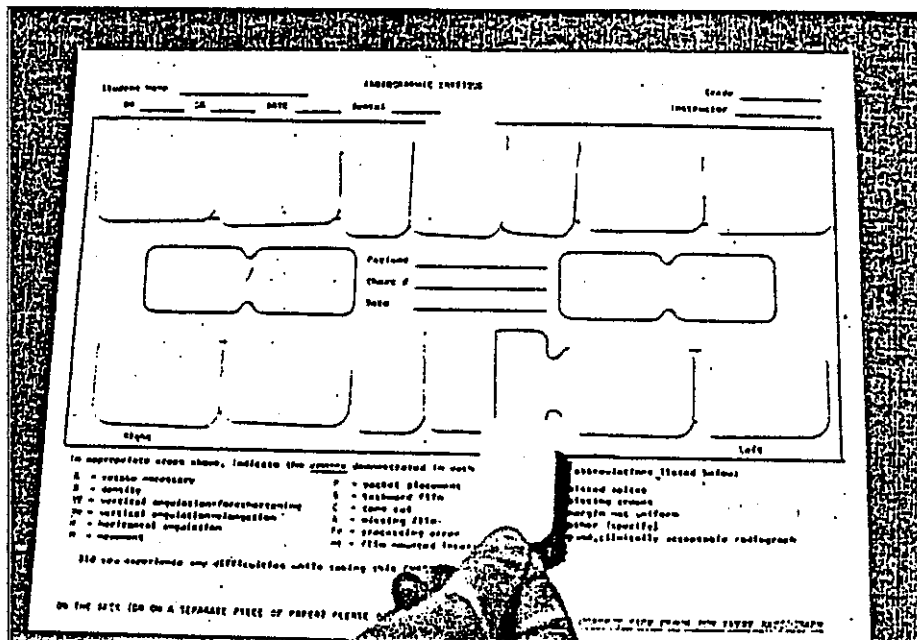


Figure 1. To keep track of exposures, the hygienist can arrange film prior to exposing by placing films on a film mount, away from radiation.

The darkroom is an area that is frequently overlooked as a source of potential contamination. The room is typically used for short periods of time and there may be insufficient time between appointments to adequately clean and disinfect contaminated countertops and equipment. The use of equipment, such as daylight loaders, presents additional concerns since routine cleaning and disinfection of the sleeve or flap component of the processor is difficult.<sup>6</sup> In addition, staff may enter the darkroom with contaminated gloves, not realizing that surfaces such as door knobs and countertops can become contaminated with HBV and other infectious organisms without the presence of visible blood stains.<sup>7</sup>

Suggested methods for the handling and processing of contaminated radiographs include the use of barrier

envelopes,<sup>7,8</sup> finger cots,<sup>9</sup> and chairside disinfection of the film with 5.25% sodium hypochlorite.<sup>10</sup> Brand et al<sup>11</sup> has also suggested a specific protocol to use in the processing procedure. Although several effective methods exist, it is important for the dental hygienist to adopt the most effective and efficient method for the particular practice.

Even the most thorough medical history and examination will not always distinguish patients with the potential for an infectious disease. Therefore, infection control policies in the dental office should be applied consistently, regardless of the patient or the procedure. The ADA Council on Dental Materials, Instruments, and Equipment, the ADA Council on Dental Practice, and the ADA Council on Dental Therapeutics have stated that "each patient must be

considered as potentially infectious, and the same infection control procedures should be used for all patients."<sup>12</sup> Recently, the American Academy of Oral and Maxillofacial Radiology published general guidelines for dental radiographic procedures and stressed the need for standardized procedures in dental radiology.<sup>11</sup> When all staff members are standardized in the methods they use to perform radiographic procedures, the chances of cross-contamination are significantly decreased. The purpose of this article is to discuss the rationale for standardized procedures in dental radiology and to outline several methods that the dental hygienist can use to expose and process dental radiographs according to OSHA guidelines.

### Why a Standard Operating Procedure for Radiology?

OSHA requires that each dental office has a written exposure control plan. As a part of the plan, the employer must identify individuals who are at risk of exposure to infectious pathogens, provide training in methods to reduce the likelihood of exposure, and provide protective equipment, vaccination, and other provisions of the standard. The plan must also include a schedule and protocol for engineering and work-practice controls. Engineering controls, such as a sharps container, isolate or remove bloodborne pathogens hazard from the workplace. A work-practice control, such as changing the method for exposing and processing radiographs, reduces the likelihood of pathogen exposure by altering the manner in which the task is performed.<sup>13</sup>

The benefit of the written exposure control plan is that it requires the dentist and dental staff to examine each task that puts them at risk to exposure and determine methods to reduce the risk. In other words, a standard operating procedure (SOP) is developed to train staff members how to perform tasks properly so they will not be exposed to bloodborne pathogens.

The dental hygienist can play a vital role in formulating a standard operating procedure (SOP) for radiology in the practice. An example of an SOP for dental radiology is illustrated in Table 1.<sup>14</sup> Each office will need a specific SOP for radiographic procedures,

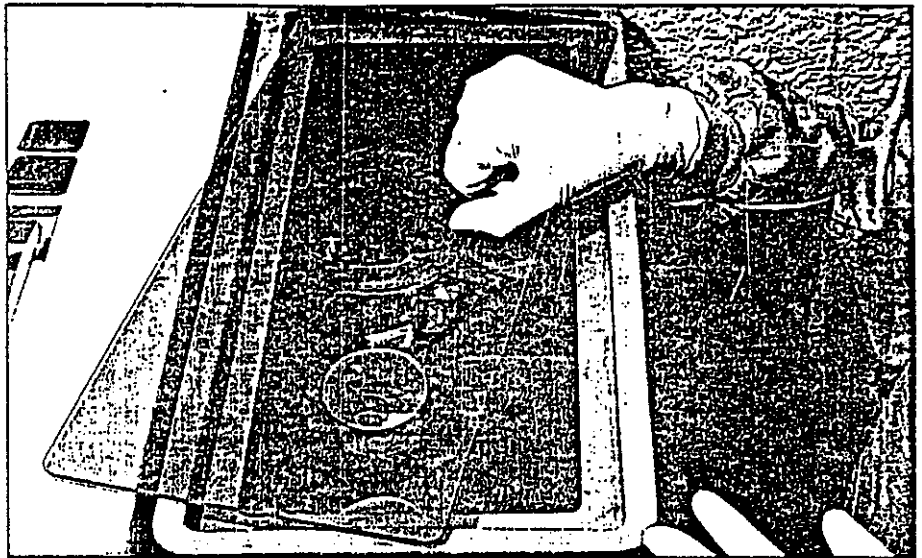


Figure 2. When processing films using a daylight loader, two cups should be placed inside: The cup containing the films to be processed and an empty cup to hold clean films.

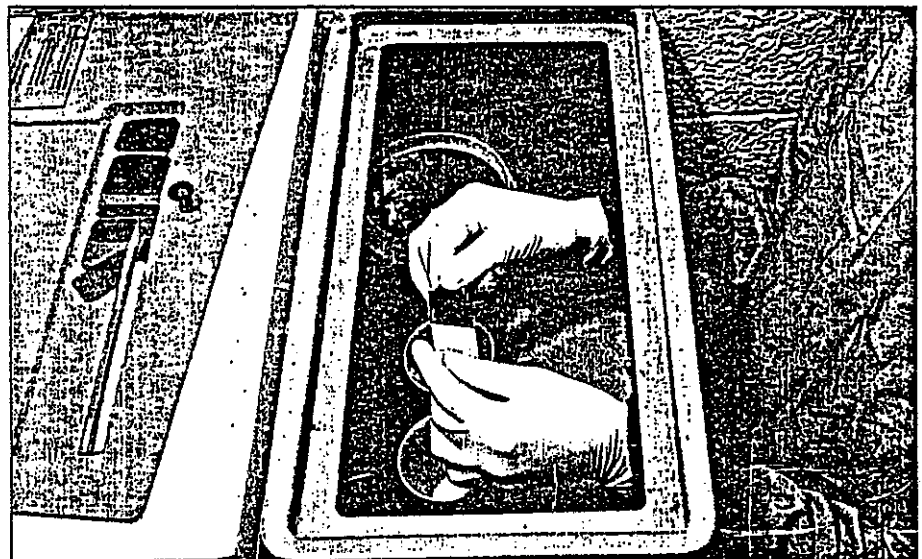


Figure 3. Gloved hands should not come in contact with the films directly, only with the packet material. Do not touch clean films with contaminated gloves.

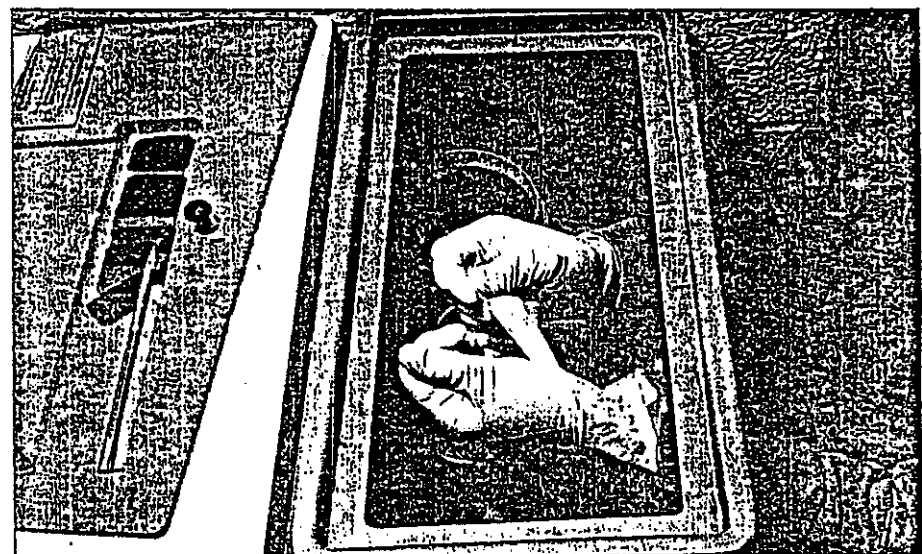


Figure 4. The outside pair of gloves should be removed by turning them inside out and placed in the container for contaminated trash.

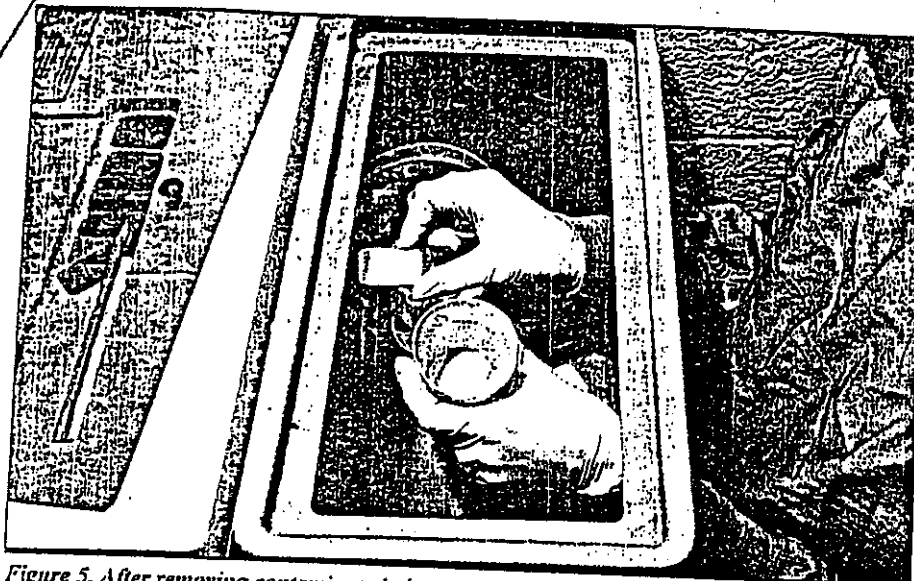


Figure 5. After removing contaminated gloves, place films in processor, touching only the edges of the films.

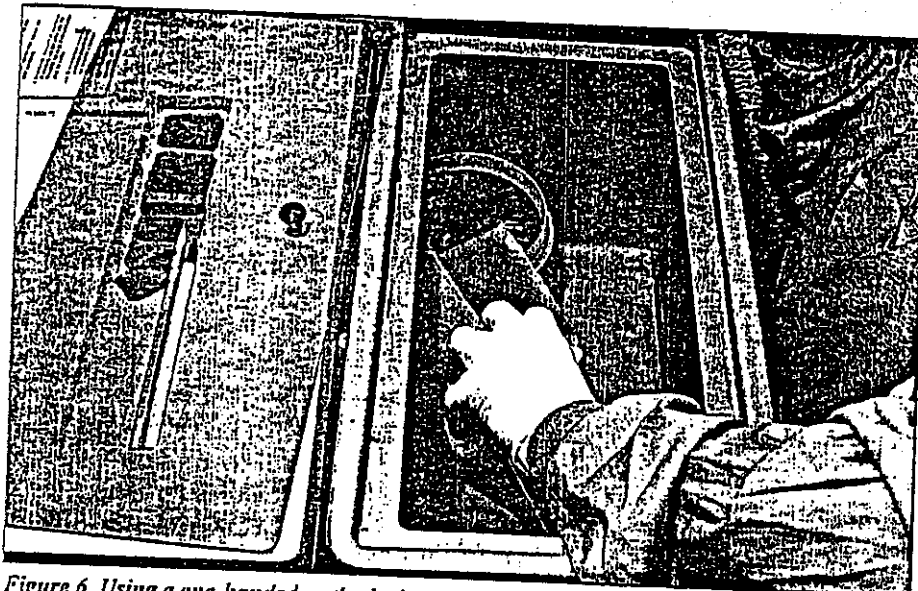


Figure 6. Using a one-handed method, clear all trash from daylight loader and discard in trash receptacle. Replace cover.

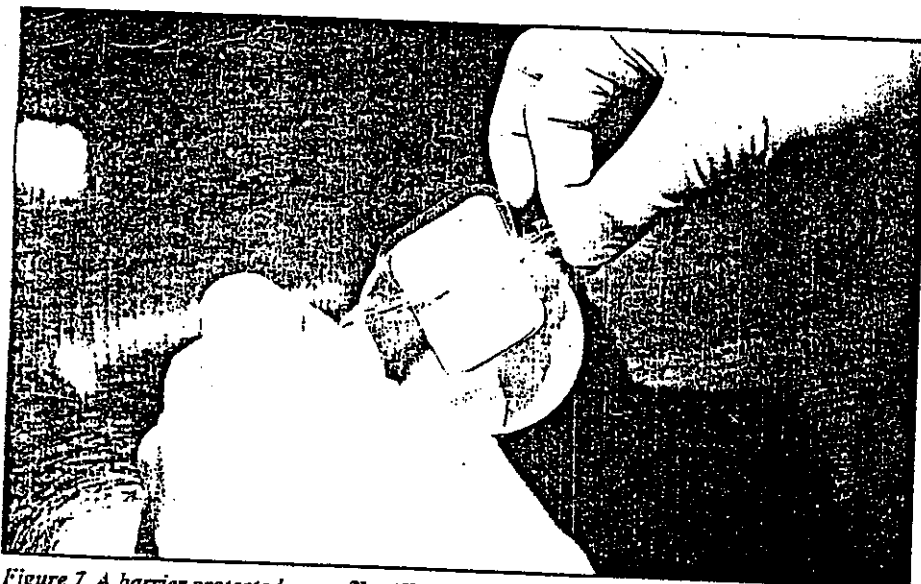


Figure 7. A barrier protected x-ray film (Kodak ClinAsept Barrier Envelopes, Eastman Kodak Co, Rochester, NY) prevents contact between oral fluids and the film packet.

based on its particular equipment and preferences. Having an SOP for radiology is useful for two reasons. First, it is a method of communicating the technique by which radiographs will be exposed and processed by everyone in the practice. Second, since it is in written form, it can be easily referred to by staff members should they forget the details of the procedures. For easy reference, a laminated copy of the SOP for radiology can be placed in the area(s) where the radiographs are exposed and processed. This is useful when staff members are first becoming familiar with the procedure, and because some staff members may only take radiographs occasionally. Additionally, the laminated copy can be easily disinfected with other surfaces in the area.

The remainder of this article will focus on specific methods useful when exposing and processing dental radiographs. The dental hygienist can easily adapt or modify one of these methods to fit into the practice. The suggested methods can also assist in writing a SOP for the practice and training staff to the standardized procedure.

### Preparing the Equipment

As with any dental procedure, the dental hygienist should review the medical history of the patient prior to performing any patient care. Gloves, masks, and protective eyewear should be worn at all times during patient contact. Charts should be kept out of the area of treatment to avoid contaminating the outside of the chart and the contents. If charts are kept in the treatment area, they should be covered in plastic to allow disinfection of the outside of the chart.

1. Using sterile utility gloves or latex gloves, disinfect and prepare all parts of the chair and x-ray unit that will come in contact with the patient, operator or film holding devices. Work surfaces should be disinfected with an EPA-registered and ADA-approved environmental surface disinfectant that is tuberculocidal. To save time and avoid the need for disinfecting items, single-use plastic bags may be used over the chair back, x-ray tube head, and handles. The lead apron with thyroid collar should be disinfected with each patient use. Plastic bags should be used on tube-heads that are difficult to disinfect due to irregular surfaces.

2. Radiology controls should be covered with foil or plastic. If a disinfectant is used, avoid over spraying, as too much fluid may cause electrical problems. In addition, many disinfectants that are ADA-approved for environmental surface use must remain in contact with precleaned surfaces for 10 minutes to provide sufficient disinfection. The use of disposable products, such as plastic chair covers, may be a more practical and time-saving method for busy dental practices.<sup>6</sup>
3. Obtain films and other needed items prior to seating the patient. Nondisposable devices, including intraoral film holders, beam-aligning devices, and panoramic bite-blocks, should be sterilized with heat or gas.<sup>11</sup> Disposable items, such as film holders or bite-wing tabs, should be dispensed in unit-doses-per-patient to reduce the risk of contaminating larger supplies of these items.<sup>14</sup> Unexposed films should be placed on a disinfected surface, cup, or paper towel away from the source of radiation. If films are placed on a shelf, the shelf should be covered with plastic or foil outside the operatory and arranged so that the operator can account for the films that have been exposed. Figure 1 illustrates one method that can be used to arrange the film prior to exposing. The films can also be arranged on the film mount, away from the source of radiation, to assist the operator in keeping track of the exposures.<sup>6</sup>

### **Asepsis During Radiographic Procedures**

1. The patient should be seated and covered with the disinfected lead apron with thyroid collar. If the patient is wearing a contaminated patient napkin, the operator should fold the napkin horizontally on itself at the midpoint (from the chest toward the neck) to avoid cross-contamination of the lead apron,<sup>6</sup> or the napkin should be removed and discarded prior to placing the lead apron.

2. Wash hands with an antimicrobial soap before putting on gloves. Use appropriate aseptic procedures for adjusting faucets, handles, and soap dispensers. Methods that avoid hand contact, such as foot controls, are preferred.
3. After each radiograph is exposed, it should be wiped clean of saliva and/or blood with a paper towel or tissue and placed in a disposable cup, taking precaution not to contaminate the outside of the cup. The cup should be placed away from the source of radiation. Radiographs should never be placed in a pocket of clothing.
4. If additional supplies are needed during the procedure, do not reach into bulk containers with contaminated, gloved hands. Overgloves should be worn or the contaminated gloves should be removed, hands washed, and new gloves put on prior to retrieving the needed items. The operator can also use uncontaminated forceps to retrieve the supplies.
5. After all films have been exposed, dispose of gloves, wash hands with an antimicrobial soap, and proceed with the films to the processing area. Gloves should be removed and hands washed before touching surfaces such as door knobs, cabinet handles, or equipment switches. Do not wear contaminated gloves into the darkroom unless overgloves are placed over the contaminated gloves.

### **Processing the Dental Radiographs**

Four methods of processing the films will be described in the following section:

1. Daylight loader
2. Darkroom method using an automatic processor or time-temperature method
3. Use of barrier envelopes
4. Disinfection method for plastic covered films

#### **Daylight Loader**

Daylight developing boxes allow quick and convenient processing of radiographs. However, maintaining efficient infection control during the process is a challenge. Many of the processors are equipped with cloth sleeves or rubber flaps that are used to guide the operator's hands into a light-protected chamber where the films are placed into the processor.<sup>6</sup> If the operator follows a strict procedure for processing the radiographs in the Daylight Loader without contaminating the processor, disinfection after each patient becomes unnecessary. The following procedure describes a method for processing radiographs in the daylight loader using two pairs of gloves. This method provides hand coverage through all steps of processing the films:

1. Put on two clean pairs of gloves. The operator may use two pairs of latex gloves or one pair of gloves and a pair of overgloves.
2. Remove the cover of the Daylight Loader and spread a paper towel on the floor of the loader. Place the cup containing the films and an empty cup on the paper towel. The empty cup will be used to hold the clean films as they are removed from the packets. Another container may be added for the foil. Replace the top cover of the loader (Figure 2). (For purposes of photography, the cover was removed throughout the procedure.)
3. Insert hands through the openings in the loader. Film packets should be opened one at a time, dropping the films into the clean cup and separating double packet films (Figure 3). Gloved hands should only come in direct contact with the film packet; black paper and foil are dropped on to the paper towel. Avoid touching the films with contaminated gloves.
4. After all film packets have been unwrapped, discard film packets and black paper in the original cup (that once held the contaminated films), discard the foil in a separate container for recycling, remove the outside pair of gloves (turning them inside out), and place the gloves in the cup containing the contaminated trash (Figure 4).

5. Place the films in the processor being careful to touch only the edges of the films (Figure 5). After loading all films, hands can be removed from the Daylight Loader through the openings. Remember, the gloves should have only come in contact with the clean films and clean disposable cup.
6. Lift the cover of the loader with one hand. Using the other hand, remove all trash and discard in the trash receptacle (Figure 6). The cover is then replaced.
7. Remove gloves and wash hands with soap.

*\*A single pair of gloves can be used for this method. The gloves are removed after Step 4. Films are then loaded into the processor with ungloved hands touching only the edges of the films to avoid finger prints. However, the dental hygienist must take extra precaution when discarding trash from the daylight loader with ungloved hands.*

#### Darkroom Method Using an Automatic Processor or Time-Temperature Method

Below is a method that is used for either the automatic processor or the time-temperature method for processing radiographs. When using this method, care should be taken to cover counters in the darkroom with plastic wrap, plastic paper, or aluminum foil. If surfaces are not covered, they should be disinfected following processing.

1. Put on a clean pair of gloves.
2. Place the cup containing the exposed films in the darkroom on the counter beside a clean paper towel and a clean cup.
3. Open the film packets one at a time and drop the films into the clean paper cup. Be careful not to touch films with gloved hands. Drop the contaminated film packet, black paper, and foil onto paper towel.
4. After all films have been placed in the cup, discard film packets and black paper in trash and place lead foil in a separate container for recycling.
5. Remove gloves (turning them inside out) and discard.
6. Load films into the processor using clean ungloved hands.

#### Use of Barrier Envelopes

Recently, a barrier protected periapical x-ray film was introduced to the dental market. The Kodak ClinAsept Barrier Envelopes, prepackaged with size 2 films, were introduced in 1992 (Eastman Kodak Co, Rochester, NY).<sup>14</sup> The envelopes prevent the film packet from contacting oral fluids while radiographs are being exposed. Size 2 films can be purchased prepackaged with the envelope as shown (Figure 7). Barrier envelopes are also available for size 0 and 1 film, but the operator must take additional time to package the film prior to the procedure. The envelopes used for packaging are transparent and contain an adhesive strip that is exposed by simply removing a cover strip. The film packet is sealed inside the envelope. When using the barrier envelopes, the dental hygienist should adhere to the procedure described below.

1. Wash hands with an antimicrobial soap and place films in the barrier envelopes.
2. Seal the barrier envelope over the film packet using the adhesive strip.
3. Expose films with gloved hands as described previously making sure to wipe fluids from the films after each exposure.
4. When ready to process, barrier envelopes should be removed while dropping the film packets into a clean container such as a disposable cup.
5. Remove contaminated gloves and proceed with processing using clean ungloved hands.

*\*If prepackaged #2 size films are used, the processing will be the same as steps 3-5 above.*

#### Disinfection Method for Plastic Covered Films

While the use of methods to disinfect plastic film packets with 5.25% sodium hypochlorite have been investigated and found to be effective in one study,<sup>10</sup> its effectiveness is still under scrutiny.<sup>4</sup> If this method is used, the

radiographs must soak in the disinfectant for a minimum of 10 minutes to kill infectious organisms.<sup>15,16</sup> Due to the extra time involved, many operators prefer other methods for processing radiographs. In addition, this method can only be used with plastic covered film packets. The procedure below describes the method used for disinfecting the radiographs.<sup>15</sup>

1. Expose films with gloved hands.
2. With clean gloves, wash film packets well with a disinfectant, rinse and dry with a paper towel.
3. Soak in a fresh solution of 1:20 sodium hypochlorite (5%) bleach for 10 minutes.
4. Rinsed and dried films can then be processed with clean bare hands in a Daylight loader or dark room without further aseptic precautions. Gloves can be worn to process disinfected films if the dental hygienist prefers.

#### Conclusion

The procedures described above provide the dental hygienist with several methods that can be used to avoid exposure to infectious pathogens while handling dental radiographs. Although the procedures may appear time-consuming, they do not require significantly more procedure time with the exception of the disinfection method with sodium hypochlorite. The authors recommend that written standard operating procedures be selected and adopted by all dental offices pertaining to this important and often confusing task. Dental hygienists are in an excellent position to assist in the development and writing of standard operating procedures for the dental practice because of their background in the basic sciences and their formal education in infection control techniques.

Regardless of the method selected for the handling of dental radiographs, it should be used by all dental staff to ensure a safe work environment for the entire dental team. Training and implementation of infection control procedures should be routine in dental procedures.



# TABLE 1

## Engineering and Work Practice Controls:

### DENTAL RADIOLOGY Standard Operating Procedure

This practice uses the following standard operating procedures when providing dental radiology services:

#### FILM EXPOSURE

- Only clean hands or hand covered with new gloves are used to access films from the film supply.
- Nondisposable film holders are sterilized between patients.
- The following surfaces and equipment are cleaned and disinfected between patients or are covered by impervious barriers that are changed between patients:
  - the entire tube head and cone of the x-ray machine
  - the x-ray machine control panel switches and dials
  - the dental chair and any controls needed to adjust the chair which must be touched by the hands
  - any surfaces on which contaminated films are placed
  - lead aprons and thyroid shields
  - panoramic unit chin rest and head-positioner guides
  - dark room door knobs
- When wrapping the x-ray tube head, care is taken to assure that the pivot is not restricted.
- After exposing each film, excess saliva is wiped off with a paper towel.
- All items needed for the procedure, such as bite-wing tabs and Stabe holders are dispensed in unit-dose prior to the procedure.
- Plastic covers are used to cover the bite blocks used in panoramic units or the bite blocks are cleaned and disinfected or sterilized between patients.
- Panoramic bite blocks are sterilized or protective barriers replaced between patients.
- Clean gloves are always worn when exposing films.

#### FILM PROCESSING (several alternatives are available)

- Prior to processing, contaminated film packets are disinfected by spraying or soaking with 5% sodium hypochlorite (bleach) or another approved disinfectant and left wet for 10 minutes, then rinsed, dried, and processed ungloved.
- Plastic sleeves for intraoral film are used with the outer sleeve being removed before processing in a manner that avoids touching the inner film packet with contaminated gloves. Gloves are then removed and discarded, the hands are washed, and the films processed.
- While gloved, contaminated film packets are opened enough to allow the rollers of the automatic processor to engage the film and pull it away from the packet without touching the film.
- When using the daylight loader, care is taken to avoid touching any part of the equipment with contaminated gloves.
- When using the daylight loader, unopened contaminated film packets are placed in a holding device and put in the loader through the removable window; the unit is then accessed with clean gloves through the sleeve; films packets are opened without touching the films which are dropped into a clean holding device; contaminated items are collected and placed in a separate holding device; contaminated gloves are removed and placed in the container holding other contaminated items; and the films are inserted into the processor with ungloved hands.

Additional procedures used by this practice include:

1. \_\_\_\_\_
  2. \_\_\_\_\_
- etc.

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*Rebecca Scruggs Wilder is an Associate Professor and the coordinator for the Master of Science Degree Program in Dental Hygiene Education at The University of North Carolina at Chapel Hill. She also teaches practice management in the predoctoral dental curriculum. She is on the editorial review board of two journals and teaches continuing education seminars in areas of periodontics and practice management.*

*Charlotte A. Peterson is currently a second year graduate student in the Master of Science degree program in Dental Hygiene Education at The University of North Carolina at Chapel Hill School of Dentistry.*

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Appendix 5  
Consultant Vitas

Appendix 6

Advisory Committee Members

**DENTAL INFECTION CONTROL ADVISORY COMMITTEE MEMBERS**

George Angelos, DDS  
Dental Director  
Brownsville Comm. Health Center  
2137 East 22nd Street  
Brownsville, Texas 78520  
512-548-7482 fax 512-546-2056

Gregory Baber, DMD  
Dental Director  
Hidalgo County Health Care  
P.O. Box Q  
Pharr, Texas 78577  
512-787-8915 fax 512-787-2021

Donald Collins, DDS, MPH  
ADA Headquarters Office  
211 East Chicago Avenue  
Chicago, Illinois 60611  
312-440-7463 fax 312-440-7494

Betty DeBerry-Summer, DDS, MPH  
Chief Dental Officer, BPHC  
Parklawn Building, Room 7A-19  
5600 Fishers Lane  
Rockville, Maryland 20857  
301-443-1400 fax 301-443-4785

Del Garcia  
Director of Special Projects  
National Migrant Resource Prog.  
2512 South IH-35, Suite 220  
Austin, Texas 78704  
512-447-0770 fax 512-447-1666

Robert Kolstad, PhD  
Dept. of Biomedical Sciences  
Baylor College of Dentistry  
3302 Gaston Avenue  
Dallas, Texas 75246  
214-828-8302 fax 214-828-8346

Del Krehbiel, PhD  
Industrial Hygienist  
US Dept. of Labor, OSHA  
525 Griffin Street, Room 602  
Dallas, Texas 78202  
214-767-4761 fax 214-767-4137

Marjorie Maxwell, DDS  
1611 38th Street  
Sacramento, California 95816  
916-739-1214

John McFarland, DDS  
President, NNOHA  
Plan de Salud del Valle  
1115 East Second Avenue  
Fort Lupton, Colorado 80621  
303-892-0004 fax 303-892-1511

John Molinari, PhD, Chair  
Dept. of Biomedical Sciences  
University of Detroit  
Mercy School of Dentistry  
2985 East Jefferson  
Detroit, Michigan 48207  
313-446-1929 fax 313-446-1918

Karen Mountain, MBA, MSN, RN  
Deputy Director  
National Migrant Resource Prog.  
2512 South IH-35, Suite 220  
Austin, Texas 78704  
512-447-0770 fax 512-447-1666

M. Dean Perkins, DDS, MPH  
Chief, Bureau of Dental Health  
Missouri Department of Health  
1730 East Elm  
Jefferson City, Missouri 65102  
314-751-6247 fax 314-751-6010

Bob Sappington, DMD, MPH  
Regional Clinical Coordinator  
PHS, Region VI  
1200 Main Tower Building  
Dallas, Texas 75202  
214-767-6547 fax 214-767-8049

Chester Summers, DDS, MPH, DrPh  
Division of Oral Health  
Centers for Disease Control  
1600 Clifton Road, F-10  
Atlanta, Georgia 30333  
404-488-4452 fax 404-488-4488

Les Wallace, PhD  
Signature Resources  
222 Milwaukee #409  
Denver, Colorado 80206  
303-355-4631 fax 303-752-1876