Enamel weakened by teeth whitening
US study has found that bleaching teeth at home has side effects

From news reports

New research has shown that human teeth can lose some enamel hardness following the application of teeth whitening products used in the home. According to lead author Sheeran Azer, Assistant Professor of Restorative and Prosthetic Dentistry at Ohio State University in the US, the average loss of enamel ranged from 1.2 to 2 nanometres on the treated teeth. Tooth bleaching products contain solutions of varying strengths of either hydrogen peroxide or carbamide peroxide, which produce free radicals that attack pigment molecules in the organic parts of enamel, to provide the whitening effect.

Several studies have sought to determine the effect of tooth whitening on tooth enamel hardness but results have been inconclusive, Azer said. He added that previous studies measured the loss of enamel hardness in microns, or millionths of a metre, while he used a nanometre scale in his study.

In his research, he used whitening strips and trays filled with whitening gel on extracted molars, as well as an atomic force microscope to observe the tiny nanometre-scale effects on the teeth. The reduction in hardness and elastic modulus amongst the different products was largely similar. However, there was a significant difference between one strip treatment method and one tray method, with the tray method reducing enamel hardness more significantly than the strip treatment.

Although the study did not address methods of restoring hardness to bleached teeth, Azer noted that extensive research has indicated that fluoride treatments, including the use of fluoride toothpaste, can promote enamel remineralisation. He suggested that, based on the study, future generations of tooth whitening products be re-formulated in an effort to reduce these side effects.

Malaysia starts oral health campaign

The Malaysian Dental Association has started a new campaign with Colgate-Palmolive to improve oral health among Malaysians. The campaign, in its sixth consecutive year, will provide free dental check-ups for at least 500,000 people at over 560 dental clinics and at road shows nationwide. Colgate will also be giving out free oral-care product samples at the various road shows, in-store venues and dental clinics throughout the month-long campaign.

Enamel is the hardest structure in the human body. Tooth whitening products may weaken this natural barrier.

(DT/Phto bg_knight)