Abrasiveness – How Low Can You Go?

By Beverly Hills Formula

The variety of toothpastes available means that many patients choose a brand based on how effective it is at targeting some of the most common dental problems; staining, bad breath, sensitivity and gum disease. They probably do not even give a second thought to the ingredients and the effect they may have on their teeth and overall oral health.

However, results from Missouri Analytical Laboratories confirm that dental professionals and patients should be concerned with the ingredients in toothpaste and their level of abrasiveness, and how by using a lower abrasion toothpaste, serious oral health issues can be avoided.

As a dental professional your advice and professional recommendation carries considerable weight and it’s important that your patients understand what’s inside their toothpaste before committing to a particular brand.

High vs. Low
All toothpastes contain abrasives; they provide the cleaning power needed to keep teeth clean and help prevent gum disease by removing plaque, stains and debris. However, in the search for the right toothpaste, it’s important to find one that does “all of the above” but is not so harsh that the abrasives attack the enamel.

The development of toothpaste and its abrasive qualities date back as far as the Egyptians in 4th Century AD and the Romans, when the most effective recipes included crushed flowers, honeys and oyster shells.

Today, abrasive ingredients include particles of aluminum hydroxide (Al(OH)3), calcium carbonate (CaCO3), various calcium hydrogen phosphates, silicas and zeolites, and hydroxyapatite (Ca5(PO4)3(OH)), and can account for up to 80% of some brands of toothpaste.

Patients should steer clear of highly abrasive toothpastes as they can damage the teeth and gums. As tooth enamel is worn away, the dentin beneath is more visible and teeth become more yellow in appearance. They can also remove the luster and polish of porcelain veneers and crowns, dulling an otherwise beautiful smile. Abrasive toothpastes can also cause teeth to become sensitive and in the most severe of cases can result in infection and even tooth loss.

Abrasion Testing
The abrasiveness of toothpaste is measured according to the RDA (relative dentin abrasivity) value, and any value over 100 is considered to be “abrasive”. Unfortunately the RDA Value is often not included in the marketing or promotional information supplied with toothpaste products, masking what is a common problem.

In a study recently performed by Missouri Analytical Laboratories (July 2011), a range of whitening toothpastes were tested to compare and evaluate their levels of abrasion. The results confirmed that Beverly Hills Formula toothpaste is proven to be less abrasive than some other leading brands of both whitening and regular toothpaste.

In fact, Beverly Hills Formula Total Protection Whitening toothpaste scores as low as 95 on the RDA table whilst some leading competitors have levels as high as 147.

To support this, in a study conducted at Bristol University Dental School, Beverly Hills Formula whitening toothpaste was also found to remove stains in just 1 minute, with over 90% of stains removed over a 5 minute period. For extra stain removal, patients can be advised to leave the toothpaste on their teeth for up to 1 minute before brushing.

These results signal a break-through in oral care and aesthetics. Removing stains caused by tea, coffee, red wine or tobacco no longer requires harsh abrasives or bleach, as this new generation of whitening toothpaste offers a more tooth-friendly solution, helping patients to restore their teeth to a natural white colour, quickly, safely and effectively.

Beverly Hills Formula's Perfect White Range has been proven as a safe and effective at-home whitening method, which can be carried out daily. Studies have shown that Beverly Hills Formula’s toothpastes and mouthwashes provide powerful stain removal, a high performance whitening boost and also care for teeth and gums.

Contact Information
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About the Author
Eric Peterson is founder of the whitening toothpaste Beverly Hills Formula.
Size matters when recommending daily cleaning with an interdental brush

Clinical Case: Restoration of Anterior Sectors

By Prof. Angelo Putignano, Italy

The case refers to a young patient who suffered a fracture while swimming. The fracture, as we can observe in the initial shots, concerns the entire incisal edge even with a cervical flute-beak fracture (Fig.1).

After physical and electrical vitality tests were performed (pulp tester), two impressions were taken for diagnostic wax-up's to reconstruct the patient's teeth, both functionally and esthetically (Fig.2, 5 and 4).

We examined the patient two days later, checked pulp vitality and used fluoride free Cleanic® prophylactic paste on the surface of the preparations, together with water spray to avoid dehydration that would interfere with shade selection. We then conducted a morphological and colorimetric study of the dentin requiring reconstruction. On completion of the study, the case did not appear too difficult, except for a hint of orange in the central area, and several white spots on the incisal edge. We selected Herculite® XR Ultratm a2 enamel, a2 and a3 dentin & universal incisal, with the incisal edge already restored.

The Palatal wall is constructed with A2 Enamel, followed by the application of a small amount of A5 Dentin on the most coronal part of the preparation. A layer of A2 Dentine Ochre and White Kolor + Plus® dentin & universal incisal, and a3 dentin on the most coronal part of the preparation, followed by the application of a small amount of a2 enamel, followed by a2 and a3 dentin with the incisal edge already restored.

So why should you or your patients start using them? Studies9 tell us that most of us (up to 90%) will experience some form of mild gum disease (gingivitis). Early symptoms of gum disease (gingivitis) can be detected by inflamed gum tissue. This is caused by the bacteria in dental plaque. If the bacteria is not brushed away, it may form tartar and can eventually result in a cavity. As many as 30% of cavities are between your teeth.

An international study9 showed that brushing with an interdental brush removes more plaque than brushing with a toothbrush alone. The study showed a positive significant difference using an interdental brush with respect to plaque scores, bleeding scores and probing pocket depth. The majority of the studies also showed a positive significant difference in the plaque index scores when using an interdental brush compared to using dental floss.

Size is important when using an interdental brush10. Interdental brushes are a good alternative for many of your patients. Statistics show that the population is aging and growing, and many of these people are also keeping their own teeth. This is also a contributing factor to the increase in bridges, crowns and implants. Interdental brushes are easier to use than many other products, including traditional floss. Our advice is to look for an interdental brush that has a sturdy but compact handle so that the users get a good and comfortable grip. Shorter handles give the user more control as the position of thumb/finger grip is closer to the point of contact. A non-slip grip also helps control movement. It is important that the user is able to navigate easily in the mouth, reaching the back molars.

The highest usage of interden- tal brushes was found among consumers between the ages of 40-49. 6 out of 10 of these use the interdental brushes on average 5-7 times a week. But not all your recommendations should be to older patients. As many as 1/5 of children in Norway have orthodontic treatment11. Among these, there are a number that do not necessarily need it, but for cosmetic and confidence reasons choose to have corrective treatment. The common age to start using braces is between 12-14 years but we are also seeing a trend in an increasing number of older consumers wearing braces, says Renate Dernae, dental Hygienist, Norway.

Two of the most common diseases within the U.S., diabetes and cardiovascular disease, have growing evidence of a relationship with plaque within the mouth12. To keep your teeth free of plaque you need to do more than just brush your teeth twice a day. Help your patients keep their teeth healthy by recommending the best option for them to clean properly between their teeth as well as motivate them to use daily.

References
1. Questback Nordental, Norway, 2014
2. www.ada.org
4. www.ada.org
5. Questback Nordental, Norway, 2014
was then applied to cover the previous layer and then the mamelons were sculpted.(5) (Fig.5-9)

The incisal composite is placed, both around and between the mamelons, to create a translucent effect, and to highlight the dentine anatomy. (Fig.10)

The most coronal aspect is slightly pigmented with Ochre, while whitish areas are replicated with White Kolor + Plus®. (Fig.11)

At this point we coated it all with a very fine layer of A2 Enamel, also considering the enamel mass’ limited translucency. (Fig.12)

A 40 micron diamond was used to finish the anatomy, while the initial polishing was achieved using silicon polishers with decreasing abrasive grades. (Fig.13)

After checking the occlusion, the patient’s treatment was completed; the final polishing and shade confirmation was postponed for 10 days. At the next appointment the structure surface was replicated and the restoration was polished using Occlibrush® which is impregnated with Silicon carbide and aluminium oxide paste applied with felt pads. (Fig.14)

The patient was pleased with the final result, but we reminded him that, considering the extent of the injury, he should attend periodic pulp vitality checks, and that the need for endodontic treatment should not be ruled out.

Herculite® XRV UltraTM performed a significant mimetic feature and, with the addition of Kerr Kolor + Plus® for the incisal characterizations, a highly aesthetic value end result.