Dental Radiology Infection Control Policies

OSAP would like to refer you directly to the Centers for Disease Control and Prevention's (CDC) Infection Control Guidelines for Dental Healthcare Settings. In part, the guidelines state the following:

When taking radiographs, the potential to cross-contaminate equipment and environmental surfaces with blood or saliva is high if aseptic technique is not practiced. Gloves should be worn when taking radiographs and handling contaminated film packets. Other PPE (e.g., mask, protective eyewear, and gowns) should be used if spattering of blood or other body fluids is likely. Heat-tolerant versions of intraoral radiograph accessories are available and these semi-critical items (e.g., film-holding and positioning devices) should be heat-sterilized before patient use. (1)

After exposure of the radiograph and before glove removal, the film should be dried with disposable gauze or a paper towel to remove blood or excess saliva and placed in a container (e.g., disposable cup) for transport to the developing area. Alternatively, if FDA-cleared film barrier pouches are used, the film packets should be carefully removed from the pouch to avoid contamination of the outside film packet and placed in the clean container for transport to the developing area. (1)

Various methods have been recommended for aseptic transport of exposed films to the developing area, and for removing the outer film packet before exposing and developing the film. Other information regarding dental radiography infection control is available. However, care should be taken to avoid contamination of the developing equipment. Protective barriers should be used, or any surfaces that become contaminated should be cleaned and disinfected with an EPA-registered hospital disinfectant of low- (i.e., HIV and HBV claim) to intermediate-level (i.e., tuberculocidal claim) activity. Radiography equipment (e.g., radiograph tubehead and control panel) should be protected with surface barriers that are changed after each patient. If barriers are not used, equipment that has come into contact with DHCP's gloved hands or contaminated film packets should be cleaned and then disinfected after each patient use. (1)

Additionally, OSAP's November 2003 issue of Infection Control In Practice is devoted to infection control and dental radiography. In part, this issue provides the following protocols:

Wear gloves while exposing films in the patient's mouth. Place exposed films in a paper cup. When all films are exposed, remove and discard gloves. Transport to the darkroom, re-glove and carefully open the packs and drop the films on a clean surface. Discard the contaminated wrappers, remove and discard the gloves, and process the films. When using an x-ray processor with a daylight loader, extra precautions are required to avoid contamination of the sleeves, and external and internal components of the processor. X-ray films packaged in fluid impervious barriers are available. A slight modification of the recommended x-ray and darkroom protocol is indicated. After exposing the film, pull on

the edges of the barrier pack, allowing the film to drop into a clean paper cup without contaminating the inner film packet. When all films have been exposed and collected in the cup, remove procedure gloves and take films to the darkroom or daylight loader for processing. (2)

Place reusable film-holding devices in the designated area.

If film/digital phosphor plate barriers have been used:

Carefully peel back the barrier and allow each film/phosphor plate to fall from its pouch into a clean disposable container (such as a plastic cup) or transport box for transport to the developing area. Use care to avoid contaminating the outside of the cup/transport box. (2)

If barrier pouches have not been used (to protect the film):

Follow instructions below for Handling Film Without Barriers. (2)

Discard all contaminated disposable items.
Carefully remove contaminated barriers.
Remove gloves and wash hands.
Remove the lead apron and dismiss the patient.
Disinfect all uncovered surfaces that were contaminated.
If barriers are not used, x-ray equipment that has come into contact with gloved hands or contaminated film packets must be cleaned and then disinfected after each patient use. Use protective barriers or clean and disinfect any surfaces that become contaminated by using an EPA-registered low-(with HIV and HBV claim) to intermediate-level (with a tuberculocidal claim) hospital disinfectant. (2)

For developing film:

With clean, ungloved hands, transport the disposable container of exposed film to the processing area. (2)

You will need:

gloves
paper cup(s)
barrier sheet for counter top (patient napkin)

Take care to avoid contaminating the developing equipment.
Use barriers or clean and disinfect any surfaces that become contaminated.

Handling Film Without Barrier Pouches:

Barrier sleeves for x-ray film packets are commercially available. These barriers are placed over the x-ray film packet before the film is positioned in the patient mouth and removed immediately after the x-ray is taken, providing dental workers with a clean, uncontaminated film packet for processing. The barriers protect film from contamination, reduce preparation time, and simplify processing. Removed in a lighted area with gloved hands, the barrier is simply peeled back and the film packet dropped onto a clean paper towel or into a clean disposable cup. Barrier-protected film packs are especially useful when using a daylight loader.

If your practice setting uses film that is not barrier-protected, add these steps to the infection control protocol for dental x-rays. (2)

a. Place barrier sheet (patient napkin) on your work surface

b. Place “clean up” on one end of the barrier sheet and the “dirty cup” on the opposite end of the barrier sheet.

c. Secure door and turn out light (if applicable).

d. Put on gloves.

e. Empty film from cup onto the side of the barrier that was designated for the dirty items.

f. Open film packet

g. Allow film to drop onto the clean side of the barrier sheet.

h. Ensure that all film packets have been opened.

i. Dispose of empty packets and dirty cup.

j. Remove gloves and wash hands

k. Count film and verify you have correct number of film that were exposed.

l. Process film by edges only

m. Once processed, place film in clean cup and exit darkroom.

OSAP members and subscribers have access to Infection Control In Practice. Further information may be viewed at: http://www.osap.org

Infection Control Practices for direct digital sensors:

With clean hands, place sensor barriers on all direct digital sensors that will be used. The mouse and keyboard will be covered with barriers as well to avoid contamination during exposures. Once all exposures have been completed, the operator will remove their gloves, glasses, and mask (if worn) followed by washing their hands. The lead apron will then be removed and the patient dismissed. All barriers can now be removed while wearing mask, glasses, and utility gloves. Any area in which the barriers were not placed must be disinfected with with an EPA-registered hospital disinfectant of low- (i.e., HIV and HBV claim) to intermediate-level (i.e., tuberculocidal claim) activity. Radiography equipment (e.g., radiograph tubehead and control panel) should be protected with surface barriers that are changed after each patient. If barriers are not used, equipment that has come into contact with DHCP's gloved hands or contaminated film packets should be cleaned and then disinfected after each patient use. (1)

Resources:

1) Centers for Disease Control and Prevention's (CDC) Infection Control Guidelines for Dental
Healthcare Settings.

http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5217a1.htm

2) OSAP's Infection Control In Practice. Vol. 2, No. 8 November 2003.

http://www.osap.org