

GERMIPHENE®

Review

Exclusive Publication for Germiphene Preferred Customers

Dental Pumice

Closing the Loop on Infection Control Part 2

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The subject of disinfection of dental pumice has received similar treatment in the past as the care and disinfection of dental impression. There is a general widespread lack of understanding of the dangers represented by contaminated dental polishing pumice. Infection control professionals have advocated in the past that dental pumice be changed daily and, while this will certainly go a long way toward minimizing the quantity of pathogenic organisms populating moist dental pumice, it fall far short of the standard we have now come to expect. Previous assertions that household bleach diluted to 2% will disinfect the pumice are technically sound but this remedy may affect the quality of the finished case if it is not immediately and fully rinsed from the impression after polishing. Bleach splashed onto the hands or face can also be a significant hazard to staff wellbeing.

It has been shown that the use of a broad spectrum quaternary ammonia product such as "Super Germiphene" will effectively control and eradicate microorganisms left behind to populate the polishing pan throughout the day.

It is prudent to remember that each case processed on the polishing lathe is exposed to all the pathogens growing in the pan. Sources of these organisms are varied but are usually made up of contaminants left behind after processing previous repairs and rebased dentures as well as bacteria derived from ambient room air, and the operators themselves. Since it is contraindicated to use exam gloves while operating a polishing lathe due to the danger of burs or polishing wheels grabbing onto the glove, it is of critical importance that the pumice be thoroughly disinfected on an **ongoing** basis.

A recent study from a Canadian Dental Laboratory showed pathogenic populations "Too Numerous to Count" after incubation of just 24 hours – Incubation for 7 days showed continued propagation of pathogenic colony forming units (CFU's). After treatment of samples with Super Germiphene (diluted to manufacturer specifications listed on the label), it was observed that existing CFU's were destroyed. It was further observed that using the same concentration of Super Germiphene would **prevent** growth of common pathogenic organisms found in laboratory pumice for at least 7 days.

Lest we begin to believe that the pumice in the Laboratory Polishing Pan contained higher quantities of microorganisms that dental office polishing pans, it is important to emphasize that a tandem study conducted on dental office pumice yielded results identical to the dental laboratory pumice.

It can be safely concluded therefore that the use of a properly diluted quaternary ammonia based concentrate such as Super Germiphene is an effective and economical means of curtailing growth – and destroying pathogenic micro-organisms.

Dental Polishing Pumice Assay for Existence of Pathogens Before & After treatment with Super Germiphene™

Sample #1	Lab Sample	Plated on 1/27/10 Pathogen Count	Read on 2/01/10 Pathogen Count	
2g + 2ml	Super Germiphene™ 1ml	0	0	
Sample #2	1g + 10ml	0.9 NAACL (Saline) 1ml	TNTC*	TNTC*

#1 Lab mixed samples of the Super Germiphene™ and used them to re-wet the pumice supplied by Dental Lab. After mixing the Super Germiphene™ with the contaminated pumice and trying to grow pathogens in the lab, it was observed that, in the presence of Super Germiphene™ there was no growth of ANY pathogens. A 2nd test was conducted and the results were exactly the same.

#2 Lab took the pumice supplied by Dental Lab and mixed it with Sterile Saline water only (no disinfectant). After incubating the sample in the lab for 1 week (standard procedure), they examined the sample under a microscope and saw Pathogenic Bacteria "too numerous to count." Test did not determine which pathogens were present but they would typically be Candida Fungi & Staphylococcus (Staph)

* = too numerous to count