

Occupational Hazards in Dentistry: Part 2

Prepared for the FDI Commission by
Prof L.P. Samaranayake, University of Hong Kong
Dr S. Anil, University of Kerala, India
Prof Crispian Scully, Eastman Dental Institute for Oral
Health Care Sciences, University of London, UK

In this second article on occupational hazards in dentistry, we outline the hazards in dental practice from :

- infectious diseases including needlestick and sharps injuries,
- radiation hazards,
- musculo skeletal disorders and
- stress.

Infectious and communicable disease

There are many infectious diseases that may spread within a dental clinic environment (*Table 1*). The dental team runs a considerable risk of exposure to these infectious diseases both through inhalation and inoculation. The Occupational Safety and Health Administration (OSHA) estimates that 5.6 million workers in the health care industry and related occupations are at risk of occupational exposure to blood borne pathogens. Of these, those of prime concern are tuberculosis and blood borne pathogens including hepatitis B, C and the human immunodeficiency viruses (HIV).

The major preventive measure for combating transmission of infections in dentistry is to

implement 'universal precautions' where every patient is treated as if he/she were infected. Besides a thorough medical history, is always important to reveal possible infections of concern in dentistry, and also affecting the dental procedure in question. The recent discovery of prions (Proteinaceous infectious particles) which survive routine sterilisation procedures imply that those that are susceptible to prion diseases should be treated differently. Medical history is therefore of crucial importance in identifying the latter groups.

Needlestick and sharps injuries

Needlestick and other sharps-related injuries are the main route of blood-borne pathogen transmission in dentistry. Sharps and pointed devices routinely used in dentistry are many and include anaesthetic needles, suture needles, scalpels, orthodontic wires, broken anaesthetic cartridges etc. According to the National Institute for Occupational Safety and Health (NIOSH), it is estimated that 800,000 needle stick injuries (NSIs) occur annually in the hospital setting. Nursing staff sustain a high percentage of these injuries. Studies in hospitals have shown that as many



fdi

5 / 2001