

Status Report on Endodontic Therapy

(Revised March 2001)

The International Academy of Oral Medicine and Toxicology (I.A.O.M.T.) encourages the dental profession to carefully consider the potential impact on systemic health of endodontic therapy.

Scientific inquiry ranging from the historic research of Weston Price to ongoing contemporary studies demonstrates that microorganisms (bacteria, fungi, viruses) can persist in root canals and dentinal tubules after apparently successful endodontic treatment. The passage of these microorganisms into the blood has been scientifically demonstrated, as has the passage of their highly toxic waste products of anaerobic metabolism, such as sulfides and polyamines.

Furthermore, there are many cytotoxic chemicals used in endodontics, such as formaldehyde, eugenol, camphorated paramonochlorophenol, and other phenols. These have also been shown to diffuse into the general circulation.

However, the extent of the potential health risk from these influences has not been investigated scientifically, and criteria for evaluating the risk to individual patients have not been established.

Clinical criteria used to determine the success or failure of endodontic treatment have been shown to be contradictory and inconsistent, especially when compared to pathological examination. Improved methods are needed to evaluate both the clinical success of endodontic treatment, and the level of bacterial toxicity emanating from the treated root.

The I.A.O.M.T. has encouraged the use of calcium oxide root filling materials when the doctor and patient choose endodontic therapy, because they have been shown to be non-cytotoxic, penetrate the dentinal tubules, and raise the pH of the treated root. However, the evidence that alkaline calcium materials, especially calcium hydroxide, can truly disinfect dentin remains equivocal. More work needs to be done to evaluate whether this or any other technique can eliminate the potential for systemic health effects of endodontic therapy.

Therefore, the I.A.O.M.T. cannot take the position that all non-vital teeth must be extracted. On the other hand, it is clear that non-vital teeth – with or without endodontic therapy – can present a systemic health risk to some patients. Each patient must be evaluated on an individual basis, considering the medical status and other factors.

The I.A.O.M.T. encourages the dental, medical, and scientific communities to address this area with vigor. Efforts must be made to provide valid methods of determining the systemic health risk from non-vital teeth and provide techniques of endodontic therapy that eliminate, or at least reduce, the risk.