

Exposure to Common Oral Products Causes Cell Death to Human Oral Fibroblasts

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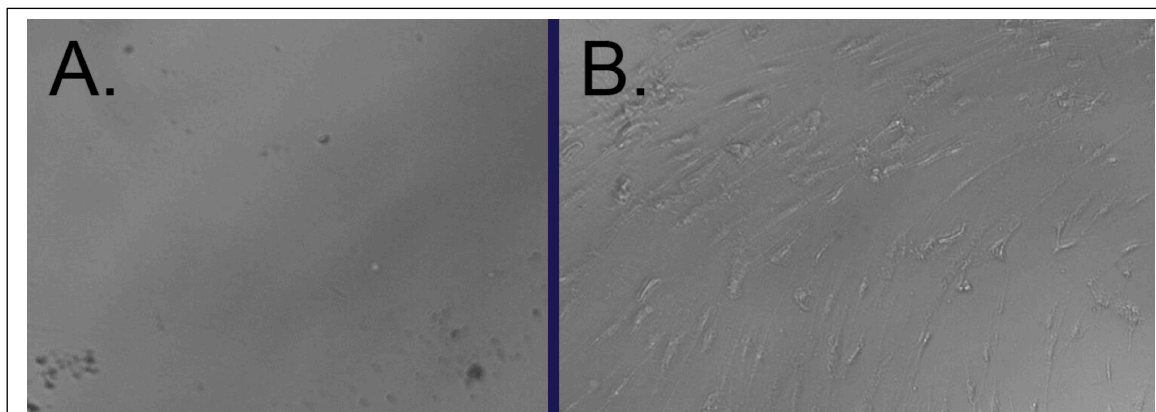
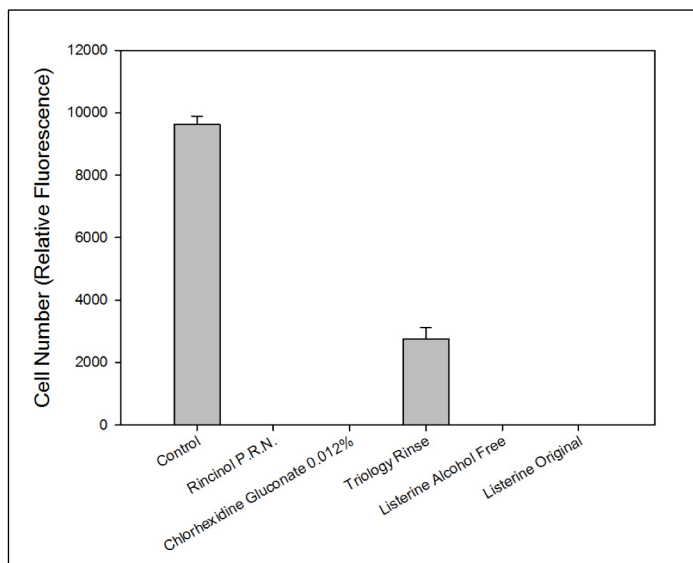


Figure 1

Antibacterial oral rinses or gels are designed to dampen bacterial growth or kill microorganisms in the mouth. However, when these compounds are used chronically, they may also affect the healthy gum cells, namely the keratinocytes and the oral fibroblasts. In this study, human oral fibroblasts were grown in culture for 1 week until they had reached 70% confluency. At that time, wells in triplicate were exposed to one of the following common oral rinses at 100% concentration for 30 seconds: Rincinol P.R.N., chlorhexidine gluconate (0.12%), Trilogy Rinse,



Listerine alcohol free, and Listerine original. Control wells had their media changed twice in a 30 second period, to mimic the physical forces of the media changes in the other product wells. At the end of 30 seconds each compound was thoroughly removed and media restored to the cells. Images of the fibroblasts were captured and cell counts completed. 48 hours later, images were again captured for cell counts, and in addition, the cells were exposed to

PrestoBlue cell viability reagents (Invitrogen) for cell counts via fluorescent readings using an Enspire microplate reader (Perkin Elmer).

Figure 1 shows examples of cell survival after exposure to chlorhexidine gluconate (Figure 1A) or Triology Rinse (Figure 1B). Cell counts via fluorescence emission were consistent with the manual cell counts from the images. Again, only the well exposed to Triology Rinse had any remaining cells 48 hours after the 30 second exposure (Figure 2). In summary, only Triology Rinse maintained cell health after a 30 second exposure.