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Contribution to the Development of a New Design of Dentist's Gowns: A Case Study of Using Infra-Red Technology and Pressure Sensors

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Abstract : During tooth extraction or implant surgery, dentists are in contact with numerous infectious germs from patients' saliva and blood. For that reason, dentist's clothes have to play their role of protection from contamination. In addition, dentist's apparels should be not only protective but also comfortable and breathable because dentists have to perform many operations and treatments on patients throughout the day with high concentration and intensity. However, this type of protective garments has not been studied scientifically, whereas dentists are facing new risks and eager for looking for a comfortable personal protective equipment. For that reason, we have proposed some new designs of dentist's gown. They were expected to diminish heat accumulation that are considered as an important factor in reducing the level of comfort experienced by users. Experiments using infra-red technology were carried out in order to compare the breathable properties between a traditional gown and a new design with open zones. Another experiment using pressure sensors was also carried out to study ergonomic aspects trough the flexibility of movements of sleeves. The sleeves-design which is considered comfortable and flexible will be chosen for the further step. The results from the two experiments provide valuable information for the development of a new design of dentists' gowns in order to achieve maximum levels of cooling and comfort for the human body.

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