Inside Dentistry
December 2017
Volume 13, Issue 12

Documenting Whitening Cases

Optimal photography requires consistent exposure settings, lighting

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Why is it mandatory to photograph bleaching cases? Patients and doctors forget what the teeth looked like before treatment, and before and after pictures (Figure 1 and Figure 2) can be invaluable for patient education, in marketing efforts, and as evidence should a dental malpractice situation arise. Dentists regularly use cameras to document the results of their treatments, so why should a special camera be acquired for bleaching cases? The answer to this is not as technical as some might think. Most digital cameras in use today (including smartphones) are used in an “automatic” mode. That means that the camera is determining many of the exposure settings for the operator. For example, when taking a photograph on a very bright, sunny day, the camera automatically adjusts to let in less light, which darkens the images recorded. Otherwise, the picture could appear “washed out.” Conversely, for an indoor picture in a darker room, the camera adjusts to let in more light, making the subject brighter and easier to see.

Fig. 1

Fig. 2

Although it is possible to override these automatic settings, and excellent photographers often personally adjust the exposure settings to fine-tune each picture, automatic settings

make it easier for the bulk of users to take reasonable photographs with no need for advanced picture-taking knowledge.

So, what does that mean for bleaching cases? If a patient has darker-shaded teeth, when taking a close-up oral photograph, most cameras set in automatic mode will adjust the light exposure accordingly to lighten the picture. This creates a more pleasing photograph, but it is not realistic. Then, when the after photograph is taken, the camera again automatically adjusts and darkens the picture because the teeth are now whiter and brighter. The result is that the before and after photographs show much less shade change than has actually been accomplished, and the soft-tissue background of the teeth will appear as different shades, as well. This lack of realism resulting from the “evening out” of the light exposures in the photographs makes the results of the bleaching treatment appear less successful to the observer, possibly reducing patient satisfaction. To avoid this situation and produce pictures that are truer to life, dentists should use a camera that is specifically designed to capture images of bleaching treatments.

Case Report

A patient presented to the office for whitening treatment. An initial, close-up (smile level) photograph was taken using the EyeSpecial C-II (Shofu, www.shofu.com) in “whitening mode” (Figure 3). Because it is consistent and does not allow for any adjustment of the lighting, taking all before, during, and after bleaching photographs in this same mode optimizes the appearance of the results of treatment. The decision to retract the lips should be based on whether or not the pictures will be used on a website. After acquiring the initial documentation, take-home tray bleaching utilizing 7.5% hydrogen peroxide with fluoride and potassium nitrate was initiated on the upper arch only. After the completion of 3 weeks of daily, half-hour bleaching applications, the patient returned for mid-treatment photographs (Figure 4). The mid-treatment photograph is a very powerful reinforcement of the change in shade resulting from the whitening process. By completing one arch at a time, the patient can constantly monitor the progress being made by comparison. This increases patient compliance, and patients who are more compliant get better results. Once satisfactory results were achieved with the upper-tray bleaching and the mid-treatment photographs were taken, the patient was given the lower tray with the same instructions to perform daily, half-hour bleaching applications. After another 3 weeks, both arches were complete, and the patient was called back in for final photographs (Figure 5).

Fig. 3

Fig. 4

Fig. 5

For even better documentation, additional photographs can be taken at each of these three times with the correct shade tab in place just below the incisal edge of the upper centrals. In shade tab pictures, the shade tab and the tooth should always be in the same plane relative to the camera, and the shade tab label must be visible (Figure 6).

Fig. 6

Because the camera will not adjust the level of light exposure, a more accurate record of what has been accomplished is generated. Furthermore, this technique is also excellent for improving shade communication with a dental laboratory and in documenting single tooth whitening cases (Figure 7 and Figure 8).

Fig. 7

Fig. 8

None of this would work if the camera did not have excellent optics and digital color capture, and because the camera has been preset in the whitening mode, the Eye Special C-II works just like an autofocus point-and-shoot camera. Turn it on, focus in on the smiling patient's teeth, and take the picture. Then download a perfect, correctly-lit, and accurate photograph of the subject for undeniable documentation.