

Hydrogen Peroxide vs. Carbamide Peroxide for Internal Bleaching

A discussion among dental professionals on the message boards of Dentaltown.com. What works better for internal bleaching: hydrogen peroxide or carbamide peroxide? What protocols do you use? Log on today to participate in this discussion and thousands more.

joshuarubin

Posted: 6/4/2007 ■ Post: 1 of 16
Total Posts: 62

Is there a difference in hydrogen peroxide vs. carbamide peroxide in their usage for internal bleaching? ■

Rod

Posted: 6/8/2007
Post: 2 of 16
Total Posts: 8,088



Hydrogen peroxide will liberate oxygen much faster than carbamide peroxide.

If you've not prepared the chamber properly, and you've not blocked the tubules that will terminate subgingivally, then the aggressive liberation of the hydrogen peroxide can be more dangerous. On the other hand, the carbamide will be much slower.

Typically, you'd want to use hydrogen peroxide because of the chair time, but you really do need to prepare the chamber properly so that you don't stimulate external resorption. ■ **Rod Kurthy**

drance

Posted: 6/8/2007
Post: 3 of 16
Total Posts: 1,943



Rod, could you run through your internal bleaching protocol please? ■ **Michael Drance**

Rod

Posted: 6/9/2007
Post: 5 of 16
Total Posts: 8,088



When discussing heating the hydrogen peroxide, one risk we don't have to worry about is pulpal damage from heat, because there is no pulp on these endodontically treated teeth. And obviously we don't want to cook the tooth too much either.

Hydrogen peroxide will be driven right into the dentinal tubules from within the chamber. When this peroxide is driven through the dentinal tubules and out the side of the root subgingivally, it can stimulate external root resorption. Not something that we'd want to have happen. So be careful.

Clean out the chamber well and down into the root canal a couple millimeters. Next, fill that root canal with glass ionomer.

Why glass ionomer? We really need to thoroughly seal that root canal filling against penetration by the hydrogen peroxide. If we use bonding agents and composite, the bonding agent will likely get all over the entire pulp chamber. This would prevent proper penetration into that dentin by the bleaching gel – so after placement of the composite, we'd again have to freshen up the surface of the chamber. Also, composites have polymerization shrinkage. If you lose a little of your bond due to the shrinkage stresses, then you don't have a good seal. Glass ionomer not only does

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not shrink, but actually has slight expansion upon setting and, of course it's self-adhesive. So it's just a bit easier and maybe more effective in its seal.

Next, and very importantly, keep in mind that the dentinal tubules travel slightly apically when going from the pulp to the outer tooth surface. So, if you seal the inside of the tooth with glass ionomer at the level of the gingival margin, the hydrogen peroxide will actually travel outward and slightly apically, and exit subgingivally. So it's best to seal the internal of the tooth slightly coronal to the gingival margin.

With just a little care, this can be a very safe and very effective procedure.

Here are a few more considerations: You need to know if the patient wants to bleach his or her entire smile before you make any decisions. I let the patient know that if he would ever want to bleach, he'd better consider it now, before we tackle this single dark tooth problem.

You select a bleaching technique. Obviously, Deep Bleaching will get you the best result. So you first bleach from the outside. Once you're done with bleaching externally, then you turn your attention to the single dark tooth. By this time, especially if you've used Deep Bleaching, that dark tooth will have caught up somewhat to the color of the adjacent teeth. So now you then finish off with your internal bleaching. Easy does it. You could take this darker tooth lighter than the surrounding teeth. So you basically titrate the color.

You can choose to do a walking bleach by sealing your bleaching mixture inside the canal, but I find this is very difficult to do, because it's difficult to properly seal, yet not cover the internal dentin in some places.

So personally I like to place some sort of hydrogen peroxide (not carbamide) gel in the chamber. A gel is more easily controlled than a low viscosity hydrogen peroxide. You can then heat it a little with a diode laser (with an uninitiated tip), or just simply a mildly hot instrument – just don't overdo it.

You'll take the tooth just a little lighter than the surrounding teeth and reseal it. Over the next few days the color will lose some of its lightness and you may want to titrate a little more.

If you were to internally bleach first and then do your external bleaching, it could work out that you've bleached the internal a bit too much, and end up with a tooth that's actually lighter than the rest of the teeth. ■ Rod Kurthy

ski_bum

Posted: 6/9/2007 ■ Post: 6 of 16 ■ Total Posts: 8

So is the increased time of carbamide its main downfall or are there other disadvantages? ■

Rod

Posted: 6/11/2007

Post: 7 of 16

Total Posts: 8,088



Actually, depending on the particular situation, slower release can be a huge benefit, such as when dealing with Deep Bleaching Trays. So different materials for different situations.

If you wanted a faster release, you could use a straight hydrogen peroxide, or could even use carbamide with a chemical accelerator (such as in a dual barrel syringe) or for fastest release, a hydrogen peroxide that is chemically accelerated.

So no, carbamide really has no disadvantage other than its slower release of oxygen – and that is only considered a disadvantage in situations where you specifically want a fast release. ■ Rod Kurthy

DrillFill\$Bill

Posted: 7/25/2007
Post: 11 of 16
Total Posts: 12

Hey Rod, thanks for that clarification. What is the process of Deep Bleaching? I'm not very familiar. We do the in-office one hour bleaching with the Den-Mat Sapphire Light and bleaching solution. Charge about \$450. It's not the best results that I've seen. Some go a few shades but not much different than take home bleaching. Is the deep bleaching really that effective without damaging the teeth? Thanks Rod. ■

Rod

Posted: 7/26/2007
Post: 12 of 16
Total Posts: 8,088



Deep Bleaching is not a product -- it's a technique. You could use the same system you said you have right now with the Deep Bleaching Technique. You hear many talking about the product system that I have developed, and you can use those also. The bleach is selected specifically to have the proper physical properties of viscosity and solubility to work best with Deep Bleaching, and there is a whitening conditioner that makes the whitening more effective and desensitizers, etc. But the bottom line is that you can still use whatever you're using now also.

Deep Bleaching is a very specific technique of bleaching, and it must be followed to every detail -- it's not difficult, but it is precise as far as following directions. The overview is that there is an in-office visit that I refer to as the "conditioning" visit, 14 nights of at-home wear of the very specific Deep Bleaching Trays (28 nights for tetracycline cases), and then a final in-office visit. The final visit can be done with two different concentration products, depending on the particular patient or depending on what you feel will work best in your practice.

So you've got to charge for this. If you don't feel you can charge enough, then don't bother doing it. When performed properly and when the bleaching products are 100 percent fresh (never exposed to any heat whatsoever), you can inform your patients that Deep Bleaching is the most effective bleaching technique ever developed, it is 100 percent permanent with some easy occasional at-home maintenance, they will not have to restrict their consumption of red wine, coffee, tea, etc., and when using our products, there is most frequently no sensitivity, and when there is, it's only approximately 10 percent of what they'd have felt otherwise.

Point is that since they can still eat/drink anything they want, and the whiteness will be forever, they look at this as an investment instead of a frivolous expense, but...there are still areas in the country where the income is very low, and this might not fly. ■ Rod Kurthy

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