

accordingly. Bleaching, whether vital or non-vital, is a useful adjunct to treatment and is conservative of tooth tissue. Importantly, provided the right case is selected, it is also successful.

REFERENCES

1. Haywood VB, Heymann HO. Nightguard vital bleaching: how safe is it? *Quint Int* 1991; **22**: 515-523.
2. Bartlett DW, Walmsley AD. Home bleaching. *Dent Update* 1992; **19**: 287-290.
3. Haywood VB. History, safety, and effectiveness of current bleaching techniques and applications of nightguard vital bleaching technique. *Quint Int* 1992; **23**: 471-488.
4. Feinman RA, Madray G, Yarborough D. Chemical, optical and physiological mechanisms of bleaching products: a review. *Pract Periodont Aesthet Dent* 1991; **3**: 32-37.
5. McEvoy SA. Chemical agents for removing intrinsic stains from vital teeth. II. Current techniques and their clinical applications. *Quint Int* 1989; **20**: 379-383.
6. How WS. Esthetic dentistry. *Dental Cosmos* 1868; **28**: 741-745.
7. Kirk EC. The chemical bleaching of teeth. *Dental Cosmos* 1889; **31**: 273-283.
8. Nutting EB, Poe GS. Chemical bleaching of discolored endodontically treated teeth. *Dent Clin North Am* 1967; Nov: 655-662.

9. Haywood VB, Heymann HO. Nightguard vital bleaching. *Quint Int* 1989; **20**: 173-176.
10. Kelleher M, Roe FJC. The safety-in-use of 10% carbamide peroxide (Opalescence) for bleaching teeth under the supervision of a dentist. *Br Dent J* 1999; **187**: 190-194.
11. Ito H, Wanatabe H, Naito M, Naito Y. Induction of duodenal tumours in mice by oral administration of hydrogen peroxide. *Gann* 1981; **72**: 174-175.
12. Dahl J-E, Becher R. Acute toxicity of carbamide peroxide and a commercially available tooth bleaching agent in rats. *J Dent Res* 1995; **74**: 710-714.
13. Lewinstein I, Hirschfeld C, Stabholz A, Rotstein I. The effect of hydrogen peroxide and sodium perborate on the microhardness with enamel and dentine. *J Endodont* 1994; **20**: 61-63.
14. Haywood VB, Leech T, Heymann HO, Crumpler D, Bruggers K. Nightguard bleaching: effects on enamel surface texture and diffusion. *Quint Int* 1990; **21**: 801-804.
15. Haywood VB, Houck VM, Heymann HO. Nightguard vital bleaching: effects of various surface textures and colors. *Quint Int* 1991; **22**: 775-782.
16. Hunsaker KJ, Christensen GJ, Christensen RP. Tooth bleaching chemicals - influence on teeth and restorations. *J Dent Res* 1990; **69**: 303.
17. Harrington GW, Natkin E. External resorption associated with bleaching of pulpless teeth. *J Endodont* 1979; **5**: 344-348.
18. Heithersay GS, Dahlstrom SW, Marrin PD. Incidence of invasive cervical resorption in bleached root filled teeth. *Aust Dent J* 1994; **39**: 82-87.

19. Casey LJ, Schlinder WG, Murata SM, Burgess JO. The use of dental etching with endodontic bleaching procedures. *J Endodont* 1989; **15**: 535-538.
20. Rotstein I, Zalkind M, Mor C, Tarabeah S, Friedman S. *In vitro* efficiency of sodium perborate preparations used for intracoronal bleaching of discoloured non-vital teeth. *Endodont Dent Traumatol* 1991; **7**: 177-180.
21. Holmstrup G, Lambjerg-Hansen H. Bleaching of discoloured root filled teeth. *Endodont Dent Traumatol* 1988; **4**: 197-201.
22. Frazier KB. Nightguard bleaching to lighten a restored, non vital discoloured tooth. *Compend Contin Educ Dent* 1998; **19**: 810-813.
23. Settembrini L, Gultz J, Kaim J, Schere W. A technique for bleaching non vital teeth: inside/outside bleaching. *J Am Dent Assoc* 1997; **128**: 1283-1284.
24. Nash RW. In-office bleaching system for quick esthetic change. *Compend Contin Educ Dent* 1999; **20**: 986-991.
25. Frazier KB, Haywood VB. Teaching nightguard bleaching and other tooth-whitening procedures in North American Dental Schools. *J Dent Educ* 2000; **64**: 356-357.
26. Welbury RR, Shaw L. A simple technique for removal of mottling, opacities and pigmentation from enamel. *Dent Update* 1990; **17**: 161-163.
27. Elkhazindar MM, Welbury RR. Enamel microabrasion. *Dent Update* 2000; **27**: 194-196.

ABSTRACTS

MORE EVIDENCE TO STOP PATIENTS SMOKING

Effect of Smoking on Periodontal Health in Molar Teeth. V. Kerdvongbundit and U.M.E. Wikesjö. *Journal of Periodontology* 2000; **71**: 433-437.

Whilst we frequently tell our patients that the primary cause of their gum disease is bacterial infection of long duration, how many times do we reinforce the fact that research shows an increased breakdown of alveolar bone in smokers compared to non-smokers?

These workers examined 120 regularly attending patients, half of whom were long-term smokers. The average consumption was 17 cigarettes per day, and the average duration of smoking was 21 years.

No noticeable differences were found between the oral hygiene standards and dental care habits of the two groups.

However, the smoking group had significantly fewer molar teeth remaining, and significantly advanced gingival recession, probing depths, clinical attachment loss, furcation involvement and tooth mobility.

Next time you are treating a patient with periodontal disease, your advice about smoking cessation may actually be more beneficial than that about oral hygiene measures!

UP TO DATE WITH THE CORE OF KNOWLEDGE?

Are Dental Radiographs Safe? P. Abbott. *Australian Dental Journal* 2000; **45**: 208-213.

It is important to remember that any dose of radiation has the potential to induce malignant change, and that such effects are cumulative. All dentists have a duty to be familiar with the 'Core of Knowledge' of radiographic procedures. This paper sets out the historical and current situation, and recommends 'best practice' techniques, including the use

of film-holders, equipment maintenance and accurate processing.

It is disturbing to read that in an Australian dental survey, 65% of films were considered to be inadequate for diagnostic purposes, and 89% had not been processed adequately. In spite of the relatively low risk of radiation in dental practice, the author suggests that dentists should not be complacent, but have a professional responsibility to maintain good safe radiation procedures at all times.

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