

PRACTICAL INFECTION CONTROL IN ORAL HEALTH SURVEYS AND SCREENINGS

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For several years, the Centers for Disease Control and Prevention has received requests for technical assistance in developing specific infection control guidelines for use during oral health surveys and screenings. State and local health agencies, as well as academic institutions, have sought recommendations that could be applied during these brief, limited examinations.

Such clinical assessments, which provide critical epidemiological data on the health needs of the population, may be performed by dentists and dental hygienists in sites that range from dental office settings to "field" conditions with portable equipment.

With adequate maintenance of hygienic conditions, oral health surveys and screenings should present few, if any, opportunities for bloodborne disease transmission. Instrumentation for surveys usually is limited to use of the dental explorer, periodontal probe, mouth mirror and sometimes, air/water syringe—and for screenings—to use of a tongue blade. Any potential for bleeding among subjects is both minimal and predictable, occurring primarily during periodontal assessment surveys.

ABSTRACT

Examinations for oral health surveys and screenings are performed by dentists or dental hygienists in a variety of settings. To date, CDC has made no recommendations for infection control specifically for these brief examinations. General principles for infection control can be applied during oral health surveys and screenings.

This report offers practical infection control procedures for use during oral health surveys and screenings, regardless of setting. These procedures are based on general principles of infection control^{1,2} and are determined by the examiner's level of anticipated contact with the subject's oral mucous membranes, blood or saliva contaminated with blood.

LEVELS OF ANTICIPATED CONTACT BETWEEN EXAMINER AND SUBJECT

For purposes of this discussion and depending on the presence or absence of anticipated contact with the subject's oral mucous membranes, blood or

saliva contaminated with blood, three possible levels of contact exist. These three levels are summarized in Table 1. (Infection control practices in oral health screenings are summarized in Table 2.)

Contact level I. The examiner anticipates contact both with the subject's mucous membranes and with the subject's blood or saliva contaminated with blood; for example, during the measurement of pocket depth with a periodontal probe in an oral health survey assessing periodontal disease.

Contact level II. The examiner anticipates contact with the subject's mucous membranes, but not with the subject's blood or saliva contaminated with blood; for example, during an oral health survey that includes examination for decayed, missing and filled teeth, using a mouth mirror and dental explorer.

Contact level III. The examiner anticipates contact neither with the subject's mucous membranes, nor with the subject's blood or saliva contaminated with blood; for example, during an oral health screening limited to a visual inspection of the oral tissues, using a tongue blade to retract the cheek.

TABLE 1

LEVEL	ANTICIPATED CONTACT WITH	
	MUCOUS MEMBRANES	BLOOD OR SALIVA CONTAMINATED WITH BLOOD
I	Yes	Yes
II	Yes	No
III	No	No

PRINCIPLES OF INFECTION CONTROL AND THEIR APPLICATION

All guidelines to minimize transmission of bloodborne diseases are based on four basic principles for infection control.²

The dental health care worker should:

- take action to stay healthy;
- avoid contact with blood;
- limit the spread of blood;
- make instruments and equipment safe for use.

Understanding and using these principles will provide a sound basis for decision making.

I. TAKE ACTION TO STAY HEALTHY

All people should take positive steps to maintain their own general health. This principle especially applies to people performing health surveys and screenings.

Immunizations.

Immunizations reduce the examiner's risk of becoming infected and, indirectly, protect subjects from infection.

- Hepatitis B virus immunization.

Levels I and II. Because contact with mucous membranes and/or blood or saliva contaminated with blood is anticipated, the examiner and

the personnel who handle contaminated instruments should be immunized for HBV.³

Level III. Because contact with mucous membranes and/or blood or saliva contaminated with blood is not anticipated, immunization for HBV is not necessary. However, most examiners are either dentists or dental hygienists. They should be immunized for HBV.

- Other immunizations.

All contact levels. If surveys and screenings are

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conducted during the "flu" season, immunization against influenza may be wise. Immunization against the childhood diseases (for example, measles, mumps, rubella, polio) is recommended for examiners and assistants who are not already immune.

Handwashing. In any health care setting, fingers and

hands may spread microorganisms. Handwashing removes microorganisms that may accumulate from touching subjects or contaminated instruments and surfaces. Routine handwashing protects both the examiner and the subjects.

Levels I and II. Where contact with mucous membranes and/or blood or saliva contaminated with blood is anticipated, handwashing is recommended. Always wash hands:

- before each examination;
- after completion of each examination;
- before putting on gloves;
- after removing gloves;
- between subjects.

Special antimicrobial soap for handwashing is not necessary. Hands should be lathered well with soap and rubbed vigorously for at least 10 seconds before rinsing them under a stream of water. Hands then should be dried with a disposable towel. Antimicrobial-containing products that do not require water for use, such as alcohol foams, can be used in areas where soap, water and sinks are unavailable.⁴ These products, sometimes referred to as "waterless handwashing products," have been reviewed and cleared for marketing by the Food and Drug Administration. They are available through hospital supply companies.

Level III. Although no direct contact with subjects is involved, washing hands brought into close proximity of the subject's oral cavity is strongly suggested. When soap, water and sink are unavailable, an alcohol foam should be used. If an alcohol foam cannot be obtained, the examiner may

TABLE 2

INFECTION CONTROL PRACTICES IN ORAL HEALTH SURVEYS AND SCREENINGS.			
PRINCIPLES OF INFECTION CONTROL	LEVEL I EXAMINER CONTACT WITH MM* BLOOD*	LEVEL II EXAMINER CONTACT WITH MM* BLOOD*	LEVEL III EXAMINER CONTACT WITH MM* BLOOD†
I. Take action to stay healthy A. Immunizations 1. HBV immunization 2. Other immunizations B. Handwashing	Yes As necessary Yes	Yes As necessary Yes	As necessary As necessary Strongly suggested
II. Avoid contact with blood A. Protective coverings 1. Gloves 2. Facial protection 3. Protective clothing B. Avoid injuries 1. Handling sharp instruments 2. Written policy	Yes If spatter expected Yes Yes Yes	Yes If spatter expected Strongly suggested Yes Yes	As necessary As necessary Optional No Yes
III. Limit the spread of blood A. Control contamination B. Waste handling	Yes Yes	As necessary Yes	As necessary Yes
IV. Make instruments and equipment safe for use A. Instruments B. Covered surfaces C. Uncovered surfaces	Disposable or sterilization Change coverings if contaminated Clean and disinfect if contaminated	Disposable or sterilization Change coverings if contaminated Clean and disinfect if contaminated	Disposable or sterilization Change coverings as necessary Clean and disinfect as necessary
MM = mucous membranes. * anticipated contact. † no anticipated contact.			

consider use of a generic disposable towelette. These towelettes are lightly moistened with a bit of soap, alcohol and water. Although there is no guarantee of germicidal action, the objective is to remove at least a portion of the transient microbial population.

II. AVOID CONTACT WITH BLOOD

Protective coverings. These should include:

- Gloves.

Levels I and II. Gloves should be worn when an examiner anticipates contact with the subject's mucous membranes or with instruments, equipment or surfaces that may be contaminated with blood or saliva contaminated with blood. Gloves never should be reused. A new pair of gloves should be used for every subject. Examination gloves should not be washed, disinfected or sterilized for reuse.

Level III. Because the exam-

iner uses only a tongue blade and does not anticipate contact with the subject's mucous membranes or with instruments, equipment or surfaces that may be contaminated with blood or with saliva contaminated with blood, gloves need not be worn. The tongue blade should be handled without contacting the contaminated portion.

- Facial protection.

Levels I and II. If spatter of blood or saliva is anticipated, as when compressed air is being

used, a chin-length face shield or a surgical mask and protective eyewear should be worn. Spattered material may spread into the examiner's eyes, mouth or nose where mucous membranes may provide an entry for microorganisms.

Level III. As long as spattering of blood or saliva is not anticipated, the face shield or mask and protective eyewear need not be worn.

■ **Protective clothing.**

Level I. Appropriate protective clothing is recommended. Street clothes are protected

from contamination by wearing a uniform or covering them with a gown or coat.

Protective clothing should be changed at least daily, or more often if soiled, especially if visibly contaminated with blood.

Level II. Although contact with blood or saliva contaminated with blood is not anticipated, spattering of oral fluids may occur, particularly if compressed air is used. Use of protective clothing may be prudent.

Level III. Contamination of street clothes with oral fluids is not anticipated, so use of protective clothing is optional.

Avoid injuries. The following should be observed:

■ **Handling sharp instruments.**

Levels I and II. During clean-up, dental personnel should wear sturdy utility gloves and avoid picking up sharp instruments by the handful.

Level III. No use of sharp instruments is anticipated.

■ **Written policy for injuries.**

All levels. All oral health surveys and screenings should include a written policy for the management of injuries.

III. LIMIT THE SPREAD OF BLOOD AND BLOOD-CONTAMINATED SALIVA

Control of contamination.

Level I. Techniques that prevent unnecessary contamination of any area or object should be routine. Splashes and spatter during both subject examination and clean-up should be minimized.

Levels II and III.

Because no contact with blood or blood-contaminated saliva is anticipated, there should be no problems with regard to their spread via the environment.

Proper handling of waste. **All levels.** Solid waste such as single-use disposable tongue blades, mirrors, masks, gowns and waterproof covers should be well-secured in a sturdy leakproof plastic bag. These wastes are handled and disposed of according to state and local regulations.

IV. MAKE INSTRUMENTS AND EQUIPMENT SAFE FOR USE

Instruments. **All levels.** All heat-tolerant instruments should be cleaned and then treated between patients by a heating process capable of sterilization (for example, steam autoclave or dry-heat sterilizer).¹ If cleaning and sterilization facilities are un-

available at the screening or survey site, contaminated instruments should be stored and transported to the appropriate facility in a rigid, covered container. Single-use disposable instruments (including tips of air syringes) should be used for one subject only and discarded appropriately.

Contaminated surfaces not easily cleaned and disinfected. These could include light handles and hand-operated chair controls.

Levels I and II. Where applicable, a disposable waterproof covering, such as plastic wrap, could be used. If the covered surfaces are either touched by the examiner during the assessment or contaminated with the subject's oral fluids, the coverings should be changed before the assessment of the next subject.

Level III. Contamination of surfaces with the subject's oral fluids is not anticipated. Coverings are optional and, if used, should be changed at least daily or when visibly soiled.

Contaminated surfaces easily cleaned and disinfected. These could include countertops and dental chairs. **Levels I and II.** If uncovered surfaces are either touched by the examiner during the assessment or contaminated with the subject's oral fluids, the surfaces should be cleaned and then disinfected using an appropriate proprietary germicide registered with the Environmental Protection Agency or sodium hypochlorite (common household bleach) diluted 1:100, before the assessment of the next subject.

Level III. Contamination of surfaces with the subject's oral fluids is not anticipated. Clean

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and disinfect at least daily or when visibly soiled.

SUMMARY

Public health professionals responsible for dental surveys or screenings should remember basic principles that can be applied whatever the particular situation in the field. Specific decisions

should be based on the levels of anticipated contact between examiner and subject, and the four principles of infection control. ■

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