Power Whitening System
THE BEYOND™ WHITENING ACCELERATOR – INNOVATIVE TECHNOLOGY

The BEYOND™ Whitening Accelerator is a professional chair-side power whitening accelerator lamp designed to better meet the needs of both the aesthetic whitening professional and the treatment recipient. Containing an innovative, advanced light filtration system, the BEYOND™ Whitening Accelerator provides superior whitening results in a shorter treatment time than other power whitening systems.

By filtering the high-intensity blue light released from a powerful 150 watt, tailored halogen bulb through a coated optical lens and then through over 12,000 optical fibers, the BEYOND™ Whitening Accelerator is able to remove all harmful ultraviolet (UV) and infrared light and deliver a tailored beam of light between 480 and 520 nanometers in wavelength. This wavelength has been proven to be optimal in the light-accelerated whitening process.

This innovation – a combination of intense light output and advanced filtration - reduces treatment times by 50%, increases whitening results, and protects patients from exposure to harmful UV light, heat, and potential damage to soft tissue. The result is the first completely safe whitening acceleration device.

POWER WHITENING – BALANCING TREATMENT TIME, SAFETY, AND COMFORT

In recent years, light accelerated power whitening has become an industry standard for dental professionals. Compared to other teeth whitening methods such as laser whitening and custom impression tray whitening, light accelerated power whitening produces superior results in a shorter amount of time and at a lower individual cost to the dentist.

Treatment times vary by system and range from just 30 minutes with the BEYOND™ System to as long as one and a half hours with other systems. Most common treatment times are about 45 minutes which accounts for patient preparation, three 10-minute consecutive cycles, and clean-up.

However there are still a number of problems associated with power whitening, in particular the emission of potentially harmful levels of ultraviolet light and heat from high-intensity light sources. This means that the patient is exposed to potentially dangerous levels of ultraviolet light and heat, increasing his or her risk of being sunburned in the mouth, developing severe tooth sensitivity, and experiencing damage to his or her teeth pulp. The BEYOND™ Whitening Accelerator addresses this problem by filtering out all harmful levels of ultraviolet light and heat. The patient’s safety and comfort levels are dramatically increased and the dentist enjoys a simpler procedure and shorter patient preparation times.

Other power whitening systems with such intense light sources try to mitigate the aforementioned risks by isolating not only the gum tissue (which must always be isolated from the whitening gel/paste) but also the sensitive pink tissues that are exposed to the light source. This complete isolation can limit exposure to harmful UV light, but fails to address the temperature problem, and adding isolation material to the oral cavity can itself increase the build-up of heat in the mouth–further increasing the likelihood of severe post-treatment sensitivity. Another serious problem with some other whitening systems is the dramatic dehydration of the enamel during the treatment.
which can lead to much more serious sensitivity and a chalk-white tooth surface finish.

Some other systems may use lower strength gels to reduce sensitivity, or lower strength light sources such as light emitting diodes (LEDs). While a reduction in the strength of the whitening agent can reduce sensitivity, results too are also compromised. Weaker light sources simply do not offer genuine power-whitening acceleration. When using LED systems or weaker whitening gels, time is usually extended (often up to two hours) in order to achieve an acceptable result, but again, sensitivity becomes a problem as longer treatment times allow for the gel to travel too deeply into the teeth. Longer treatment times also add to the general discomfort of the patient.

The BEYOND™ Whitening Accelerator is simply the only system that can ensure shorter treatment time with very strong, consistent results, safety, and little or no post-treatment sensitivity. It is the only solution that combines very intense light output and the strongest light-accelerated whitening gel (35% hydrogen peroxide in a proprietary formula) with innovative light filtration system.

The BEYOND™ system is unmatched in consistent, comfortable results in one, 30-minute treatment.

**SCIENCE BEHIND LIGHT-ACCELERATED WHITENING**

While it is well known that hydrogen peroxide alone can whiten teeth, the addition of light radiation can significantly increase the breakdown of the hydrogen peroxide and produce better results in a much shorter time. Studies have been conducted over many years to determine the efficacy of power whitening and to identify the risks associated with such treatments.

One such study published by the American Dental Association proved “peroxide and light treatment significantly lightened the color of teeth to a greater extent than did peroxide or light alone.”¹ Not only do such studies highlight the efficacy of light accelerated bleaching over other methods when time is a factor, but such studies provide theory and explanation of the whitening process when light is used in conjunction with a peroxide-based whitening agent.

The low molecular weight of hydrogen peroxide allows the chemical to easily penetrate the surface of the enamel and travel into the teeth. As the hydrogen peroxide breaks down on the surface and deep inside the teeth, the oxygen released comes in contact with long-chain carbon based molecules which appear as stains. Breaking the molecules into shorter chains, the oxidation effect renders the stains neutral in color - the whitening that the patient is seeking. The use of a whitening lamp increases the oxidation by introduction of light radiation to the hydrogen peroxide traveling inside the teeth. Such acceleration of the oxidation process shortens treatment time as more hydrogen peroxide can be broken down and more oxygen released in each treatment.

Some risks noted in studies include exposure to UV light to surrounding tissues, excessive heat as a risk to tooth pulp, and increases in patient sensitivity. When choosing a power whitening system, it is recommended that the dentists consider carefully a system that produces little or no heat, and allows for treatment times to be monitored and adjusted according to each patient’s individual tooth situation. With this in mind, light accelerated teeth whitening is both safe and very effective.

---

THE BEYOND™ POWER WHITENING TREATMENT

The BEYOND™ Whitening Accelerator is designed for use with BEYOND™ Whitening Kits. BEYOND™ Whitening Kits are available in a variety of configurations based on the nature of the teeth stains and dentists’ preference. Please refer to the BEYOND™ Whitening Kits product profile for more details.

Regardless of the BEYOND™ kit used in the treatment, the whitening treatment with the BEYOND™ system will ensure a glossy-white result. The simple treatment ensures each patient is not only happy with his or her results, but satisfied with the entire process having experienced a comfortable, relaxing treatment.

Each BEYOND™ Whitening Accelerator as well as each BEYOND™ Whitening Kit contains a multilingual instruction manual detailing the treatment procedure. Illustrations and photographs mark each step and highlight points to follow for optimal results. A region-specific instructional DVD is also included with the BEYOND™ system containing a complete BEYOND™ power whitening procedure from start to finish including key points to remember. BEYOND™ also provides free, live, web-based training to all BEYOND™ agents and dental professionals.

SIMPLE TREATMENT PROCEDURE

Each BEYOND™ treatment begins with an examination to determine the nature of the stains, any pre-existing conditions that may need to be addressed prior to the treatment, and pre-treatment shade matching with a common shade guide. The patient is then informed of the results they may expect, given some simple instructions to follow during and after the treatment, and told to RELAX and enjoy the treatment.

The first step is pre-whitening preparation, including use of a cheek retractor, gingival isolation, and drying of the teeth to be whitened. Unlike similar products, there is no need to isolate any additional tissues inside the oral cavity as there is no risk of exposure to harmful UV light. This pre-treatment process, once practiced by the dental professional should take no longer than 10 minutes to complete.

Following the preparation, the first of three applications of whitening gel and light acceleration is commenced. Using the dual-barrel syringe of BEYOND™ whitening gel provided in all BEYOND™ whitening kit configurations, the dental professional simply applies the gel to the tooth surface of 16 to 20 of the upper and lower front, ‘smile’ teeth. Between each of the three cycles, dry suction is used to remove the gel, and the gel is then reapplied. During each cycle, the BEYOND™ Whitening Accelerator is employed, placed facing the teeth for 8 to 10 minutes in each of the three cycles. As the whitening accelerator dramatically increases the speed of the whitening process, there is no need for cycles to be extended to 15 or 20 minutes as is common with other systems. In 24 to 30 minutes, the entire whitening process is complete.

Following the last of the three cycles, the gel is removed with dry suction, the gingival barrier is dislodged and removed, the cheek retractor is removed, and the patient rinses. The dental professional can now show the patient his or her new tooth shade using the shade guide. The improvement is compared against the original shade – typically greater than 8 shades – and the patient is given a post-treatment instruction card as a reminder to avoid strongly colored foods and drinks for 24 hours following the treatment.
The simple preparation, shorter treatment time, and quick, easy clean-up can typically be completed in just 45 minutes from start to finish. This is 50% shorter than similar products—saving valuable chair time and ensuring the most comfortable treatment for the patient. There is no other system that is capable of such dramatic whitening results in such a short time. Dental professionals also enjoy the simple treatment procedure that is incomparable to other systems.

**MARKET NOTES AND COMPETITORS – CHAIR-SIDE WHITENING SYSTEMS**

The popularity of light accelerated power whitening systems has drawn many players into markets worldwide. However, considering the technology involved in developing effective power whitening systems (and costs related to development and production), the complexity of producing quality whitening material, and the barriers to entry in marketing these systems, BEYOND™ enjoys relatively little serious competition in the global dental market.

Many other systems can be found in markets worldwide, but most or all of these use low-cost, low-intensity LED light sources and are incapable of true light acceleration. Such systems cannot produce acceptable whitening results in a single treatment. Many of these other low-cost systems rely on third party whitening products as they lack the technology to produce the whitening kits, do not meet international quality standards, and subsequently have trouble entering markets and/or do not offer the serious warranty or after-sales support expected by the dental community.

**SALES CHANNELS - BEYOND™ GLOBAL OFFICES AND DISTRIBUTION NETWORK**

BEYOND™ owns and manages a U.S. corporate headquarters in Stafford, Texas, a European headquarters in Berlin, Germany, and an Asia Pacific headquarters in Beijing, China. In all countries with the exception of Germany and China, BEYOND™ has partner agents who market the BEYOND™ Whitening Accelerator and other BEYOND™ products to dental professionals. In Germany, BEYOND™ staffs its own sales force and in mainland China, BEYOND™ is matching the country’s growth by opening regional, wholly owned offices across the country.

In the more than 90 countries worldwide where the BEYOND™ Whitening Accelerator is sold, BEYOND™ enjoys the number one or number two position in most or all of these countries. BEYOND™ has long been recognized as a global leader in the aesthetic dental community in North America, Europe, and Asia, and more recently in the South American markets and in the Middle East and Africa. With the continued increase in demand for teeth whitening treatments, BEYOND™ enjoys tremendous growth, providing whitening systems to discerning dentists every day around the world.

**MANUFACTURING AND QUALITY STANDARDS**

The BEYOND™ Whitening Accelerator is manufactured to international quality standards and is backed by a full three year warranty. BEYOND™ products are designed by our own product engineers and chemists and materials sourced from a number of global suppliers from countries including the United States, Germany, Switzerland, Japan, Korea, and Taiwan. All suppliers of BEYOND™ product parts must meet
international quality system standards to qualify as a BEYOND™ parts supplier. Such suppliers include internationally recognized raw materials manufacturers, chemical laboratories, fiber optic product suppliers, and integrate circuit and digital display manufacturers.

The BEYOND™ production and assembly facility is wholly owned and operated and is under direct management and control of BEYOND™ Technology Corp. The facility assembles and packages all BEYOND™ Dental & Health brand products sold worldwide through our company’s three headquarter offices and through BEYOND™ agents in more than 90 countries.

The BEYOND™ production and assembly facility has received ISO 9001 and ISO 13485 quality system certification. ISO certification is maintained through annual, independent audits by a German Notification Body. ISO 13485 is a prerequisite to CE Class II medical products for sales to European Union countries. CE and ISO 13485 classification is also required for product registration by many ministries of health in countries outside the EU.

The BEYOND™ Whitening Accelerator has also been listed with the U.S. Food and Drug Administration Center for Devices and Radiological Health. The product registrations and listing numbers can be viewed on the FDA CDRH site. As a manufacturer of medical devices registered with the U.S. FDA, BEYOND™ is subject to periodic inspections by the FDA. In addition to registration of our facility and products, BEYOND™ is also registered with the FDA CDER as a drug manufacturer.

To continue to meet and exceed international quality standards, BEYOND™ employs an experienced team of quality control specialists who directly monitor manufacturing processes, maintain ISO related technical files, and determine areas for improvement. We are confident in our quality standards for all BEYOND™ products and extend a three year warranty on all BEYOND™ electronics and equipment without exception. All consumables are guaranteed through the expiry dates.

**CLINICAL TRIALS, STUDIES, AND PRODUCT REVIEWS**

BEYOND™ products have been covered in many clinical trials and product reviews around the world over the years. The BEYOND™ Whitening Accelerator has been proven through numerous clinical studies to be both safe and effective. Studies have included efficacy rates, enamel microhardness, post-treatment hypersensitivity, and effect on tooth pulp.

In addition to clinical studies, many BEYOND™ products, including the BEYOND™ Whitening Accelerator have been tested and reviewed by dental publications, universities, and dental researchers. Such reviews have focused on product safety, efficacy, and sensitivity.

The BEYOND™ Whitening Accelerator or other BEYOND™ products can be seen in product reviews from leading dental publications nearly every month around the world. Such publications include Dental Tribune International, Dentisty (UK), Asia Pacific Dental Notice, The Dental Advisor (U.S.), America Latina Noticias Dentales, Irish Dentist, Private Dentistry (UK), and Dental Products Report (U.S.). Most recently, the BEYOND™ Whitening Accelerator received a 4 ½ of 5 star review from The Dental Advisor, a leading U.S. independent dental products review body.

**THE COMPLETE BEYOND™ SYSTEM**

Inside the single shipping carton is the complete BEYOND™ Whitening Accelerator (requiring simple assembly) with assembly tools and multilingual instruction manual, as well as protective eyewear, an
extra replacement halogen bulb, and a promotional marketing materials package. The marketing package includes a 1.6 meter tall standing poster with frame, two large wall posters, a window sticker, 100 promotional flyers, and an attractive before & after smile catalog. Additional promotional marketing materials are available in digital format from the BEYOND™ website, or in print from a local BEYOND™ office or local agent.

For inquiries related to the BEYOND™ Whitening Accelerator, or to inquire about becoming a BEYOND™ products agent, please contact the BEYOND™ Headquarters office nearest you. We value your interest and look forward to hearing from you!

www.beyonddent.com

BEYOND™ USA Headquarters
12503 Exchange Dr. Suite 558
Stafford, TX 77477 USA
TEL +1-281-277-4352
FAX +1-281-277-4350
beyonduusa@beyonddent.com

BEYOND™ Asia Pacific Headquarters
No.69 Bei Chen West Rd.
Suite D 2008/11, Beijing PRC
TEL +86-10-5877-2600
FAX +86-10-5877-2700
info@beyonddent.com

BEYOND™ Europe Headquarters
Jägerstr. 67-69
10117 Berlin, Germany
TEL +49 3013898812
FAX +49 3013898811
europe@beyonddent.com