Active care bleach: infiltrate and restore

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Case details

Bleaching is no longer a vanity procedure. For many years, the benefits of non-invasive techniques have been proven to deliver amazing results, when the indications are followed correctly. The use of bleaching therapy to diminish and treat white spots is not without controversy, being rejected by some but adopted by many others.

The infiltration technique has been widely proven to eliminate unsightly enamel spots, if the depth is correctly evaluated and the indications are followed correctly; for example, in deep lesions, infiltration used in isolation is likely to be ineffective.

In the author's experience, bleaching of white and amber spots before treatment has been a winning strategy and the following points have been noted:

1. Amber spots. Generally, these turn into white spots, which are more susceptible to the acid treatment of infiltration therapy
2. White spots. Two phenomena happen in these cases. The first is a reduction in opacity due to a balance in the refraction index of the disarranged prisms. The second is that little or no bleaching occurs to the white spot. This enables it to blend better due to the low contrast between the newly bleached surrounding tissues and the white spot itself.

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Figure 1: Initial evaluation of the patient, a 23-year-old woman, who was very dissatisfied with the present situation and the aggressive treatment option she had been recommended.

Figure 2: A cross-polarised picture is taken to better assess the extent of the lesion. Transillumination is used to estimate the depth of the lesion (not shown). It is decided to start a bleaching therapy to try and minimise the contrast between the spots and the tooth, and to bleach the amber spots

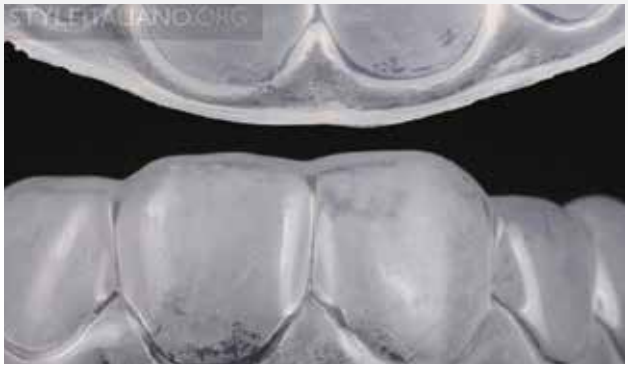

Figure 3: Bleaching trays must be extremely precise, cervical sealing must be perfect in order to keep the bleaching product in place and away from intraoral moisture

Figure 4: Fitting of the bleaching tray. The selected bleaching therapy was carbamide peroxide 10% for 20 days (White Dental Beauty, Optident) worn overnight. No sensitivity was reported; we are increasingly seeing this phenomenon with the new generation of products

Figure 5: After 20 days bleaching. Picture with lateral flashes

Figure 6: Cross-polarised image showing the latest situation. Some spots have vanished, the amber spots have turned white and other spots have softened in saturation

Figure 7: Adjacent comparison, note the amber spot

First-choice treatment

Bleaching should be a mandatory resource before stain treatment and restorative therapy. There is little awareness in the profession of the benefits of bleaching and some of the harmless side effects are also feared.

Infiltration therapy should be a first-choice treatment, together with bleaching for these cases. Icon Dry, which is used as a preview of the resin filtration after erosion, should be applied for two minutes to obtain proper visual assessment. Icon infiltration resin has to penetrate completely and a three-minute application is advised.

Figure 8: Mirror-like comparison

Figure 9: Mirror-like comparison of before bleaching (lower) and after (upper) with deep-view contrast

Figure 10: Post-bleaching evaluation, the patient starts treatment with resin infiltration. The first step is to isolate using rubber dam

Figure 11: 15% hydrochloric acid application for two minutes (Icon Etch, DMG, Germany). This step can be repeated up to four times. Increasing application frequency runs the risk of deeply eroding the teeth from intraoral moisture

Figure 12: Air drying, note how the spots become tremendously white

Figure 13: Treat with alcohol (Icon Dry, DMG, Germany). Manufacturer suggests a 30 second application of this agent. This is the result after 30 seconds

Figure 14: In the author's experience, this product applied for two minutes gives a better penetration and thus a better preview of the real outcome. At this stage, the clinician should decide whether to repeat the full erosion cycle or start the resin infiltration

Figure 15: Air drying of alcohol is very easy and, if the previous step was successful, infiltration can begin

Figure 16: Erosion is visible, especially when completing four cycles or more

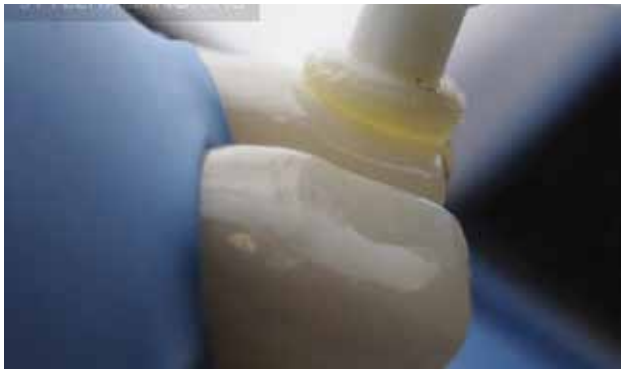

Figure 17: Resin infiltration. The resin has extremely low density and is solvent free and therefore able to penetrate as much as the alcohol. It is advisable to keep the lights low and allow the material to penetrate for about three minutes; failure to do so may result in an incomplete infiltration and a different result than the one obtained in the preview with Icon Dry

Figure 18: After infiltration, a small layer of enamel is placed to cover up the erosion caused during therapy

Figure 19: Polishing is mandatory with or without the use of a final composite layer

Figure 20: Final result after three weeks

Figure 21: Cross polarisation image shows a good result, which is not excellent, but not visible to the naked eye

Figure 22: Deep-view contrast of the final situation (increase in contrast, decrease in brightness of the digital image) helps in analysing the picture and allows a true assessment of the remaining lesions

Figure 23: Deep-view contrast of the initial situation dry

Figure 24: Mirror-like comparison of before (lower) and after (upper) treatment

Figure 25: A similar case was planned to be treated in the same way, but after 30 days bleaching, all the spots had disappeared (digital mock-up, right-hand side shows before the treatment, left-hand side shows after treatment)