

## Problem Solvers 36 Bleaching Your Teeth

Synonyms: Whitening, dental bleaching, white strips, Zoom, laser bleaching, mouthguard whitening.

With many people enjoying their daily Starbucks and consuming red wine in increasing numbers there is a strong desire for people to regain the white teeth of their youth. Dental bleaching is a treatment that is safe, effective and can help people achieve whiter teeth in a short time.

The concept of bleaching has been around for over 50 years with people trying all types of home remedies to brighten their smile. Recent advances in technology have led to many different products that will help achieve a whiter smile.

The medicines used for whitening are primarily carbamide peroxide and hydrogen peroxide that are mixed with various gels or liquids or toothpastes to help bubble away extrinsic stain.

The type of stain will determine the success of bleaching. Colors of teeth that are gray or brown will be harder to whiten than yellow appearing teeth. The color of the tooth represents the reason for the stain. If the teeth are gray or dark or have bands they may be tetracycline stains due to the mother ingesting antibiotics while the enamel of their baby was forming. Other drugs have also been found to create changes in the color and formation of the enamel coverings of teeth.

Whitening can be performed in several ways and it is important to see your dentist for a thorough exam and x-ray evaluation to make sure that the teeth are healthy and there are no cavities that could become irritated by the bleaching solutions. Many whitening centers have offered bleaching and there have been numerous law suits to stop this procedure as dentists feel that to have non-dental personnel perform whitening without an examination is practicing dentistry without a license and should be banned. Since it has not been limited legally yet, it is important for anyone seeking these services by a non-dentist, to have a check up and examination to rule out any pathology.

What types of whitening are there?

- Mouthguard whitening: This is when custom trays are fabricated that will seal the whitening solution on the front surfaces of the teeth for a directed period of time. Usually this will take 3-4 weeks of daily wear to achieve a multiple shade improvement.
- In Office whitening: These treatments usually involve painting a liquid barrier on to the patients' gums to prevent the bleaching solution from burning or irritating the gums. Then a light or laser is moved close to the teeth to accelerate the whitening process. Multiple shades of improvement are usually achieved in an hour and a half visit.

- Super deep whitening: This is a combination of 1-2 in office bleaching sessions with mouthguard whitening occurring in between the office visits. The theory behind this more labor and cost intensive treatment is that the slow and gradual removal of stain can allow the whitening process to proceed deeper within the pores of the tooth achieving the whitest color possible.

How does bleaching work?

The enamel crystals in a tooth are the hardest substance in the body. There are very hard enamel rods and below the enamel are tubules or pores that reach to the nerve of a tooth. When solutions that are acidic are in contact with the enamel matrix, pores are opened and the oxidizing properties of the hydrogen or carbamide peroxide will oxidize any organic debris in the tubules of the tooth. This allows the stain to be dissolved and cleaned the way peroxide works on countertops to remove debris and stain.

Do lasers work better than the lights for achieving whiter teeth?

While there are a few studies that have attempted to show the lights or lasers improve the speed or quality of whitening, literature reviews have shown that they are of minimal value to the whitening process. They certainly look impressive but the heat of the lights or lasers may act to dehydrate the tooth and give them the illusion of being lighter at the end of treatment. People need to realize that as the water re-enters the tooth they may get a bit darker due to pull back, after the in office whitening procedure. There are dentists that feel the lights do improve the bleaching process so it is inevitably up to their philosophy of care.

There are mouth rinses and toothpastes that claim to whiten teeth, do these work?

Any product that is put in the mouth for a very short time will not have the whitening ingredients in contact with the enamel long enough to create deep changes. That being said, the use of these rinses and toothpastes may work after a professional whitening session to help stain from re-accumulating on the teeth.

Does mouthguard whitening work as well as the Whitening with a light?

Yes! The use of tray whitening will take longer but will produce the same results over time that you would achieve with an in office session. This assumes that you will consistently and regularly use the trays as directed and not skip sessions!

My dentist made me trays even with the in-office whitening, is this because it doesn't work that great?

No, the trays that are often made are to be used to continue the whitening process so that at the end of the in office session you may go even whiter than what was achieved at this visit. As well, in some offices, you may continue to purchase refills at a decreased cost as long as you are a current patient of record. That encourages people to allow the dentist to monitor your overall dental health. You may wish to touch up the whitening once or twice a year depending upon the types of food you eat and the rate at which your teeth pick up stains.

Will my teeth hurt after bleaching?

They may hurt or be sensitive after whitening. Some offices start their patients on a fluoride or fluoride containing gel prior to the whitening appointment to help decrease sensitivity. The whitening process can result in sensitive teeth, “zingers” which feel like little jolts of electricity when you suck in air, or slight aches in the teeth. It is important to discuss this with your dentist prior to your whitening session. The sensitivity will usually subside completely a day or two after the whitening has been discontinued. Mild analgesics like Tylenol or Advil may help with postoperative discomfort.

I had my teeth whitened and had white blotches appear on my teeth, what are these?

As teeth are dehydrated during whitening, there are different enamel colorations that may appear that are present in deeper enamel layers. These are called hypocalcifications and they are normal. The hydrating of your teeth with saliva later will mask these spots. Over time the whitening process will deepen and these colors will help achieve a whiter look to your teeth.

I have bad tetracycline stained teeth and was told by my dentist that whitening won't work. Will deep bleaching help?

While there are never any guarantees in dentistry, there are studies that have shown that severe tetracycline stains can be greatly reduced and possibly eliminated with prolonged bleaching over a several month period. Many people have tried whitening for a week or two and become discouraged. It may be possible to achieve great improvements but it can take 3-6 months of consistent effort. Then if the color desired has not been attained, veneers can still be thinner as less masking needs to be built in to the porcelain shells to hide the darker dentinal colors.

I had one dark tooth and the doctor said we could bleach it, is this the same type of procedure?

When a tooth dies (non-vital), the blood vessel may explode into the tooth causing blood to get into the pores of the dentin. In these instances there are procedures for internal whitening that will help eliminate the stain from inside the tooth.

How is this non-vital bleaching performed?

When a tooth dies it requires a root canal to remove the residual dead nerve and blood vessels. Once this is completed, the root canal system is sealed with a glass ionomer cement or filling and the pulp chamber (main nerve chamber in the tooth) can be filled with bleaching solution for a period of weeks to remove the stain. This bleaching material is placed and the hole is filled with a temporary filling. The bleaching solution is refreshed weekly until the color of the adjacent tooth is matched. It is usually advisable to “over-bleach” to accommodate any pull back in color that will occur post whitening. Once the desired color is achieved, the tooth will be flushed and clean for 2 weeks prior to putting in a final filling. That is because the bleaching solution can weaken the bond of your filling so all bleaching solution should be out of the tooth so the oxygen can dissipate and not interfere with the bonding that is to be done.

If I want to do this non-vital whitening but also want to whiten the other teeth can it be done at the same time?

Yes, the hole in the tooth can be left open(it is sealed) and a mouthguard tray can introduce bleaching solution to the external surfaces of the teeth and some can be injected directly into the tooth-then the tray is worn to hold it all in place. When not being bleached, wax can be put in the hole to prevent food from getting into the tooth.

Richard B. Winter D.D.S.M.A.G.D.D.I.C.O.I.  
Master Academy of General Dentistry  
Diplomate International Congress of Oral Implantologists  
[WWW.WINTERDENTAL.COM](http://WWW.WINTERDENTAL.COM)