



Tooth whitening (bleaching) has celebrated its third decade in the dental profession. It has evolved from a harsh beginning of rubber dam isolation with heat applied to each tooth with heat paddles and intense heat lamps, which typically required a heavy dose of narcotics to help with the subsequent pain. Today those early processes seem draconian in nature, and by current standards they are. The process has evolved dramatically. Patients have multiple choices in trying to whiten their teeth, from over-the-counter remedies to take-home custom trays and in-office bleaching systems.

The tooth bleaching industry has reached a stage of maturity; we rarely see new processes or innovation that moves the needle in our offerings to our patients in their choices concerning changing the color of their natural dentition. At this point in the evolution of the bleaching process, we have reached a point where improved efficiencies have become the main area of innovation.

Bleaching results have always been a result of concentration and exposure time. With the controlling factors of sensitivity and tolerance of our patients to the process. We are at the time in tooth bleaching that reduction in both cost and time are the driving factors in considering different bleaching protocols and systems today. The more quickly that we can achieve a desirable result for the patient while minimizing the associated costs to both the clinician and the patient are huge motivating factors today.

In-office bleaching solutions have varied over the past 30-plus years, settling today around a 35 percent hydrogen peroxide solution. Multiple ways have been introduced and vetted, trying to improve the redox process to create H_2O and O_2 with the associate radicals which typically are the driving force in creating the desired improvement of value in the associated natural dentition. Utilizing both heat and light energy to drive that process in a timely manner has been the overall thinking in improving results, in the shortest amount of time possible.

The latest innovation in this process is the introduction of sonic energy into the equation. This added energy has definitive advantages in expediting the process without increasing the sensitivity issue that will always be a factor, although dramatically decrease from initial bleaching processes. It is now possible to have great bleaching results in a shorter timeframe with the addition of sonic energy. This has allowed a reduction of 50 percent in the time required to obtain a desirable result.



The Polus Advanced Ultra system combines halogen light with LED light and sonic energy, this combination allows for a shorter exposure time. They call the combination a whitening accelerator, with the added sonic energy the game changer for this system. A recent study indicated that a bleaching process with light and ultrasonic was more effective than light alone or no light at all. This novel use of ultrasonic energy in the realm of dental bleaching seems to be the difference in effectiveness. By decreasing the amount of time needed to accomplish the whitening effect, the degree of sensitivity has also been diminished.

The actual bleaching procedure is not dramatically different than what you are currently doing. You isolate the teeth with a mouth prop and a liquid dam, there is no need for a light guide like other systems require. You are not limited to using a system specific bleach, you can use whatever you want, however the Max5 and the Blast material from BEYOND are designed to work well with the whitening accelerator.

A 10 minute cycle is used instead of the traditional 15 minute cycle. The total time in my practice was cut in half with this system, due to the ergonomics and the added sonic energy. The unit takes up less space and esthetically is very appealing. There is the ability to vary the intensity of the system to allow for those patients that may be a little more prone to sensitivity than others. I have found this to be helpful and the patients seem to appreciate the ability to make some adjustments to the intensity of the process.



Most patients are able to tolerate a higher intensity with minimal sensitivity. The higher the energy that can be applied the seemingly better the results. With a higher intensity you may find a higher level of sensitivity, each case needs to be evaluated to determine the best scenario for that patient. I have not found any other system that delivers the combination of shortened time with excellent results and reduced sensitivity.

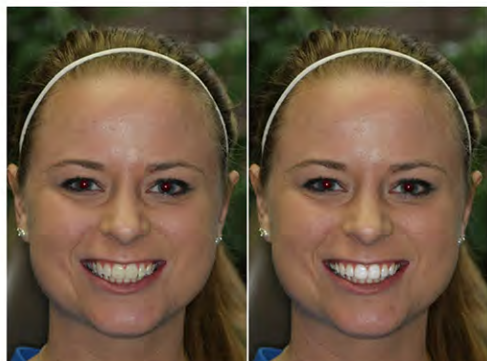
Considering the average general practice in the United States in 2017 performed 65 in-office bleaching procedures at an average cost to the patient of \$355 and took an average of 90 minutes chair time to perform, the average practice grossed \$23,075 and took 97.5 hours of chair time to accomplish. The prevalent in-office bleaching system costs an average of \$125 per case. When you factor in chair time cost and average auxiliary time to carry out and monitor the process, the associated average annual numbers look like this:

TOTAL INCOME PER OFFICE \$23,075
MATERIAL COST \$8,125
LABOR COST \$18/hr \$1,755
NET INCOME \$13,195

Looking at the numbers, if we can change the two biggest factors – cost of materials and labor – it makes sense to look at those savings. The added benefit for the patient is a reduced chair time spent in a dentist's office. Speaking from professional experience, the sooner you can get the patient of that dental chair, the happier they will be/the better they will like it.

When we look at the BEYOND's Polus Advanced Ultra bleaching system, I have found a big advantage in both time and cost savings. Comparing the numbers of the Polus Advanced Ultra with the most popular in-office system, the difference is compelling:

	National Bleaching System	Polus Advanced Ultra Whitening System	Additional net income from using Polus Advanced Ultra
Material Cost	\$125 / Session	\$25 / Session	
Labor Cost (\$18 / Hr.)	90 minutes \$27/ Session	45 minutes \$13.50/ Session	
Total Cost	\$152	\$38.5	
Avg Income / Session	\$355	\$355	
Net Income	\$203	\$316.5	
Annualized Net Income 65 cases	\$13,195	\$20,572.5	+\$7,377.5



Full Face Before
Fig. 1

Full Face After
Fig. 2

The following case is an example of a 22-year-old woman who achieved a 4-shade improvement in value of her teeth in one 45-minute total chair time Polus bleaching procedure (fig1-4). The total cost for the case was \$25 for materials and \$13.50 for labor. 45 minutes of chair time revenue of \$355 for net profit of \$316.50, which provided big savings in both time and money for the practice. If you wanted to pass on some of the savings to the patient in the form of a reduced fee that is a choice the each practitioner can make.

This is the next step forward in the evolution of dental bleaching. It has been a welcome addition to my practice for both time saved and profit netted. I recommend you look into incorporating it into your practice as well.



Smile Before Fig.3



Smile After Fig.4



About Dr. Scott Coleman

Dr. Scott Coleman is an experienced cosmetic dentist who considers every dental detail, along with patient's personality and life goals, when developing patient's personalized cosmetic dental plan.

Dr. Coleman is a clinical adjunct professor at the University of Texas Health Science Center at Houston and has been practicing dentistry in Houston since graduating first in his class in 1984. He serves on the Board of Regents for his alma mater, Stephen F. Austin State University. He is an Eagle Scout and a recipient of the Silver Beaver Award for his dedicated service to the Boy Scouts of America, for which he served on the Board of Directors for the Sam Houston Area Council.