



Oral care manufacturers are using color in innovative ways to promote adherence and improve user health. Image Source: Unsplash user Lesly B. Juarez

Oral care is one of the oldest and most fundamental parts of healthcare. While many aspects of modern hygiene are relatively new, people have used oral care products since ancient times. “Egyptians are believed to have started using a paste to clean their teeth around 5000BC,” explains Colgate. “Ancient toothpastes were used to treat some of the same concerns we have today—keeping teeth and gums clean, whitening teeth, and freshening breath.”<sup>1</sup> Toothbrushes arrived later, around 3500-3000BC, “when the Babylonians and the Egyptians made a brush by fraying the ends of a twig.” Even interdental cleaning devices acted as primitive flossing instruments in ancient times.

Despite this long history of oral care products, it has only been relatively recently that toothbrushes, toothpastes, and flosses have come to resemble the products that we know today. In fact, mass-produced iterations of these products all emerged just over a century ago in the late 1800s, ushering in new oral hygiene standards and facilitating improved self-care. Since that time, oral care products have continued to improve as scientific knowledge regarding pathogenic influences on oral health has grown. As a result, people are now keeping their natural teeth longer than ever before and commercial oral care products have become household essentials.

But despite widespread availability of affordable oral care instruments, adherence and motivation still remain challenges.<sup>2</sup> According to the Delta Dental Oral Health and Well-Being Survey, 30% of Americans fail to brush their teeth twice a day,<sup>3</sup> and only 25% of Americans floss daily. Those who do brush often don’t brush long enough or change out their toothbrushes often enough. These factors help explain why nearly half of American adults have some form of periodontal disease.<sup>4</sup> “[A]s Americans live longer and retain more of their natural teeth, periodontal disease may take on more prominence in the oral health of the U.S. adult population,” says Paul Eke, MPH, PhD, and CDC epidemiologist. “Maintaining good periodontal health is important to the overall health and well-being of our aging population.”

In order to promote adherence, manufacturers of oral hygiene products are now developing new products that both attract customers and encourage use. Color plays a central role in many of these innovative developments, making spectrophotometric color analysis more essential than ever before.



A new generation of colorful oral care products is replacing the standard whites of the past. Image Source: Pexels user Pietro Jeng

#### Using Color to Reimagine Oral Care

“When I opened the mailer to reveal four small boxes in the colors of the tropics, I let out an audible ‘Ahhh!’” says Cheryl Wischhover. “My reaction was immediate and visceral. Was it a beautiful makeup palette? A sublime new fragrance? Nope, it was dental floss. Cocofloss, to be precise.”<sup>5</sup>

Cocofloss is part of a growing market of upscale oral care products that take everyday hygiene essentials and reimagine them as pieces of beautiful design. Inspired by the waters around Turks and Caicos, the color of Cocofloss is perhaps its greatest asset. As Wischhover says, “Personal care is arguably the last frontier of good design, but that’s definitely changing. Startups like Cocofloss [are]

offering truly attractive products for a process—scraping biofilm off your teeth— that’s anything but.”

But Cocosfloss was developed not just as a way of cashing in on growing public appetite for aesthetically beautiful products; rather, it was created to help people re-frame their relationship with flossing and promote adherence. “We wanted to repaint floss and change the way people think and feel about it,” explains Catherine Cu, an artist who partnered with her dentist sister to found the company in 2015. “People think flossing is so gross, so we wanted to build a new association [with it].” The sisters believe this new association will help people change their habits and ultimately enjoy better oral health.

Flashy new startups aren’t the only ones [capitalizing on color](#) to create more attractive oral care products. In recent years, established manufacturers have released a variety of oral care products that marry form and function, with color acting as a central feature. Waterpik, for example, revealed its Aquarius Designer Series that allows you to choose from a range of colors to “bring beauty to both their surroundings and to the people who use them.”<sup>6</sup> Meanwhile, Sonicare has expanded its color range to include rose gold, pink, and amethyst options, making its renowned electric toothbrushes stunning features rather than something to hide away in the medicine cabinet. Not only do these colors help a manufacturer’s products stand out from the pack, they may also promote adherence by increasing psychological appeal.

#### Practical Applications of Color to Promote Adherence

Of course, the potential for color to facilitate adherence doesn’t just lie in pure aesthetic appeal; for years, color has been used to communicate important information to help people use dental care products more effectively. Color changing bristles, for example, indicate when it’s time to swap out your old toothbrush for a new one. Color-changing toothpastes transform their hue as you brush to encourage proper brushing duration.<sup>7</sup> Dental disclosing tablets use color to reveal the dental plaque that remains after brushing, allowing users to see what they have missed and improved their technique. By harnessing the power of color to communicate important information, these products empower consumers to make better choices regarding their health and well-being.



Spectrophotometers are essential for monitoring color in oral care products to increase appeal.  
Image Source: Flickr user Electric Teeth

#### Spectrophotometric Color Measurement of Oral Care Products

The central role color plays in modern oral care products demands that manufacturers integrate the highest level of color quality control within their production processes. Whether color is used for aesthetic or functional purposes, spectrophotometers are the ideal solution for monitoring the color of all types of oral care products to ensure accurate coloration.

Spectrophotometers are designed to mimic the way the human eye sees color while removing the subjectivity and inherent unreliability of human sight. By [distilling color information to objective data](#), oral care manufacturers are able to gain vital insight into color quality at every stage of the manufacturing process. These instruments can be used to create color formulas and monitor both raw ingredients and finished products to ensure end-to-end color control. When the color of the product is designed to change through use, spectrophotometric analysis also allows for precise [evaluation of color behavior in real life conditions](#) to ensure efficacy.

The versatile nature of spectrophotometers means that they are appropriate for measuring the color of all material types, including metals, [plastics](#), films, and [pharmaceuticals](#). As such, they can be used in the development and production of a complete range of oral care products and facilitate color matching in products comprised of disparate materials. When color is an integral part of user adherence, this is vital in order to allow the product to reach its full potential.

#### HunterLab Quality

HunterLab has been a pioneer in spectrophotometric color measurement for over 60 years. Today we offer a comprehensive line-up of [portable, benchtop, and in-line instruments](#) that can be easily integrated in laboratory and factory environments. Combined with our [EasyMatch QC software](#), HunterLab spectrophotometers give you unprecedented color insight and control, allowing you to create the highest quality products possible. [Contact us](#) to learn more about our renowned products and world-class customer support services.

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