The advent of nightguard vital bleaching has had a considerable impact on the restorative treatment of teeth. At one time, B1 on the Vita® Shade Guide was the lightest shade available for composite or porcelain restorations, and it generally was sufficient for the lightest tooth shade. However, with whitening treatment, some teeth have achieved lighter shades than B1. Although this may make patients happy, it poses considerable problems for the restorative dentist when subsequent restorations are required. The purpose of this article is to demonstrate the use of composite restorations of shades lighter than B1 for restorations on teeth that have been whitened.

Case 1
A 29-year-old man presented to the clinic for participation in a research project to have his tetracycline-stained teeth whitened in an extended treatment time evaluation (Figure 1A). The patient was given a nonscalloped, no-reservoir tray design that covered all of his teeth and an ADA-approved 10% carbamide peroxide material (Colgate Platinum®, Colgate Oral Pharmaceuticals, Canton, MA 02021) to apply nightly. The patient was seen on monthly recall visits. After 4 months (approximately 720 hours of nightly application), the maxillary arch was complete (Figure 1B). At this time, the shade was determined to be lighter than B1 (Figure 1C). Treatment was terminated on the maxillary arch and initiated on the mandibular arch.

The patient was a heavy coffee drinker, and continued to drink coffee during treatment of the mandibular arch. At the 1-month recall, coffee staining was noted in the maxillary central incisor at the location of a preoperative tooth defect (Figure 1D). To clean the stain from the defect without requiring the use of a handpiece, maxillary whitening was reinitiated. After a few nights of whitening therapy and cessation of coffee drinking, the stain was removed. There was then a wait of more than 2 weeks to allow the shade to stabilize and the bond strength of the composite restoration to bear at its maximum. After the waiting period, the patient returned to have the defect restored (Figure 1E). To determine the appropriate shade, samples of composite were cured on the

VAN B. HAYWOOD, DMD, is a Professor in the Department of Oral Rehabilitation, School of Dentistry, Medical College of Georgia. An alumni of the Medical College of Georgia, he was in private practice for 7 years in Augusta, Georgia, and taught at the University of North Carolina School of Dentistry in Operative and Prosthodontics for 12 years before going to the Medical College of Georgia in 1993. In 1989, he coauthored the first publication on nightguard vital bleaching with Dr. Harald Heymann. In 1997, he coauthored the first article on extended treatment of tetracycline-stained teeth. He has completed further research and over 60 publications on the NGVB technique and the topic of esthetics.

Vita Zahnfabrik, distributed in the US by Vident®, Brea, CA 92621
Colgate Oral Pharmaceuticals, Canton, MA 02021
Hiding clasps isn’t magic...

...it’s proven!

The original
Saddle-Lock®
Hidden Clasp RPD

Before

After

Saddle-Lock®
Circle 34 on Reader Service Card

Contact your nearest TEREC™ laboratory today!

Dental Masters Laboratory, CA
800-686-8182

New Image Dental Laboratory Inc., GA
800-233-6765

Johns Dental Laboratories, IN
800-457-0664

O’Brien Dental Lab, Inc., OR
310-477-6941

Dental Prosthetic Services, Inc., IA
703-332-1311

Frohman Group Inc., Main Office, IA
203-631-1000

Armstrong Dental Laboratory, Inc., KY
800-525-5756

Mason Dental, Inc., MI
800-425-2925

Excel Dental Studios, Inc., MN
800-522-2925

Edwards Dental Prosthetics, Inc., MD
301-467-4599

Town & Country Dental Studios, NY
800-427-6588

Armum Ceramic Dental Laboratories, Inc., WA
800-422-5509

Lord’s Dental Studio, Inc., WI
800-821-0859

Shaw Group US & Canada
Pennsylvania - 800-514-W148
M. Shapiro - 831-223-5462
Canada - 800-817-2959

TEREC
Veteran-Dental Laboratories
http://www.terec.org
unetched tooth. The B1 shade proved to be too dark. The final material chosen was an ultra-light shade of hybrid composite, shade B.2 (Amelogen® UltraLite®) (Figure 1F). The tooth defect was etched with 37% phosphoric acid, enamel bond was applied, followed by light-curing of the appropriate shade composite, which provided a successful restoration of the defect (Figure 1G).

**Case 2**

A 16-year-old girl was interested in lightening her teeth, as well as closing the spaces between the central incisors and improving her smile (Figure 2A). She was fitted with a non-scaled, no-reservoir soft tray (Sof-Tray®), and given an ADA-approved 10% carbamide peroxide to apply nightly (Colgate Platinum®). After approximately 4 weeks of nightly whitening, the teeth had achieved a shade lighter than B1 (Figure 2B). In test-curing the composite resin to determine the proper shade, an Amelogen® UltraLite shade of composite, B.7, was chosen (Figure 2C). To relate tooth contours properly to the soft tissue, no rubber dam was used. The teeth were etched with 37% phosphoric acid and rinsed. Enamel bonding agent was then applied, cured, and followed by the selected composite material. The orange composite shield was used to prevent premature setting of the composite (Figure 2D).
What did this town in Egypt need to save its people from a fatal botulism?

It needed an Army.

An Army of Veterinarians, Physicians, Laboratory Scientists and Pharmacists, all working together to develop the serum that saved a village in Egypt. Army health care is like no other care in the world. Not just because of the state-of-the-art facilities, equipment and training programs, but because we're a committed team of health professionals. No matter what your speciality: from Dietetics to Dentistry, Nursing to Medicine. Don't take our word for it, ask your local Army Health Care Recruiter. Call 1-800-USA-ARMY.

www.goarmy.com

Circle 35 on Reader Service Card
The diastema between the maxillary central incisors was closed, as well as a defect on the incisal of the left lateral incisor (Figure 2E).

**Discussion**

The lighter tooth shades that are achievable from whitening has created the need for lighter shades of composite and porcelain. Several manufacturers, including Cosmedent, Ivoclar, and Ultradent, have met this need by producing a single lighter shade or multiple lighter shades of composite. Ultradent has three shades that are lighter than B1—B.2, B.5, and B.7.* In these case reports, having multiple shades was important because these two patients did not whiten to the same final shade. The ultralight material that was used is a hybrid composite from Ultradent’s successful line of composite resin, which has a proven track record in clinical use.

One clinical problem encountered when shaping the large composite addition is that the operatory light will cause the material to set prematurely (as in Case 2). However, if the operatory light is not used, the clinician has difficulty viewing and shaping the lingual contours. When the correct shade has been chosen, a solution to that problem is to have the dental assistant hold the orange composite curing shield over the operating field while still using the operatory light. The shield is held so that the dentist is not looking through the shield, but the light is shining through the shield. The operating field is bathed in an...
OVERVIEW: The field of Restorative Dentistry is rapidly evolving as we move into the 21st century. Traditional techniques are being questioned by authoritative sources with scientific evidence that suggests changes in philosophies and practice are long overdue. Evidence-based approaches to patient-centered treatment are encouraged over historical “technique” approaches to improving oral health. The integration of basic sciences with clinical sciences has brought new concepts into the management of patients. Risk assessment has become a vital element of proposed treatment options. Systemic conditions of patients are influencing treatment more than ever before. Factors previously far removed from traditional dental practice have now become integrated into patient management. The “total patient” concept is becoming more common with the aim of providing more comprehensive oral health care directed at individual patients rather than populations. This conference will address many of the issues related to this evolving practice of Restorative Dentistry. Evidence-based clinical recommendations and treatment options will be emphasized.

GOALS: The goals of the 5th Indiana Conference are to provide a forum for practicing dentists and educators to a) present data on patient management directed towards more comprehensive care; b) introduce new concepts in restorative dental care; and c) relate new restorative treatments to modern practices.

FORM: The conference will consist of five panels of presentations by invited speakers. Each presentation will last 30 minutes with a discussion period following each panel.

PROGRAM PRESENTERS:

Thursday, June 8, 2000
Session #1, Theme: “Population Demographics and Patient Restorative Decision-Making”

• Dr. E. Steven Duke: A Change in the Order of Things (Indiana University)
• Dr. Stephen C. Bayne: Clinical Decisions Using the Scientific Method (University of North Carolina)
• Dr. John P. Brown: The Changing Population of Need (University of Texas HSC at San Antonio)
• Dr. Ivar A. Mjör: Reasons for Restorative Failures (University of Florida)
• Dr. Dorothy McComb: Aging and Restorative Treatment (University of Toronto)

Session #2, Theme: “Risk Assessment and Patient Factors that Influence Restorative Outcomes”

• Dr. Michael W. Dodds: Caries Risk Assessment and Restorative Treatment (University of Texas HSC at San Antonio)
• Dr. Domenick T. Zeno: Oral Factors to Consider that Influence Restorative Treatments (Indiana University)
• Dr. Carl W. Haveman: Systemic Conditions that Influence Restorative Treatments (University of Texas HSC at San Antonio)
• Dr. Serkis Isikbay: Occlusion and Restorative Treatment (Indiana University)
• Dr. Connie Mahley: Dietary Analysis in a Restorative Practice (University of Texas HSC at San Antonio)

Friday, June 9
Session #3, Theme: “Biocompatibility and Restorative Treatments”

• Dr. Cornelis H. Pameijer: Pulpal Responses to Restorative Treatments (University of Connecticut)
• Dr. Donald H. Newell: Gingival Tissues and Restorative Treatment (Indiana University)
• Dr. Maud Bergman: Material Selection and Biocompatibility (University of Umea, Sweden)
• Dr. Kenneth J. Anusavice: Less Abrasive Ceramic Esthetic Materials (University of Florida)
• Dr. Thomas J. Hilton: Bases and Liners and Restorative Treatment (Oregon Health Sciences Center)

Session #4, Theme: “New Restorative Techniques and Materials”

• Dr. Naim H. F. Wilson: Reducing the Incidence of Recurrent Caries (University Dental Hospital, Manchester, England)
• Dr. Felix Lutz: Alternatives to Amalgam in Posterior Teeth (University of Zurich, Switzerland)
• Dr. Jack L. Ferracane: Polymers (University of Iowa)
• Dr. Marcos Vargas: Advances in Adhesive Materials (University of Iowa)
• Dr. Joseph B. Denison: The Restoration of Root Caries (University of Michigan)

Saturday, June 10
Session #5, Theme: “Alternative Conservative Restorative Techniques”

• Dr. Bruce A. Matis: Bleaching as a Conservative Restorative Option (Indiana University)
• Dr. Junji Tagami: Air Abrasion Tooth Preparation (Tokyo Medical & Dental University, Tokyo, Japan)
• Dr. James R. Summitt: Minimal Restorative Intervention Techniques (University of Texas HSC at San Antonio)
• Dr. Hak-Kong Yip: Caries Removal with Alternative Techniques (Prince Philip Hospital, Hong Kong, China)
• Dr. Howard S. Landsman: Future Directions & Restorative Treatments (University of Colorado)

REGISTRATION: Advance registration is required, and conference attendance will be limited. Forms may be sent by mail or fax, and must be received no later than May 5, 2000. The required registration fee of $385 prior to May 5 and $435 after that date includes conference materials, continental breakfast, break service, and lunch. Optional choices for the conference include overnight hotel accommodations, NCADA dinner, and hard copy of conference proceedings. For University Place Hotel accommodations, the cost per person per day is $109.89 for a single room or $126.54 for a double room. Please mark hotel check-in and check-out dates in order for us to make your reservations. Due to the limited attendance, early registration is strongly encouraged. University Place Conference Center & Hotel® offers participants a convenient location for all conference activities as well as lodging. The facility, located on the Indiana University–Purdue University Indianapolis campus, is a five-minute walk from the IU School of Dentistry and a few blocks from the center of the city.

CONFERENCE COMMUNICATIONS: Additional information regarding conference content and presentations may be obtained by contacting Dr. Steven Duke by telephone (317) 278-3398; fax (317) 278-2818; or e-mail (eduke@iupui.edu).

*University Place’s rating is AAA Four Diamond. Hotel telephone number is (317) 269-9000 or (800) 627-2700.
orange glow, but visibility is good. This approach provides almost unlimited working time and adequate visibility.

Whitening to remove a stain in a defect is a technique that may be beneficial with stained margins around older porcelain veneers. After whitening to clean, the margin can be resealed with new composite. In addition to composite resin that is lighter than B1, some manufacturers have introduced porcelain shades that are lighter than B1 (A0 and B0\(^{3}\)). There are also newer composite resins that are applied in the same manner as a ceramist would layer different shades and translucencies of porcelain.\(^{6,7}\) This material (Vitalescence\(^{™}\)) and technique give the dentist the options of having greater translucency and a better blend with the natural tooth structure.\(^{8}\)

**Conclusion**

Tooth whitening may produce tooth colors that are lighter than traditional shades of restorative materials. Today’s restorative dentist needs to be aware of the lighter shades and newer composites, and have them available for the restorative needs of their patients with whitened teeth.

**References**

"At $2,000,000 a year, I thought my practice was great. Today we've Quadrupled that. Thank you, Practice Builders."

Scott Brown, DDS (actual client)

I thought I knew how to market my practice. Then I met Practice Builders.

Having a very successful practice didn’t stop me from hiring Practice Builders; in fact, it was the very reason I called.

I was already grossing in the $2 million range, but I wanted to do a whole lot more. I had been successful in growing my practice, because I had a strong background in marketing, but still I had taken things about as far as I could go on my own.

Fortunately, I found Practice Builders. Now this organization is unique. It exists solely to help those dentists who wish to grow their practices. And it’s a marketing company, not a management company. In fact, with over 20 years’ experience assisting more than 100,000 clients, Practice Builders is America’s leader in practice growth.

Practice Builders ignited my growth potential.

Practice Builders sent a consultant to my office, and we worked to put together a plan to grow my practice. But it was more than that: They helped us to put forth a cohesive public image with a consistent message that worked, from my mailers to my Yellow Pages and even to my exterior signage.

Then I hired their agency to develop polished, professional materials that say in print and pictures what I have always said in my heart and showed potential patients exactly what kind of practice we are.

Today, we’re an eight dentist, $8,000,000-plus practice.

As we have moved from one level to the next over the last decade, Practice Builders has been there to guide us. It’s been a wonderful relationship.

Today, my one-office, one-practitioner practice has grown to multiple offices with four partners and four associates, grossing $8,000,000 to $10,000,000 a year — and we’ve done it without sacrificing quality. And without their help? Sure, my practice would have continued to grow, but I figure it would be less than half of where it is today.

Your own Strategic Marketing Plan is just a weekend away.

Our growth started with the right Marketing Plan from Practice Builders, and yours can, too — through their Strategic Marketing Workshop. This weekend program delivers hundreds of proven marketing ideas and strategies. But more importantly, whether your practice is small or large, you’ll take home a 12-month plan tailored to your specific growth goals. (Or do what I did; have them come right to your office for a one-day visit.)

And ask them about their no-risk guarantee. Register now and, as a subscriber to this publication, receive a $200 per-attendee savings on your enrollment. Call now. It could turn out to be the most important phone call of your career.

PracticeBuilders
www.PracticeBuilders.com

Call 1-800-679-1200 ext. 235

Workshops coming soon to: Seattle • Los Angeles • Dallas • San Diego • Orlando New York • San Francisco • Chicago • Atlantic City • Miami • Las Vegas • Or, your office