

Tooth Whitening: Caveat Emptor

The popularity of tooth whitening is greater than ever before. A few years ago, you might have stumbled across a small advertisement in a magazine like Vogue or Cosmopolitan. Today, you can't open any magazine without reading numerous ads on whitening systems. The desire for whiter teeth, and the availability of both dentist-supervised systems (in-office and at-home) and over-the-counter whitening systems, can be confusing for patients regarding the best choice.

When deciding to whiten your teeth, it is important to investigate all your options. For years, the only option was dentist-supervised "at-home" bleaching. Your dentist provided custom-fitted trays and a 10% carbamide peroxide solution to be expressed into the trays and placed on the teeth. Treatment time lasted about an hour, and you repeated this process until you achieved your desired whiteness. Believe it or not, this is still the safest and most effective method. It provides the best ultimate result, with possibly the longest duration, and is easiest for most patients.

In-Office Whitening

Higher concentrations of carbamide peroxide (16% and 22%), have become more popular since patients see results quicker. They do, however, produce more sensitivity and the teeth tend to rebound to their darker shade. Additionally, these higher concentrations do not appreciably alter the treatment time. In-office options of very high carbamide peroxide concentrations (35%) still require between two and six visits to reach optimum whiteness, and additional home bleaching is often required to stabilize the desired color.

OTC whitening

Over-the-counter (OTC) products achieve some degree of lightening, but are not as safe and many contain acid which abrades the enamel. One system called Rapid White® includes a sodium bicarbonate rinse for the patient to neutralize their oral pH after using the acidic bleach. Moreover, without a dentist-made custom-fitted tray, several problems can occur. There can be a loss of efficacy if the bleaching material is not properly contained in the tray. In other words, a lot of material is wasted if proper tooth reservoirs are not created into the trays. Proper reservoirs can not be accomplished with a tray system that is created by simply heating the plastic and molding it to your teeth. Ill-fitting trays can potentially lead to an increased risk of temporomandibular (TMJ) problems, bite discrepancies, or even orthodontic movement of the teeth.

The active ingredient in many OTC bleaches is hydrogen peroxide, an unstable tooth whitener. Although hydrogen peroxide and carbamide peroxide (the safer form) act similarly, the former has a much shorter shelf-life and can possibly contribute to free radical formation, a precursor to cancer. Tray-less systems like Crest WhiteStrips® contain hydrogen peroxide and cover only the front six teeth. Whitening toothpastes, which have recently enjoyed the spotlight, are basically useless. Their mechanism of action is abrasion and do little more than remove superficial stains

Laser and Light Whitening

In-office laser / light whitening has also become very popular in the past year. In fact, the television show “Extreme Makeovers” routinely shows a dentist miraculously whitening discolored teeth of eager patients in minutes! What they don’t show you is the rebound nearly everyone experiences only days after the procedure. Although the laser light does whiten the teeth, its action is short-lived. Furthermore, we do not know enough about the potential nerve damage lasers can cause in the process. One research article described how the laser created holes clean-through the workbench upon which the extracted teeth in the experiments were resting. The curious and frightening thing is that no visible changes to the teeth were noted.

Affordable Kits

The rise of OTC whitening systems is largely due to the high expense of dentist-supervised systems. Why pay \$400 - \$500 for a bleach kit when you can purchase one at your local drug store for \$30? It is understandable why one would be attracted to this less expensive option. There is no doubt that OTC kits can indeed produce results in some people. Those without decay, white composite fillings, or root-canaled teeth may enjoy some degree of success. Others need to understand, however, why some teeth may not whiten with these methods. Talk to your dentist about all options to find the one that is best for you.