

# THE “UNBLEACHABLE” DISCOLORATIONS

## TRUTH VS MYTH



### Introduction

Treating tetracycline stains is one of the biggest challenge for a dentist who deals with esthetics. The main side effect of this antibiotics during pregnancy is a deposition in the dentin of a developing tooth as calcification of a fluorescent pigment.

At the time of the eruption, the dentin of these teeth show a brown to gray discoloration, and, consequently, aesthetic discomfort of the patients suffering from it.

Looking to the past, the traditional approach was based on “subtractive” techniques aimed at covering the most severe discolorations after removing the overlying enamel. However we should think conservative for many reasons, but mainly as, although veneers are a simple and efficient solution, satisfactory results are only achieved with adequate thickness, meaning too prominent veneers, or preparations deep in dentin.

So the question is...do we really need to touch sound enamel?



Fig.1

In 2020 a patient came to my office asking to improve the appearance of the severe tetracycline-induced dyschromia she suffered from. I first took a picture using a VITA shadeguide.

According to Jordan and Boksman's classification, prognosis of the bleaching was poor, but anyway I choose this procedure as the safest, cheapest and less invasive one.

If the bleaching did not show significant success, it would still be preparatory to a rehabilitation with indirect restorations in order to have a lighter substrate.



Fig.2

Polarized picture of discolored teeth. A polarized photo can be of great help from a diagnostic point of view to better frame the issue.

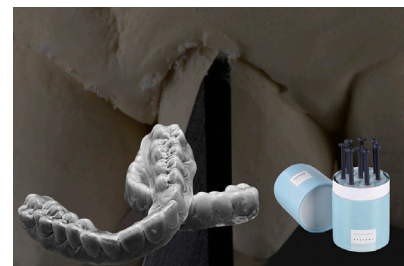


Fig.3

Model trimming for the fabrication of bleaching trays. First of all, alginate impressions were taken. Models were worked using a surgical blade to deepen the sulcus, to better follow the contour of the gingiva and avoid contact of the material with soft tissues. A 1 mm soft tray material was used to fabricate a custom-fit tray without placing any reservoir. Tray has to cover almost 3 mm of keratinized tissue. The particular consistency of this bleaching gel and a perfect custom-tray fit allow to avoid dilution of the material in the cervical area by saliva or bleaching gel leakage that could cause hypersensitivity.

The patient was instructed to putting a drop of bleaching gel the size of half a rice grain for each tooth in the tray. In this case, a 10% Carbamide Peroxide gel (White Dental Beauty) was chosen to be applied overnight, 6 days a week for 5 months. An appointment every 30 days was arranged and a 3mL syringe of bleaching product delivered to the patient.

# WHITENING SOLUTIONS



Fig.4  
Initial situation



Fig.5  
1 month bleaching.



Fig.6  
2 months bleaching.



Fig.7  
4 months bleaching



Fig.8  
5 months bleaching.



Fig.9  
7 months and 2 weeks (after 2 months of lockdown) with 10% carbamide peroxide.



Fig.10  
Dark teeth after bleaching for many months 8 months of which 2 weeks with 16% carbamide peroxide (White Dental Beauty).



Fig.11  
Final result after 8 months and 2 weeks (and oral hygiene). 16% carbamide peroxide gel was applied for the last 30 days just to boost the bleaching effect.

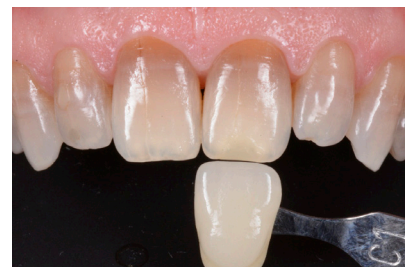
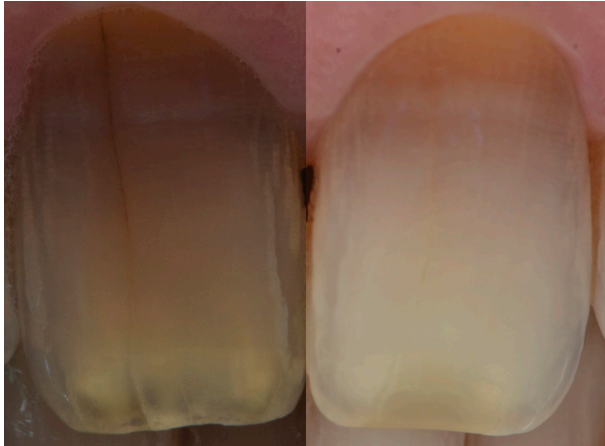


Fig.12  
An evident esthetic improvement was achieved without preparing teeth for veneers. Could we have done better? Absolutely. Yet, as the aim, when treating patients, is to satisfy them completely, in this case we really reached our goal.



[Fig.13] Details from the polarized picture after finishing the treatment.



[Fig.14] Before and after with polarized pictures.

### Conclusion

No sensitivity has been reported. A deep bleaching effect has been achieved with a very small amount of low concentration product placed in contact with enamel surfaces for a long time.

This whitening compound contains hydrogen peroxide, urea and sodium tripolyphosphate and produces a pH jump into the alkaline pH range upon application, reducing the risk of sensitivity.

Be careful when you choose your bleaching system: lower the PH of the product higher the sensitivity.

Be sure to choose the right patient though. A 9 months treatment need a high level of compliance.

Anyway a mild relapse (as you can see in the picture above) of the tooth shade at 9 months was observed compared with the immediate post-bleaching result.

Just tell your patient that nothing is forever in dentistry (except extraction, obviously).



### Dr. Alessandro Martini Biography

Graduated from Universidad Alfonso X el Sabio in Madrid.

Passionate about aesthetic and functional restorative dentistry and runs a successful private practice in Verona.

Since graduation Dr Martini has perfected his surgical skills by completing several annual courses including the Specialization in Oral Surgery, in Periodontology, and a II Level Master in Osteointegrated Implantology, for which he currently holds the clinical tutor.

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