

**Patient education helps eliminate confusion regarding treatment options**

# Tooth Whitening Is Not Always Tooth Bleaching

**T**hroughout history, dentists have provided many services that change the color of their patients' teeth. The oldest bleaching techniques date back to the 1800s and were performed in the dental office. Today, the most popular bleaching technique involves the use of trays made in the dental office for at-home wear. When the first article on this tray technique was written in 1989, the technique was called "Nightguard Vital Bleaching." As this technique gained popularity in the profession and around the country, dentists became concerned that when discussing "bleaching," a technique that relied on the patient applying a material in the tray at home, the use of the term "bleach" might lead some patients to use laundry bleach (ie, sodium hypochlorite) in an attempt to change the color of their teeth. Therefore, to reduce the potential for patients to become confused and possibly cause harm to themselves, the profession shifted its terminology to the word "whitening," which sounded both more professional and less dangerous. In addition, because color measurement instruments are used to measure whiteness values, the term "whitening" has a more scientific basis.

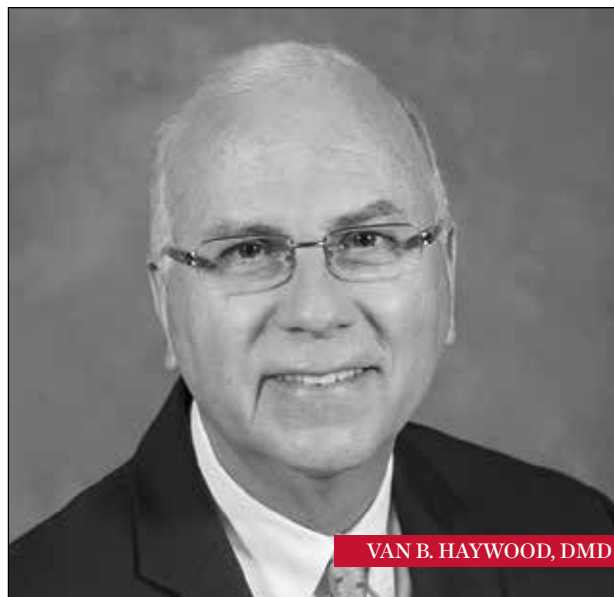
As the esthetic aspect of the dental profession has evolved, there has been a proliferation of over-the-counter (OTC) products and techniques that claim to perform "whitening." However, in this evolution to a broader group of products and techniques, the definitions of the terms relating to tooth color change have diverged into two meanings: the term "whitening" now primarily refers to "the removal of extrinsic stains from the tooth," whereas "bleaching" refers to "changing the inherent color of the tooth." Bleaching produces a whitening effect, but in a different manner than products that merely remove surface stains.

Unfortunately, this differentiation between the meaning of "bleaching" and "whitening" has caused some patients to confuse the OTC products sold for "whitening" teeth with the "bleaching" treatments that a dentist provides. When the American Dental Association

approved the first "whitening toothpaste" in 1999, the company had to state on the package what the toothpaste was capable of doing. The label on this whitening toothpaste stated that it "polishes away stains," but also noted that it "is not bleaching." Today, many toothpastes are being sold as "whitening" toothpastes. A close look at the product brochure of one of the popular whitening toothpastes reveals that the toothpaste "does not change the color of the teeth, but removes surface stains." However, this does not appear until the second page. Because manufacturers have deemphasized this fact, some consumers may believe that whitening toothpaste is an equally effective alternative to bleaching treatments. There has been little research conducted on the many OTC whitening toothpaste products without peroxides, but what has been done has demonstrated that there is no inherent color change in the teeth, only the removal of surface stains.

The challenge with using the scientific term "whitening," which is the measurement used by colorimeters and other scientific color measuring instruments, is that the term does not represent what is occurring during "bleaching" treatment. Whether you remove black surface stains from a tooth, paint a tooth white on the surface, or change the internal color of a tooth by bleaching the dentin, the instrument still records that the tooth is "whiter." However, two of these processes only result in surface color changes, whereas the other achieves a true internal tooth color change.

Dentists need to educate their patients that in general marketing terms, "whitening" products only remove surface stains, but "bleaching" treatment changes the internal color of the tooth. Because there is some crossover with a few effective OTC products, this will not totally remove the confusion, but in most circumstances, patients will better understand what type of treatment they are seeking and use their finances appropriately.



VAN B. HAYWOOD, DMD

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**ABOUT THE AUTHOR**

Van B. Haywood, DMD, is a professor in the Department of Restorative Sciences at the Dental College of Georgia at Augusta University in Augusta, Georgia.