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Professional Whitening: The Role of the Dental Hygienist

A Peer-Reviewed Publication
Written by Kristy Menage Bernie, RDH, BS, RYT

Abstract
As the demand for tooth whitening increases and consumers are making their own diagnostic decisions regarding tooth whitening, it is important that this smile enhancing process become a part of dental hygiene clinical protocols. A focus on professional tooth whitening — whitening provided chairside or professionally dispensed — will be provided and includes the dental hygiene process of care. Maximizing and improving oral health through tooth whitening provides the rationale for dental hygienists to identify, implement, and maintain this esthetic opportunity.

Educational Objectives
1. Identify the role of dental hygiene in professional tooth whitening
2. Evaluate the options and indications for chairside and professionally dispensed whitening
3. Evaluate the rationale for patients to place these options above over-the-counter products
4. Integrate whitening assessment, implementation, and maintenance into the dental hygiene process of care

Author Profiles
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Author Disclosure
The author received no compensation from dental companies during the preparation of this article; however, she does have a financial relationship with Philips Oral Healthcare, which produces one of several products mentioned in this article. Educational Designs also provides sponsorship and exhibits management for associations and therefore works with many different companies which have products mentioned in this article.

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Abstract

As the demand for tooth whitening increases and consumers are making their own diagnostic decisions regarding tooth whitening, it is important that this smile enhancing process become a part of dental hygiene clinical protocols. A focus on professional tooth whitening — whitening provided chair side or professionally dispensed — will be provided and includes the dental hygiene process of care. Maximizing and improving oral health through tooth whitening provides the rationale for dental hygienists to identify, implement, and maintain this esthetic opportunity.

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Introduction

The American Dental Hygienists' Association defines optimal oral health as a standard of health of the oral and related tissues which enables an individual to eat, speak, and socialize without active disease, discomfort, or embarrassment and which contributes to general well-being and overall health.[1] The definition focus is on social factors that relate to the patients' well-being and as such, smile enhancing procedures, such as professional whitening should be a part of the oral health strategies. Tooth whitening represents the quickest and most economical esthetic procedure available today.

In a recent article featured on www.SheKnows.com, titled Smile More, Feel More Confident, psychologist Ann Demarais, PhD, explains, "When your teeth look white and sparkly, you can relax, be in the moment and laugh. You are more confident and radiant." She adds that the mere act of putting your mouth in the shape of a smile changes the blood flow to the brain and actually makes you feel happier. The fact that smiling itself boosts your mood has a further positive impact because smiling has a contagious effect. "When you smile, others are more likely to smile back, and are more drawn to you, thereby increasing your confidence and happiness even more."[2]

The December 2012 issue of the *California Dental Association Journal* featured a news bite titled "Most Americans Choose to Whiten Teeth at Home," which reported a disturbing trend of patients self-diagnosing and selecting over-the-counter products to whiten their teeth. The survey conducted by Mintel showed that 41% of respondents have tried to whiten their teeth in the past 12 months using toothpaste, 17% used mouthwash, and 15% tried over-the-counter whitening strips. Only 10% were utilizing professional whitening![3] Clearly the interest in whitening exists and it is important that the dental profession be involved in this process to assure long-term success and optimal oral health. Surveys have also confirmed that patients who undergo esthetic procedures, such as whitening may be more inclined to maintain that result, thereby improving their daily oral care routines.[4]

The Role of the Dental Hygienist

According to the American Dental Hygienists' Association and the Standards for Clinical Dental Hygiene Practice, the role of the dental hygienist and the practice are defined.[5] Within the definition portion, it is stated that "Dental hygienists are viewed as experts in their field, are consulted about appropriate dental hygiene interventions, and are expected to plan, implement, and evaluate the dental hygiene component of the overall care plan. The dental hygienist establishes the dental hygiene diagnosis, which is an integral component of the comprehensive dental diagnosis established by the dentist."

This document can be downloaded at: http://adha.org/practice and should be a part of every dental hygienist's resources.

Whitening, while certainly cosmetic, plays a significant role in oral health and self-esteem. As such, patient education on the plethora of whitening options should be included as well as as an assessment of whitening candidacy for every patient. Dental hygienists have more contact time with the patient than any other member of the dental team and have the lead for discussing strategies to minimize staining or a diminished appearance of their smiles.

In an ADHA *Access Standards* column, professional whitening was the focus in the December 2011 issue.[6] This article reviews the whitening process and how the Standards for Clinical Practice are applied and met. The overview provides key information on the best practices and clinical strategies for successful professionally supervised whitening and can be downloaded at: http://adha.org/resources under the ADHA Standards in Clinical Practice Column tab, in the Resources section of the website.

The opportunity to deter patients from selecting over-the-counter products that do not provide the long-lasting degree of whitening can be managed in the dental hygiene appointment. Further, professionally supervised whitening is recommended by the American Dental Association to assure patients are appropriately evaluated and treatment planned according to dental health, individual needs, and use of effective tooth whitening systems.[7]

In October 2011, the ADA issued a poster for use by members in their practices titled, "Get It Right! Whitening Teeth the Safe, Sensible Way."[8] The poster advocates the involvement of the dental profession in the whitening process and states that use of over-the-counter options "…raises concerns that oral health problems could go unnoticed and progress, leading to poor or inconsistent teeth whitening results." In addition, it lists the following considerations:

- With a dental examination and consultation, problems can be addressed and realistic treatment expectations discussed before time and money are invested.
- Some OTC products can take longer to work than others.

- Some OTC products are designed only to remove surface stains.

With respect to mall kiosks or other nondental venues, the poster states, "Whitening treatments or kits made available in nondental retail settings such as mall kiosks, salons, spas, and even aboard passenger cruise ships are the latest trends in teeth whitening." Considerations listed include the following:

- These options may present an image of professional dental practice but are without the benefits offered by a dentist.
- The American Dental Association is committed to advocating on behalf of the oral health of all Americans, ensuring that dental care is delivered safely and effectively by appropriately trained, licensed, and certified personnel.

Advances and Options in Professional Whitening

Professional whitening can be separated into two distinct categories: Chairside/in-office administered whitening and professionally dispensed whitening. Carbamide peroxide and hydrogen peroxide are utilized in varying concentrations and have been proven effective and safe. When peroxide-based agents come into contact with tooth surfaces, they break down and remove or dissolve stain molecules within both the dentin and enamel surfaces through oxidation. Both external and internal stains deep in the tooth structure are impacted. As this process continues, the enamel surface becomes more opaque and reflects light, making the teeth appear whiter and brighter.[9]

Chairside systems typically contain higher concentrations of hydrogen peroxide and are activated chemically, with laser energy or through light energy. Tissue isolation is important for all chairside whitening systems and can result in immediate and dramatic whitening usually within 30 to 60 minutes. The latest advancement in this category has been the introduction of blue LED technology which emits at optimal light spectrum with 100% greater intensity than halide technologies. In addition, for the first time, the intensity can be controlled through three different settings (Philips ZOOM WhiteSpeed & Beyond System).[11,12] Another new system to the market utilizes a curing light and a colored gel that turns white when whitening has occurred (EZ White Pro by OraPharma).[13] Technology advances in chairside systems will continue, and much like we replace cell phones with the latest technology, we should do the same for dental technologies.

Chairside options will provide patients with the quickest method to whiten their smiles and should include custom trays for future touch-up or if the desired shade was not reached during the chairside treatment. Typically chairside administered whitening will be more expensive than professionally dispensed tray systems. In addition, those with existing hypersensitivity must be forewarned and may not be the ideal candidates for this option.

Professionally dispensed whitening tray systems are based upon 20-year-old technology known as vital niteguard bleaching. This is the safest and most extensively researched form of tooth whitening.[14,15] Whitening tray systems are either designed for short wear time (hydrogen peroxide) or overnight (carbamide peroxide). Carbamide peroxide breaks down into hydrogen peroxide and urea, and is thus considered a time released whitening agent and hydrogen peroxide is immediately available. Concentrations for tray hydrogen peroxide are generally between 9.5 – 14%, while carbamide peroxide systems range between 10 – 22%. Hydrogen peroxide is roughly equivalent to one-third carbamide peroxide. Tray system results vary depending on the individual degree of staining, so it is important to establish an end-point and instruct the patient to stop whitening. Generally anywhere from one to four weeks of daily wear will achieve the desired results.

Innovations in chemistry include the addition of desensitizing agents to the whitening agents. These may include sodium fluoride, potassium nitrate, and amorphous calcium phosphate (ACP). Sodium fluoride has been shown to reduce sensitivity through mechanical means, while potassium nitrate chemically desensitizes by keeping nerve polarization from occurring. [16] Examples of products containing both KN03 and NaF include Opalescence PF and OH!, and Dentplsy's Nupro White Gold contains NaF. The latest to the market, ACP, has been beneficial in decreasing sensitivity through a variety of actions.[17] Tooth enamel is composed almost entirely (96% by weight) of a calcium phosphate mineral in the form of carbonated hydroxyapatite. Dentin is 70% by weight composed of this hydroxyapatite. ACP then rapidly hydrolyzes to form hydroxyapatite within five minutes of application. If fluoride is present, a more acid resistant compound, fluorapatite is formed. ACP also precipitates on the surface and within the lumens of open dentinal tubules to occlude them, resulting in decreased sensitivity.[18] This also makes the exposed dentin more resistant to demineralization by acids.

The conversion of ACPs to crystalline calcium phosphates is an important part of the proposed surface-enhancement process. It is believed that after deposition onto the tooth surface, precipitated ACPs convert into apatite, filling microporosities and microscopic surface defects, thus improving the overall luster of the teeth. The enamel's smoothness and luster are improved in as little as two weeks. With the precipitation on the surface and within the lumens of the open dentinal tubules, patients will have decreased sensitivity due to less flow of fluid within the tubule. Currently there are only two professionally dispensed whitening products available: NiteWhite ACP® and DayWhite® by Philips Oral Healthcare. These whitening products also contain sodium fluoride and potassium nitrate to maximize patient comfort and enhance remineralization. Consideration for whitening agents that contain fluoride, potassium nitrate, and/or ACP will help prevent sensitivity during tray whitening.

Whitening…and Beyond

Research today is looking beyond the cosmetic outcomes that professionally dispensed whitening provides. Dr. Van Haywood has been conducting studies that look at the benefit of tray whitening to prevent caries in the elderly[20] and prevent white-spot lesions in the orthodontic population. Additional benefits may also include

an improvement in soft tissue health[21] and elimination of oral malodor.

Studies have demonstrated that 10% carbamide peroxide kills one of two bacteria causing caries (lactobacillus)[22] as well as improvement in gingival health. Utilizing a tray design for application assures maximum contact with the teeth and overcomes previous delivery system designs. Root caries and white spot lesions may be minimized by the use of carbamide peroxide in a tray overnight to remove plaque,[23] elevate pH, and kill bacteria.[24]

Traditionally, whitening for the orthodontic patient has taken place posttherapy. Haywood suggests that whitening during orthodontic therapy will prevent white spot lesions and reduce plaque formation.[25] This article further suggests the use of "boil and bite" thermoplastic trays. These will accommodate the brackets and arch wire and are resilient enough to resist brackets embedding in the tray material. Alternatively, whitening systems with preloaded trays would work with this type of patient.

Due to the presence of the appliance, it is suggested that the maxillary and mandibular trays be worn on alternate nights. The proposed use of tray whitening in the orthodontic patient is for the full term of therapy. Selecting whitening agents with desensitizing agents (fluoride, potassium nitrate, amorphous calcium phosphate) will minimize sensitivity. Overfilling of trays should be avoided and only professionally dispensed 10% carbamide peroxide should be used.

Table 1. Assessment Phase

1) Review medical history
2) Review current oral hygiene routine
a. Assess "real" time and tools utilized as well as technique
3) Determine current usage & frequency of usage of whitening related products
4) Perform oral cancer screening
5) Perform comprehensive periodontal examination/risk assessment
6) Note the condition of the surface of the tongue
a. Tongue coating contributes to trapping color molecules that can impact tooth color
7) Perform additional assessments:
a. CAMBRA – Caries Management by Risk Assessment
b. Occlusal evaluation
8) Identify restorations, crowns, bridges that need replacing
9) Determine tooth shade and take photographs
a. Utilize app technologies to show before/after whitening potential
10) Determine existing hypersensitivity (generalized/localized)
11) Provide education regarding professional whitening options offered by the practice

These innovative uses for professional whitening will not only result in a favorable cosmetic outcome, but impact overall oral health. From fresh breath to disease-free hard and soft tissue, this represents a future focus for further research and recommendation from the dental profession.

Dental Hygiene Process of Care

Depending on the state practice act, dental hygienists should be involved from the assessment phase all the way to chairside administration. Table 1 overviews the process of care for the dental hygienist. All patients should be assessed for their interest in whitening. Questions such as "Can you tell me what you know about tooth whitening?" From there, emphasize that professional options are the best and then review those options.Assessment should also include a discussion with the patient regarding expectations for whitening. Natural appearing tooth shade matches the sclera of the eye. Additionally, technologies are now available to demonstrate the potential whitening outcome. Apps such as

Table 2. Clinical Protocol

1) Eliminate stain, plaque, and calculus
a. Perform preinstrumentation polishing as indicated
b. Instrumentation as indicated with powered scalers and hand instrumentation
c. Remove all extrinsic stain – air polishing and/or powered scalers
d. Perform tongue deplaquing procedure
2) Evaluate for additional preventive and clinical treatment for sensitivity:
a. Topical chlorhexidine varnish if indicated – to prevent sensitivity during whitening
b. Topical fluoride varnish – to prevent sensitivity during whitening
3) Patient education/daily care recommendations
a. Prewhitening use of remineralization agents (fluoride, calcium phosphate products) for minimizing sensitivity; 2 weeks' daily use prior to chairside or tray whitening
b. Mechanical plaque control recommendations (powered toothbrushes, flossers, etc.) to minimize staining and maintain whitening results and maximize delivery of desensitizing agents
c. Tongue cleaning
4) Take impressions for whitening trays
5) Administer chairside whitening (depending on state practice act) and/or deliver trays; less is MORE, educate the patient on how to fill their trays from buccal as well as lingual
6) Reappoint as indicated and evaluate need for touch-up whitening procedures.

Whitening Simulator and Philips ZOOM will give those with smart devices the ability to take a photo of the patient's teeth and then demonstrate the whitening potential. The Philips ZOOM app includes a standard shade guide to provide consistency for

Table 3. Minimizing Sensitivity			
Agent	Usage	Availability	Products
Fluoride varnish with calcium phosphate	Applied chairside 2 weeks prior to whitening	Professionally applied	Vanish Varnish (TCP); Enamel Pro Varnish (ACP); MI Varnish (CP-PACP), Embrace Varnish (cXp)
5,000 ppm NaF	Daily for 2 weeks prior to whitening; tray or brush-on	Rx or in-office dispensed	PreviDent, Fluoridex, Control Rx, Sensodyne Nupro
Calcium phosphate	Daily for 2 weeks prior to whitening; tray or brush-on	In-office dispensed	Relief Oral Care Gel (ACP, KNO_3 & NaF); MI Paste Plus (CPPACP & NaF); Control Rx (TCP & Rx NaF); Sensodyne Nupro (CSP & Rx NaF); PreviDent Booster Plus; (TCP & Rx NaF)
Potassium nitrate	Daily for 2 weeks prior to whitening; tray or brush-on	OTC or in-office dispensed	Relief Oral Care Gel (ACP, KNO_3 & NaF); Dayli (Rx NaF & KNO_3); Fluoridex (Rx NaF & KNO_3); PreviDent Sensitive (Rx NaF & KNO_3)

Use of whitening products that contain either fluoride, potassium nitrate, amorphous calcium phosphate, or a combination of all three will decrease/eliminate sensitivity during whitening treatment.

documentation and outcomes. There are apps that will whiten smiles on existing photographs, which obviously demonstrates the interest of consumers for the whitest of smiles!

Contraindications for whitening processes include pregnant and lactating women, as safety studies have not been conducted on this patient population. Children with socially debilitating stain can be safely treated even though most recommendations indicate age 15 and up. Although it may take longer, fluorosis and tetracycline staining will respond to tray whitening, so don't discount this group.

Additional considerations to delay tooth whitening include extensive need for caries restoration as well as active, generalized periodontal conditions. Those with extreme sensitivity may not qualify as well. Careful determination is important in managing expectations and whitening outcomes.

Unmistakably, the most important step in whitening will be the thorough removal of calculus, plaque biofilm, and stain. This is one of the biggest factors in lack of success with over-the-counter whitening products and/or whitening kiosks. Whitening agents cannot adequately penetrate tooth structure when accretions are present, resulting in an uneven whitening. For those who exhibit sensitivity, it is recommended to wait two weeks postprophylaxis to minimize whitening related sensitivity.[26]

Sensitivity is the number one side effect and can be easily managed today through a variety of strategies and desensitizing agents (see Table 3). From in-office application of fluoride varnish to use of whitening products that contain ACP, fluoride, or potassium nitrate, there are many options to choose from. Lower concentrations of peroxide will have less sensitivity, while higher concentrations increase the likelihood of sensitivity. This side effect is transient and will dissipate after whitening has been completed.[27]

The dental hygiene process of care continues with the patient throughout their life and thus maintenance of whitening results is one of the most significant roles of the dental hygienist. The dental hygiene visit represents the opportunity to reinforce effective oral hygiene habits that both maintain health and tooth whitening results (see Table 2). The overwhelming number of over-the-counter and infomercial whitening options give the dental profession the opportunity to take control and become the leader in this effective smile enhancing procedure.

Once professional whitening results have been achieved, there are a number of strategies that can be employed to maintain those results, including use of over-the-counter products. It is critical that only those over-the-counter products that are proven safe be recommended and the patient should be educated that any "whitening" effect is simply removal of surface stain. Consideration for sonic toothbrushes is warranted based on research demonstrating stain removal[28] as well as providing more disbursement of medicaments/toothpaste.[29] Another study demonstrated that use of sonic technology was superior to that of a manual toothbrush in maintaining whitening results.[30]

Maximizing Opportunities

Whitening represents the quickest and most economical means for smile enhancement. Today whitening is more consumer-driven than professionally advocated. As whitening technologies have advanced, the process of dental hygiene care must incorporate this esthetic service. The opportunity to pair whitening and optimal oral health takes advantage of an individual's desire to look their best! The role of the dental hygienist is strategic and important to the success of whitening programs within the practice. Whitening is no longer about a "Hollywood smile" but overall oral health.

Patients with esthetic enhancements tend to take better care of their oral health. Much like the "new car syndrome," their motivation focuses on social outcomes. An improvement in overall oral health is a common "side-effect" with tooth whitening and esthetics, one that is certainly appreciated by the profession. Professional whitening: A patient-centered approach that provides oral health benefits beyond!

Maintaining Whitening Results

- Use of powered plaque control technologies
- Daily tongue deplaquing
- Avoid stain related habits

- Use of recommended over-the-counter whitening products (toothpastes, strips, etc.)
- Seek regular dental hygiene care to maintain periodontal health, keep staining to a minimum, and to determine need for whitening touch-up

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Questions

1. Smiling itself:
   a. Is contagious
   b. Has no effect on mood
   c. Minimizes self-confidence
   d. Does not change the blood-flow to the brain

2. The American Dental Hygienists' Association's definition of optimal oral health mentions which of the following:
   a. Firm, pink stippled tissue
   b. Lack of plaque and inflammation
   c. Enabling a person to eat, speak, and socialize
   d. Calculus deposit-free teeth

3. Which of the following is the most popular means for consumers to whiten?
   a. Toothpaste
   b. Mouthrinse
   c. Strips
   d. Dental professional recommendation

4. The Standards for Clinical Dental Hygiene Practice can be found at:
   a. www.ada.org
   b. www.aadh.org
   c. www.adha.org
   d. State boards of dentistry

5. Which of the following is the most effective means for tooth whitening?
   a. Professionally supervised/dispensed
   b. Whitening kiosks
   c. Over-the-counter toothpastes
   d. Power toothbrushes

6. Whitening is available:
   a. In mall kiosks
   b. Cruise ships
   c. Beauty spas
   d. All of the above

7 The American Dental Association consumer education whitening poster states the following except:
   a OTC whitening products may take longer
   b. OTC whitening products are designed only to remove surface stain
   c. OTC whitening products are a viable alternative to professional whitening
   d. Oral health problems can go unnoticed

8. Categories of professionally supervised whitening include all but:
   a. Chairside administered whitening
   b. Professionally dispensed tray whitening
   c. Extrinsic stain removal
   d. All of the above

9. Peroxide-based agents whiten teeth by which of the following?
   a. Killing stain related bacteria
   b. Oxidizing stain molecules
   c. Enhancing remineralization
   d. All of the above

10. Chairside whitening agents can be activated via all but which?
   a. LED light
   b. Laser
   c. Chemical
   d. Urea

11. Chairside whitening is ideal for those who:
   a. Are looking for an immediate change in tooth color
   b. Are looking for the most inexpensive method for whitening
   c. Have a lot of hypersensitivity
   d. Are compliant with daily wear trays

12. The primary whitening agent used in chairside administered whitening is:
   a. Carbamide peroxide
   b. Urea
   c. Hydrogen peroxide
   d. Potassium nitrate

13. Carbamide peroxide is typically:
   a. Used in chairside administered whitening
   b. The main ingredient in short-term or day wear
   c. The main ingredient in overnight wear
   d. Not safe or effective

14. The following has NOT been added to whitening products to minimize sensitivity:
   a. Xylitol
   b. Fluoride
   c. Calcium phosphate
   d. Potassium nitrate

15. Amorphous calcium phosphate prevents sensitivity by:
   a. Chemically preventing nerve depolarization
   b. Physically occluding open tubules
   c. Combining with peroxide
   d. All of the above

16. Amorphous calcium phosphate desensitizes and may play a role in all except:
   a. Remineralization
   b. Improved luster
   c. Elimination of bad breath
   d. Increased formation of apatite

17. Which of the following prevents sensitivity by interfering with nerve depolarization?
   a. Potassium nitrate
   b. Sodium fluoride
   c. Calcium phosphate
   d. All of the above

18. Tray whitening is being used for the following:
   a. Prevent white-spot lesions in the orthodontic patient
   b. Prevent caries in the elderly
   c. Overnight whitening
   d. All of the above

19. Tray whitening has been shown to:
   a. Kill bacteria associated with caries
   b. Increase gingivitis
   c. Decrease sensitivity
   d. Increase oral malodor

20. Generally, in many states, RDHs may:
   a. Take impressions for whitening trays
   b. Administer chairside tooth whitening
   c. Take photos
   d. All of the above

21. An ideal and natural endpoint for whitening is to match:
   a. The color of the teeth to the sclera
   b. A white piece of paper to the color of the teeth
   c. The color of the existing restorations
   d. None of the above

22. All the following are important for pre-whitening except
   a. Thorough removal of plaque biofilm, calculus, and stain
   b. Assessment of sensitivity
   c. Managing patient expectations
   d. None of the above; all are important

23. Application of fluoride varnish:
   a. Should be given to patients to use at home
   b. Is indicated prior to tooth whitening
   c. Will increase sensitivity
   d. None of the above

24. Sensitivity can be managed through:
   a. 2-week application of 5,000 ppm fluoride prewhitening
   b. 2-week application of calcium phosphate and fluoride prewhitening
   c. 2-week application of potassium nitrate prewhitening
   d. All of the above

25. Which of the following is true regarding whitening associated sensitivity?
   a. It is transient and will dissipate after whitening
   b. It is a rare side-effect of whitening
   c. It cannot be managed by using whitening products containing fluoride, potassium nitrate, or calcium phosphate
   d. All of the above are true statements

26. All of the following will assist in whitening maintenance except:
   a. Drinking red wine
   b. Using powered plaque control technologies
   c. Daily cleaning of the tongue
   d. Use of over-the-counter whitening products

27. Over-the-counter tooth whitening products:
   a. Are readily available
   b. Are for management of surface stain
   c. Do not impact intrinsic stain
   d. All of the above

28. Which of the following statements are true?
   a. Whitening is one of the most expensive cosmetic procedures
   b. Whitening is not safe or effective
   c. Whitening is more consumer driven than professionally advocated
   d. Whitening can be accomplished, even when stain and calculus are present

29. Whitening maintenance:
   a. Can be enhanced by use of a sonic power toothbrush over a manual brush
   b. Is not dependent on patient habits
   c. Is not necessary as whitening results are permanent
   d. None of the above

30. Whitening has been shown to:
   a. Lower self-esteem
   b. Improve overall oral health
   c. Cause staining to occur more quickly
   d. Damage tooth structure

ANSWER SHEET

Professional Whitening: The Role of the Dental Hygienist

Name: Title: Specialty:

Address: E-mail:

City: State: ZIP: Country:

Telephone: Home ( ) Office ( )

Lic. Renewal Date: AGD Member ID:

Requirements for successful completion of the course and to obtain dental continuing education credits: 1) Read the entire course. 2) Complete all information above. 3) Complete answer sheets in either pen or pencil. 4) Mark only one answer for each question. 5) A score of 70% on this test will earn you 2 CE credits. 6) Complete the Course Evaluation below. 7) Make check payable to PennWell Corp. **For Questions Call 216.398.7822**

Educational Objectives

1. Identify the role of dental hygiene in professional tooth whitening
2. Understand the options and indications for chairside and professionally dispensed whitening.
3. Understand the rationale for patients to place these options above over-the-counter products
4. Integrate whitening assessment, implementation and maintenance into the dental hygiene process of care

Course Evaluation

1. Were the individual course objectives met? Objective #1: Yes No Objective #3: Yes No
Objective #2: Yes No Objective #4: Yes No

Please evaluate this course by responding to the following statements, using a scale of Excellent = 5 to Poor = 0.

2. To what extent were the course objectives accomplished overall?	5	4	3	2	1	0
3. Please rate your personal mastery of the course objectives.	5	4	3	2	1	0
4. How would you rate the objectives and educational methods?	5	4	3	2	1	0
5. How do you rate the author's grasp of the topic?	5	4	3	2	1	0
6. Please rate the instructor's effectiveness.	5	4	3	2	1	0
7. Was the overall administration of the course effective?	5	4	3	2	1	0
8. Please rate the usefulness and clinical applicability of this course.	5	4	3	2	1	0
9. Please rate the usefulness of the supplemental webliography.	5	4	3	2	1	0

10. Do you feel that the references were adequate? Yes No

11. Would you participate in a similar program on a different topic? Yes No

12. If any of the continuing education questions were unclear or ambiguous, please list them.

_____

13. Was there any subject matter you found confusing? Please describe.

_____

_____

14. How long did it take you to complete this course?

_____

_____

15. What additional continuing dental education topics would you like to see?

_____

_____

If not taking online, mail completed answer sheet to

Academy of Dental Therapeutics and Stomatology,
A Division of PennWell Corp.
P.O. Box 116, Chesterland, OH 44026
or fax to: (440) 845-3447

For IMMEDIATE results,
go to www.ineedce.com to take tests online.
Answer sheets can be faxed with credit card payment to
(440) 845-3447, (216) 398-7922, or (216) 255-6619.

☐ Payment of $49.00 is enclosed.
(Checks and credit cards are accepted.)

If paying by credit card, please complete the following: ☐MC ☐Visa ☐AmEx ☐Discover

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Exp. Date: _____

Charges on your statement will show up as PennWell

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2.	Ⓐ	Ⓑ	Ⓒ	Ⓓ		17.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
3.	Ⓐ	Ⓑ	Ⓒ	Ⓓ		18.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
4.	Ⓐ	Ⓑ	Ⓒ	Ⓓ		19.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
5.	Ⓐ	Ⓑ	Ⓒ	Ⓓ		20.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
6.	Ⓐ	Ⓑ	Ⓒ	Ⓓ		21.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
7.	Ⓐ	Ⓑ	Ⓒ	Ⓓ		22.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
8.	Ⓐ	Ⓑ	Ⓒ	Ⓓ		23.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
9.	Ⓐ	Ⓑ	Ⓒ	Ⓓ		24.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
10.	Ⓐ	Ⓑ	Ⓒ	Ⓓ		25.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
11.	Ⓐ	Ⓑ	Ⓒ	Ⓓ		26.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
12.	Ⓐ	Ⓑ	Ⓒ	Ⓓ		27.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
13.	Ⓐ	Ⓑ	Ⓒ	Ⓓ		28.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
14.	Ⓐ	Ⓑ	Ⓒ	Ⓓ		29.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
15.	Ⓐ	Ⓑ	Ⓒ	Ⓓ		30.	Ⓐ	Ⓑ	Ⓒ	Ⓓ

AGD Code 781

PLEASE PHOTOCOPY ANSWER SHEET FOR ADDITIONAL PARTICIPANTS.

COURSE EVALUATION and PARTICIPANT FEEDBACK

We encourage participant feedback pertaining to all courses. Please be sure to complete the survey included with the course. Please e-mail all questions to: hhodges@pennwell.com.

INSTRUCTIONS

All questions should have only one answer. Grading of this examination is done manually. Participants will receive confirmation of passing by receipt of a verification form. Verification of Participation forms will be mailed within two weeks after taking an examination.

COURSE CREDITS/COST

All participants scoring at least 70% on the examination will receive a verification form verifying 2 CE credits. The formal continuing education program of this sponsor is accepted by the AGD for Fellowship/ Mastership credit. Please contact PennWell for current term of acceptance. Participants are urged to contact their state dental boards for continuing education requirements. PennWell is a California Provider. The California Provider number is 4527. The cost for courses ranges from $29.00 to $110.00.

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RECORD KEEPING

PennWell maintains records of your successful completion of any exam for a minimum of six years. Please contact our offices for a copy of your continuing education credits report. This report, which will list all credits earned to date, will be generated and mailed to you within five business days of receipt.

Completing a single continuing education course does not provide enough information to give the participant the feeling that s/he is an expert in the field related to the course topic. It is a combination of many educational courses and clinical experience that allows the participant to develop skills and expertise.

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Customer Service 216.398.7822