



P84: CROSS CONTAMINATION RISK IN INTRAORAL PHOSPHOR PLATES

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Objective: Recently, digital radiographic systems are commonly being used in dental faculty hospitals and private clinics. Digital radiography has some advantages when compared to film-based systems, such as; lesser radiation dose, elimination of film processing procedure, image processing options and image archiving. However, the most important disadvantage of the sensors and phosphor plates used in digital intraoral radiography is that they do have high cross contamination risks because they are not disposable like conventional films. To prevent this, intraoral digital sensors are placed into disposable protective covers. Therefore, the aim of this study is to assess in vitro the efficiency of these protective covers used for intraoral phosphor plates in the prevention of microbial contamination.

Method: Four new intraoral phosphor plates were used in this study. The plates were disinfected with wet tissues specially designed for disinfection containing propanol, and then negative culture verification was made. The plates were consecutively placed into their original protective covers and left in the prepared artificial saliva for 5 minutes containing 1.5x10⁸ CFU(colony forming unit)/mL amount of *Streptococcus mutans* (*S.mutans*) and *Candida albicans* (*C.albicans*) strains. The covers and plates were cut by sterile surgical blades and examined for the existence of microbial contamination.

Results: All of the samples, contaminated with *S. mutans* and 93.4% of the samples contaminated with *C. albicans* were found to be colonized on the phosphor plates.

Conclusion: The results of this study revealed that the protective covers used in digital intraoral radiography were not efficient to impede cross contamination. Cross contamination might be an important problem in the use of intraoral phosphor plates. Therefore, new methods and/or biocides seem to be crucially needed to prevent microbial contamination and infection without destroying the surface characteristics of digital sensors and phosphor plates.

Keywords: Intraoral phosphor plate, protective cover, cross contamination