

Contamination of Exam Gloves (3/07)

Luckey JB, Barfield RD, Eleazer PD. Bacterial count comparisons on examination gloves from freshly opened boxes versus nearly empty boxes and from examination gloves before treatment versus after dental dam isolation. *J Endod* 2006;32:646-648.

The purposes of this study were (1) to compare gloves from newly opened boxes with those from boxes that had been in dental operatories until they were nearly empty and (2) to determine if gloves are contaminated through diagnostic procedures and rubber dam placement. Eight endodontic residents provided samples by streaking gloved fingers on nutrient agar plates. Results showed no statistically significant difference between counts from new boxes versus nearly empty boxes ($n=32$, $p<0.6216$). Gloves after rubber dam placement yielded a mean colony count of 158 versus a mean of 1.5 from fresh gloves ($n=64$, $p<0.0001$). **These results suggest that donning new gloves immediately before opening a tooth for endodontic therapy may be warranted.**



DECS Comment: Dental health-care personnel (DHCP) wear gloves to prevent contamination of their hands when touching mucous membranes, blood, or saliva and also to reduce the likelihood that microorganisms already present will be transmitted to patients during surgical or other patient-care procedures. This study showed that examination gloves straight out of the box are relatively free of bacteria, whether removed from newly opened boxes or from nearly empty boxes. The time frame that the boxes had been left open in the operatories ranged from 8 to 29 days, with a mean of 17 days. Even with these findings, it is still recommended to store gloves in a clean area of the operatory and apply aseptic technique when handling them. The exam gloves did show a 10-fold increase in bacterial counts after rubber dam placement compared to freshly donned gloves. Since a major goal in endodontic treatment is to remove bacteria and bacterial by-products from the canal and prevent its contamination, the authors recommended donning a new pair of gloves before opening the tooth for endodontic treatment. As an alternative to the use of new gloves, the authors suggest that only one pair of gloves be used, but that they be sterilized/disinfected immediately before endodontic treatment. It should be noted that the CDC and OSHA recommend against washing or reusing surgeon's or patient examination gloves. Washing latex gloves with plain soap, chlorhexidine, or alcohol can lead to the formation of glove micropunctures and subsequent hand contamination. Because this condition, known as wicking, can allow penetration of liquids through undetected holes, washing gloves is not recommended. DHCP may want to consider donning new gloves after rubber dam placement to minimize the introduction of additional bacteria into the operating field.

References

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