**Objectives:** The aim of the study was to compare the short term effectiveness of a new tooth bleaching system at removing tooth stain versus a commercially available whitening toothpaste. **Methods:** A randomized, parallel group, examiner-blind, placebo controlled study was undertaken requiring subjects to use their assigned products according to the manufacturer's instructions for 2 weeks. Participants were systemically healthy, with non-carious, non–restored anterior teeth. A total of 76 subjects were randomised to one of the following treatment groups: 19% sodium percarbonate bleaching film (Test product - Crest® Night Effects™), Placebo (negative control) or currently marketed whitening toothpaste (Colgate® Sensation Whitening). Study groups were balanced for smoking and baseline tooth colour values. At baseline, 7 and 14 days of treatment, oral soft tissue examinations and L*a*b* assessments of tooth stain were performed. Stain removal efficacy was determined by comparing changes in tooth yellowness and brightness as expressed by delta b and delta L respectively. Treatment comparisons were made using analysis of covariance. **Results:** Adjusting for baseline tooth color, the test group experienced a statistically significant greater reduction in b* (delta b -0.75 at day 7, -1.17 at day 14) compared to the whitening toothpaste (delta b 0.02 at day 7, -0.10 at day 14), p < 0.0001. Also a significant increase in tooth brightness was observed for the test group (delta L 0.74 at day 7, 0.54 at day 14) as compared to the whitening toothpaste (delta L 0.02 at day 7, -0.10 at day 14), p < 0.0001. Analysis of covariance. **Conclusions:** In the short term Crest® Night Effects™ delivers a significant stain removal benefit versus negative control and a currently marketed whitening toothpaste. Furthermore there were no observed differences in effect between the whitening toothpaste and placebo control.