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*Whiten*Up!

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At The Chair: A New System for Tooth Whitening: Less Time—Less Sensitivity Ross W. Nash, DDS

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A New System for Tooth Whitening:
Less Time—Less Sensitivity

Ross W. Nash, DDS
Founder
Nash Institute for Dental Learning
Charlotte, North Carolina
Phone: 704.364.5272
Email: rosswnashdds@aol.com
Web site: www.NashInstitute.com

Board Member
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Since the mid 1980s, I have been using whitening agents to lighten my patients' teeth. Early power bleaching techniques involved saturating cotton gauze pads with liquid peroxide solutions and placing them on the teeth for an hour at a time. The tissue was protected with a conventional rubber dam that was carefully ligated with dental tape to produce a seal. A special high intensity light was focused on the teeth for the hour during treatment in an attempt to accelerate the peroxide and increase the whitening effect. Extreme tooth sensitivity often resulted in many patients needing pain medication. The amount of tooth whitening achieved with this process was usually acceptable for most patients, except for those with tetracycline staining or similar intrinsic problems.

When take-home carbamide peroxide agents were introduced, many of my patients elected to try this alternative. Patients would wear the home bleaching trays for several hours per day for a few weeks at a time. The whitening results were similar to those from power bleaching, and tooth sensitivity still remained a problem for many. Pain medications were sometimes needed and some patients had to discontinue use for periods of time or reduce the amount of time they used the whitening agents to decrease this problem.

Many of my patients continued to request an in-office alternative for tooth whitening; several new systems that resulted in less tooth sensitivity were introduced for this purpose. I found that office treatment with peroxide solutions combined with home treatment with carbamide peroxide solutions gave my patients the best results. I usually recommend 2 office treatments 1 week apart and home bleaching between the 2 appointments. Home bleaching trays can then be used for touch-ups.

A New Technique

The process that I find works well involves the use of an aqueous chemical cleaner in conjunction with a whitening agent. During the last 6 months, my experience shows that I can decrease the time needed for both office and home processes to one-third of what was used in the past. The combination of the aqueous cleaner and the tooth whitening agent has reduced complaints of sensitivity to nearly zero.

According to the manufacturer of the aqueous cleaner it contains effervescent orally safe detergents and solvents that remove stains through a process similar to the way in which laundry pre-treaters work. The cleaner removes organic and inorganic stains and enables deep-penetrating hydration of teeth, which

increases the effectiveness of other agents and reduces dentin hypersensitivity resulting from dehydration.

The aqueous cleaner can be used alone to remove tough, deeply seated stains. Should a whitening treatment be added to lighten tooth stains, the cleaner can be applied 30 seconds before applying of the whitening agent.

The following case illustrates the technique I use and involves applying the aqueous cleaner before a peroxide office whitening gel. It also involves using the aqueous cleaner before placing a home tray with a carbamide peroxide solution used for the time between the power whitening appointments.

Office Whitening

The patient's lips, tongue, and cheeks were retracted with a plastic retractor (FastTrak, Spectrum Dental). After the gingiva was dried, a light-cured liquid dam material was applied (Fast Dam, Spectrum Dental) as seen in Figure 1. The liquid dam was light-cured for 10 seconds (Figure 2).

Once the tissue was isolated, an aqueous chemical cleaner (Whitening Stain Remover, GrinRx) was applied as seen in Figure 3. The solution was carried to place with a special swab dispenser that was used to scrub the teeth with the chemical for 30 seconds.

Without removing the liquid cleaner, a peroxide whitening agent

Figure 1—After the gingiva was dried, a light-cured liquid dam material was applied.

Figure 2—The liquid dam was light-cured for 10 seconds.

Figure 3—Once the tissue was isolated, an aqueous chemical cleaner (Whitening Stain Remover, GrinRx) was applied.

Figure 4—Whitening agent applied directly through the mixing tip.

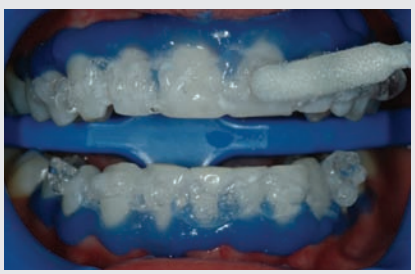

Figure 5—The swab from the aqueous cleaner was used to agitate and spread the whitening gel.

Figure 6—Whitening gel allowed to remain on the teeth for 7 minutes.

Figure 7—After 7 minutes, the whitening gel was suctioned from the teeth.

Figure 8—The aqueous cleaner was again applied.

Figure 9—More whitening gel was applied.

(Contrasta.m., Spectrum Dental) was applied to the facial aspects of the teeth. The whitening agent was applied directly through the mixing tip as shown in Figure 4. The swab from the aqueous cleaner was used to agitate and spread the whitening gel (Figure 5).

The whitening gel was allowed to remain on the teeth for 7 minutes (Figure 6). Even though a light source can be used to activate the whitening agent, I chose to use none. It is my experience that the chemical activity of the whitening agent alone is effective.

After 7 minutes, the whitening gel was suctioned from the teeth (Figure 7) with a high speed evacuator. The aqueous cleaner was again applied (Figure 8) and more whitening gel was applied (Figure 9). The aqueous cleaner and whitening gel were allowed to remain in place for another 7 minutes and the gel was again suctioned off. One more 7-minute treatment was performed with the aqueous cleaner and whitening gel for a total of 21 minutes. The teeth were then thoroughly rinsed with an air/water syringe (Figure 10) and the liquid dam was removed with an explorer (Figure 11).

Figures 10 and 11—The teeth were then thoroughly rinsed with an air/water syringe and the liquid dam was removed with an explorer.

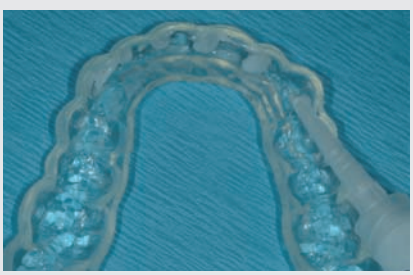

Figure 12—The patient was instructed to place a small drop of carbamide peroxide bleaching gel (Contrastpm, Spectrum Dental) for each tooth in the tray.

Figure 13—The patient was instructed to apply the aqueous cleaner to the surfaces of the teeth in a scrubbing motion for 30 seconds before placing the trays.

Figures 14 and 15—The patient was instructed to place the trays with the whitening gel in place over the teeth treated with aqueous cleaner and to leave the trays in place.

Home Bleaching

On models made from previously taken impressions, bleaching trays were fabricated. The patient was instructed to place a small drop of carbamide peroxide bleaching gel (Contrastp.m., Spectrum Dental) for each tooth in the tray as shown in Figure 12. The patient was instructed to apply the aqueous cleaner to the surfaces of the teeth in a scrubbing motion for 30 seconds before placing the trays (Figure 13). The patient was instructed to place the trays with the whitening gel in place over the teeth treated with aqueous cleaner (Figure 14) and to leave the trays in place (Figure 15) for only 20 minutes per day for the next 5 days before reporting back for 1 more office treatment.

Conclusion

With this regimen, I am achieving results that I consider equal to or better than those I achieved with my previous method in which I used similar techniques without the use of an aqueous chemical cleaner. But I am achieving them in one-third of the time. I am finding that my patients are experiencing very little tooth sensitivity and I am seeing minimal rebound in color. I have achieved good whitening results with numerous products on the market, but this new system has proven to be very effective.