A Study From The British Dental Society
On The Efficacy Of Hypochlorous Against Biofilm

[The following pertains to hypochlorous solution not generated by our tablets, so this is illustrative, not a claim of effectiveness if using our tablets for this purpose .}

From the *British Dental Journal* 187, 154-158, comes a study about how hypochlorous successfully removed biofilm in dental clinic water lines. (They're calling it ECA water; this stands for electro-chemically activated, meaning that it is hypochlorous that is generated with a machine, such as we have.) The *Journal* called hypochlorous use in water lines, and its removal of biofilm, a "breakthrough."

"ECA is considered totally harmless to human tissue, yet highly microbicidal." "The [ECA water] from the three way syringes in Group A gave a count of <1 CFU/ml at one week after inception and Group B counts of 3˘104–2.5˘105 CFU/ml. Group A were significantly less contaminated than Group B (p=0.000). This information gave rise to a serious ethical and moral dilemma which led to the demise of the control group (Group B) in certain respects. All thirteen units were in daily use with patients being treated with them. The continued use of these units represented an intolerable situation and the authorities decided to take immediate action to disinfect these units. It is a fact that DUWL come into direct contact with patients' mouths every day and there is a real possibility of retrograde contamination of these lines from these rich sources, despite the presence of anti-retraction valves and devices."

"The ADA set a number of less than 200 colony forming units (CFUs) **per milliliter** [my emphasis] as the goal to be reached by all members by the year 2000."

"Conclusion: Electro-chemically activated water effectively reduces bacterial counts and removes biofilm in dental unit water lines."

On the next page are electron microscope photos from the above study.

As mentioned on the page that discusses how we measure the effectiveness of surface disinfection, we measure RLUs, not CFUs. I'm not sure that the CFUs mentioned in this article and the RLUs we measure correlate, but I don't personally think that I want 200 CFUs per milliliter in the water being used on me during a dental procedure. (Correct me if I'm off-base here, of course; you're the dentists, not me.)

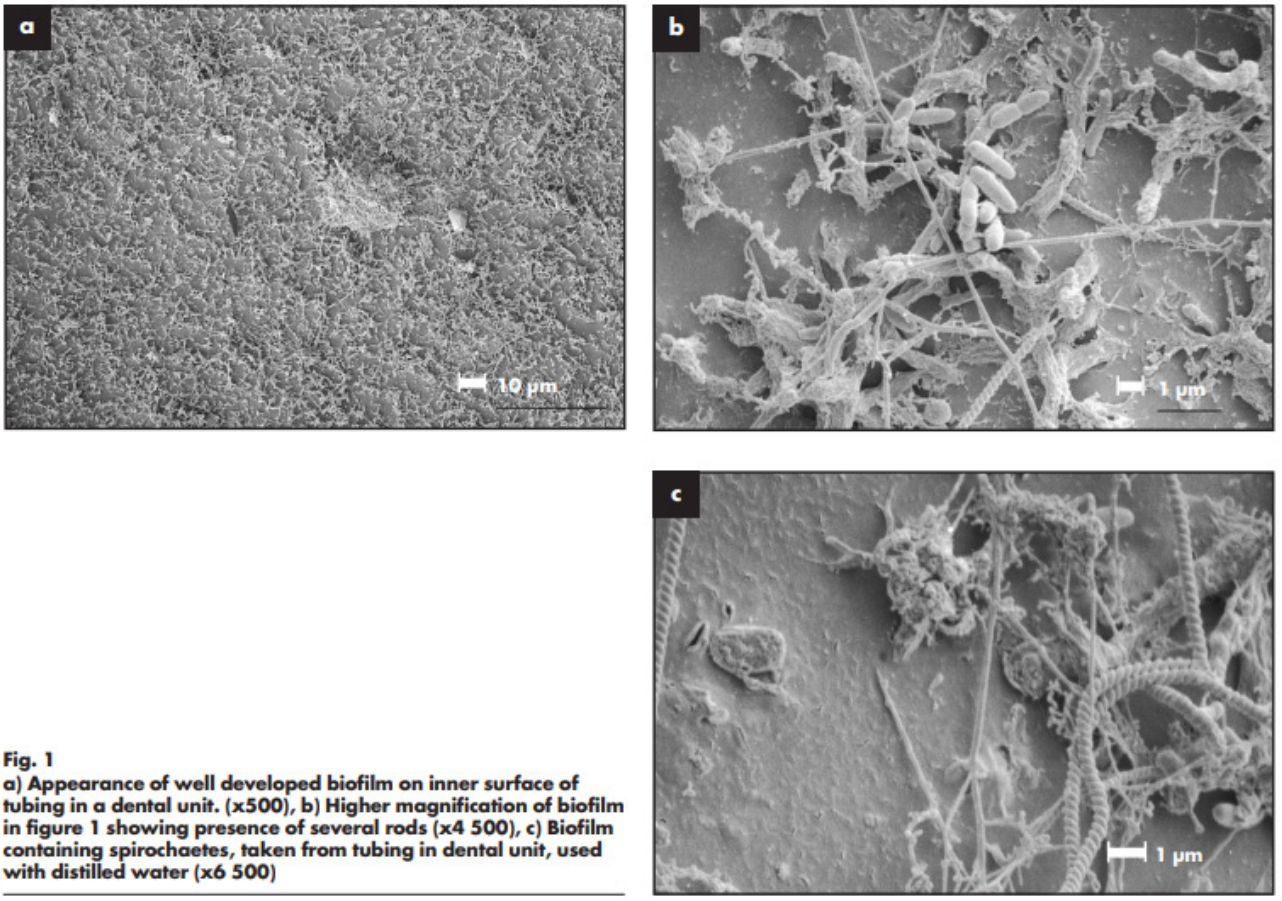

Fig. 1
a) Appearance of well developed biofilm on inner surface of tubing in a dental unit. (x500), b) Higher magnification of biofilm in figure 1 showing presence of several rods (x4 500), c) Biofilm containing spirochaetes, taken from tubing in dental unit, used with distilled water (x6 500)

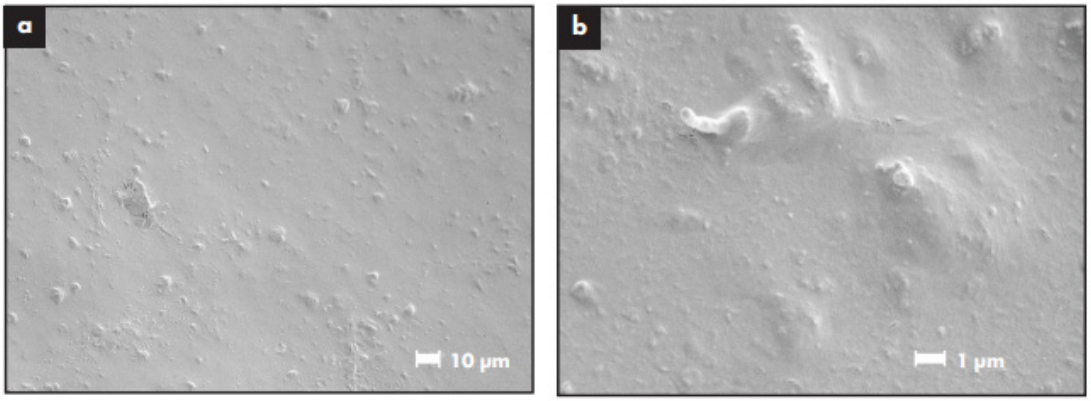

Fig. 2
a) Total removal of biofilm after five weeks exposure to electro-chemically activated water (x500), b) Higher magnification of area shown in a. Biofilm totally removed (x5000).

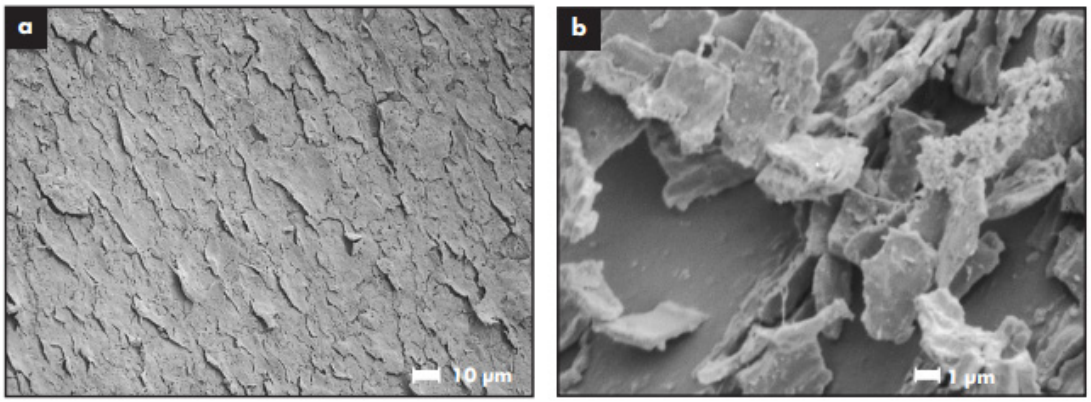

Fig. 3
a) Cracked biofilm after four weeks exposure to conventional disinfectants. At this time the water from these lines gave a bacterial count of 1 CFU/ml, suggesting that the biofilm is dead (x500), b) Higher magnification of area shown in a (x5000)