



DENTISTRY BY
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ALL YOU NEED TO KNOW ABOUT TOOTH WHITENING – The ‘BOTTOM LINE’

Dr Van Haywood is a professor at the medical College of Georgia, USA. He is a member of numerous organisations including the American Dental Association, The American Academy of Cosmetic Dentistry and the International Association of Dental Research. In 1989 he co –authored the world’s first publication on at-home tray bleaching using 10% carbamide, peroxide, which formally introduced whitening teeth (bleaching) to dentistry.

Van Haywood recently examined all the aspects of bleaching, including the effects on white fillings, safety and sensitivity and found the following:

There are three ways to whiten teeth:

- In-office power whitening
- Tray bleaching (called night guard vital bleaching)
- Over-the-counter (OTC) products

Within each of the above there are variations in the way they are done, the type and concentrations of materials used, the way the tissues around the teeth (gums, tongue etc) are protected and the time it takes to complete the treatment.

EXAMINATION FOR BLEACHING:

No whitening treatment should be done without a proper dental examination which generally includes x-rays and determines a diagnosis for the cause of the discoloration of the teeth.’ Dentistry by Paula Richardson’ thus offers a free whitening consultation.

There could be underlying problems that are darkening teeth and unless these are diagnosed by a dentist, bleaching will mask the problem and it may go undetected for longer than it should causing consequential problems.

HOW WHITE WILL MY TEETH GO AND HOW LONG WILL IT TAKE?

All teeth do not reach the same whiteness. Each tooth has its own maximum whiteness beyond which it will not whiten, regardless of the way the whitening is done or the material used to do it.

Teeth will whiten at different rates from person to person. Some will whiten in a matter of days or even a single visit while others may take 2-6 weeks or a number of in-office visits and even months in cases such as teeth darkened by tetracycline staining.

Peroxide will go through the tooth in 5-15 minutes and change the genetic colour of the tooth substances dentine and enamel, as well as removing stains.

Fillings in teeth and crowns, veneers etc on teeth will not change colour when whitening so these will have to be replaced when the procedure has been complete and the colour has been allowed to stabilise (allow at least 2 weeks for the latter. This time also allows the new restorations to bond better).

White spots on teeth do not bleach but may be less noticeable if the background colour of the tooth is lightened to reduce the contrast. They may become splotchy and more noticeable at first but generally return to baseline so bleaching should be continued until the background tooth reached maximum lightness.

MATERIAL USED TO WHITEN:

Hydrogen peroxide (HP) is different from carbamide peroxide (CP) in composition, concentration (10% CP peroxide has 3.5% HP) and time of activity. HP products are active for 30 -60 minutes and CP once for two –ten hours, which favour longer wear times, especially overnight.

CP products neutralise acids as they increase the PH of the mouth, they reduce plaque and kill bacteria that cause tooth decay i.e. they are good for more than just whitening teeth.

People using higher concentrations of HP in the product get greater sensitivity, greater colour relapse after stopping bleaching, and need to wait longer before replacing old restorations that no longer match the colour of their teeth.

THE EVENTUAL OUTCOME OF WHITENING IS THE SAME REGARDLESS OF THE MATERIAL IF THE TIME IS EXTENDED LONG ENOUGH, AS THE OUTCOME IS DETERMINED BY THE TOOTH NOT THE PRODUCT.

TREATMENT TIMES FOR TRAY BLEACHING:

Normal teeth take 3 days -6 weeks depending on the tooth response rather than the product used.

Smoke (nicotine) stained teeth take 1-3 months of nightly bleaching with 10% CP and Tetracycline stained teeth take 1-12 months (average 3-4months).

SAFETY:

Enamel is not significantly affected by low concentrations of bleaching material when compared to a normal diet and other treatments. Higher concentrations of HP may have some minor affects on dentine.

Review articles in the USA and Europe of all safety papers published on bleaching have determined that low concentrations of peroxide are safe to use after a proper dental examination and do not cause cancer.

Use of CHLORINE DIOXIDE as a bleaching agent has not been scientifically established to be either safe or effective.

AGE FOR WHITEING:

Generally people are candidates for this when ten years or older.

Older patient's teeth bleach well. Dr Haywood's experience is that patients older than 45 generally appear ten years younger with whiter teeth and patients look most natural when the whiteness of their eyes matches that of their teeth (a guideline for how white your teeth can go).

SENSITIVITY:

This is the most common side effect of whitening. It may be treated actively by using a desensitising material in the bleaching tray for 10m -30 minutes when needed, or passively by reducing the frequency and duration of application

Gum sensitivity is more likely with higher concentrations of peroxide, due to tray irritations that require easing, overfilling the trays and are more common in people who are sensitive to other things.

IN-OFFICE BLEACHING:

One such treatment does not yield the same outcome as tray bleaching. The average is 3 in-office treatments for maximum outcome or combining it with home whitening in trays to complete the process.

There is an immediate relapse in colour in 1-2 weeks that must be followed either by another in-office treatment or tray application.

The combination treatment will shorten the time.

OTC PRODUCTS:

There is a wide variety available. Some will work and others have no effect on colour at all but merely remove stains. The main concern is the lack of a good dental examination before proceeding which could lead to more serious problems.

SUMMARY:

The end result will be the same if you do an average of 3 in-office treatments (at least a week apart) or whitening in trays for 1-3 weeks (on average) or one in-office whitening combined with an average of 5-12 nights of home whitening. The length will vary from person to person as it depends on the teeth not the material used.

ALL TREATMENT CHOICES SHOULD EVENTUALLY ACHIEVE MAXIMUM WHITENESS ALLOWED BY THE TOOTH GIVEN ENOUGH TIME.

A 10% CP treatment in a custom made tray is generally the safest most cost efficient, best researched whitening treatment available, but not the fastest. Combination treatments will speed up the process and in-office ones alone would be the most costly.

INVESTMENT IN A WHITER SMILE:**In Surgery:**

Zoom - £360

Trays - £130

Gel - £ 25 per syringe £60 for a pack of 3

Home Whitening:

Trays and 6 tubes of gel - £400