Infection control

Aerosolized infectious material in the laser plume is just one of many concerns

By Frank Y. W. Yung, DDS, MSc

More than 20 years ago, a dental patient named Kimberly Bergalis was diagnosed with AIDS. The source of her HIV infection was her dentist. Even though the exact path of transmission is still not known, this first proven transmission of HIV from dentist to patient — and the subsequent intense coverage by the media — set off tremendous confusion and panic amongst dental patients. It was, among other measures such as a high-volume suction, the use of a high-filtration mask is strongly recommended (Fig. 1).

Non-critical items are instruments and devices that come into contact only with intact (unbroken) skin, which serves as an effective barrier to microorganisms. These items carry such a low risk of transmitting infections that they usually only require cleaning and low-level disinfection. Examples of instruments in this category include X-ray head/ cones, blood pressure cuffs, low-level laser emission devices and laser safety glasses. For low-level laser therapy, the use of a transparent barrier similar to disposable sleeves for biological tissues should be used.

Critical items are those that penetrate soft tissue, touch bone or contact the bloodstream. They pose the highest risk of transmitting infection and should be heat sterilized between patient uses. Cleaning, which is the first basic step in all decontamination and sterilization processes, involves the physical removal of debris and reduces the number of micro-organisms on an instrument or device. If visible debris or organic matter is not removed, it can interfere with the disinfection or sterilization process. Proper monitoring of sterilization procedures should include a combination of process indicators and biological indicators, and should be assessed at least once a week.

To arrest the path of these pathogens, for which recommendations were made, these suggestions were followed closely by various governing dental health organizations, including the U.S. Centers for Disease Control and Prevention (CDC) on Dec. 19, 2003, providing some of the current and available scientific rationales for infection-control practices, for which recommendations were made.

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The disposal of used instruments and excised biological tissues should be managed separately. A cleaned optical fibre, broken contact tips or disposable fibres should be disposed of properly in a sharps container. Harvested biological waste should be placed in a container labelled with a biohazard symbol. In order to protect the individual handling and transporting biopsy specimens, each specimen must be placed in a sturdy, leak-proof container with a secure lid to prevent leakage during transport. By following these guidelines, the spread of pathogens amongst dental patients, DHCP and their families can be prevented, and the passing of Kimberly Bergalis will not have been in vain.

A list of references is available from the publisher.

This article was first published in the Journal of Laser Dentistry, 2010; 32: 68–670.