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Sterilization beneath rings on dental instruments

C H Miller ¹, M A Sheldrake

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PMID: 1814351

Abstract

This study determined the effectiveness of standard methods of instrument sterilization beneath instrument rings. Sets of three types of dental instruments were contaminated with known amounts of bacterial spores (*Bacillus stearothermophilus* or *Bacillus subtilis*). Instrument rings were placed over the contamination and the instruments processed through standard cycles in a steam autoclave, an unsaturated chemical vapor sterilizer, a standard dry heat sterilizer, an ethylene oxide gas sterilizer or a 2.0% alkaline glutaraldehyde solution. Controls consisted of spore-contaminated instruments without rings that were not processed through any sterilizing method and that were processed through each sterilizing method. All instruments and their associated rings were cultured for the presence of live spores. The results indicate that the reliability of sterilization beneath the instrument rings used is greatest if the ringed instruments are processed through a steam autoclave or an unsaturated chemical vapor sterilizer.

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