The new dental care system proven to reverse the enamel erosion process

**By Dental Tribune MEA/CAPPnews**

**Dubai, UAE:** Monday 16th of February 2015, over 150 dental professionals gathered at the Armani Hotel Downtown Dubai, UAE for the launch of the new dental care system which proves to help reverse the early and invisible stages of the enamel erosion process. Dental Tribune MEA/CAPPnews interviews Unilever expert Dr. Fred Schafer on his views.

**Dental Tribune MEA/CAPPnews: Dr. Fred Schafer, what is NR-5 or rather Regenerate?**

**Dr. Fred Schafer: Regenerate Enamel Science™ is a dental care system. It is the first system able to help reverse the early, invisible stages of the erosion process and regenerate enamel with exactly the same mineral of which tooth enamel is made. The Regenerate system contains the exclusive NR-5™ technology with 5 international granted and pending patents.**

Regenerate Enamel Science™ is a completely novel way to apply effective anti-erosion enamel care. Because it combines an Advanced Toothpaste for daily brushing with a Boosting Serum for direct application of the NR-5™ technology onto tooth enamel on three consecutive days once a month.

The NR-5™ technology is a unique combination of calcium silicate, sodium phosphate and fluoride. Whilst standard fluoride toothpastes help to protect from enamel erosion, clinically-proven Regenerate Enamel Science™ is the first system able to help reverse the early invisible stages of the erosion process and regenerate enamel with exactly the same mineral (hydroxyapatite) from which tooth enamel is made.

**How has Unilever’s new NR-5™ dental care system been proven to reverse the enamel erosion process?**

To answer this question we need to understand first how the NR-5™ technology works. When brushing calcium silicate and sodium phosphate combine with saliva to form hydroxyapatite. Firstly the calcium silicate particles deposit (stick) onto the surface of enamel. The calcium silicate particles then trigger the formation of crystals of hydroxyapatite on the tooth surface. Therefore the first step in proving the NR-5™ technology was to investigate the formation of hydroxyapatite crystals. Detailed measurement and analysis of the deposited layer – using sophisticated microscopy and x-ray technology – did indeed prove that the deposited layer is hydroxyapatite.

The second step was to study in the laboratory whether the invisible erosive damage of tooth enamel could be restored. A series of studies using small pieces of enamel were carried out according to internationally accepted protocols and procedures. The enamel samples were analysed and measured to determine the beneficial effect of the NR-5™ toothpaste and the direct application boosting serum. The results of these studies showed:

- the combined treatment of NR-5™ toothpaste and NR-5™ boosting serum provided 82% recovery of enamel hardness after three days.
- the NR-5™ boosting serum gave a 45% benefit compared to the NR-5™ toothpaste alone.
- the combined treatment of NR-5™ toothpaste and NR-5™ boosting serum provided significantly greater recovery of enamel surface micro-hardness in comparison to a normal toothpaste.

Finally, the NR-5™ toothpaste and NR-5™ boosting serum were assessed in human volunteers. The results confirmed that the combined use of the NR-5™ toothpaste and NR-5™ boosting serum provided a greater regenerative benefit to acid-damaged tooth enamel than a normal toothpaste.

**What was the motivation and inspiration to produce such a formulation over ten years of research and development?**

The motivation was to give the consumer an improved dental care system specifically designed to help against the challenges our modern, healthy diet pose to tooth enamel. The inspiration came from research into the repair of bone in which hydroxyapatite is needed to form bone. The NR-5™ technology could prove beneficial in regenerating acid-damaged tooth enamel.

**How will Unilever convince dental professionals that the new NR-5™ Regenerate System is better than its predecessors and that is should replace the everyday regular toothpaste used?**

Unilever has carried out extensive basic and applied scientific research on this new technology and provided clear proof of the effectiveness of the NR-5™ toothpaste and NR-5™ boosting serum. The main results have been published in a peer-reviewed scientific journal and are available to academic researchers and dental practitioners worldwide. We are convinced that the daily use of the NR-5™ toothpaste combined with the direct application of NR-5™ boosting serum – a completely novel and unique way of using an oral care product – will significantly help consumers in protecting their tooth enamel from damaging effect of the erosive acid challenges our modern diets and life styles bring.

**Is it so that the advanced toothpaste also has to work in conjunction with a Boosting Serum to get the full effect? If so what are the prices for both the toothpaste and serum for the MEA region?**

Our studies have shown that the best effect can be achieved by using the NR-5™ toothpaste and NR-5™ boosting serum together. Serum is for 190 AED and Toothpaste for 60 AED.

**What is your view on Dentistry in the Middle East and do you think the NR-5 will be successful in this region?**

The dental profession in the Middle East is highly sophisticated and of world-class standard. Likewise, the consumers in the Middle East represent a global picture of dental care needs and oral hygiene practices. As noticed in other regions, the relatively high living standard has increased the risk of dental erosion from modern diet and lifestyle, for example consumption of carbonated drinks and fresh fruit such as oranges. For these reasons, we see a clear need to give the consumer an improved product system to help maintain healthy teeth able to withstand the challenges of modern life. We are convinced that NR-5™ toothpaste and NR-5™ boosting serum will therefore have a big role to play in this and be a success also in this region.

Dr. Fred Schafer - Unilever expert

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  How about finishing beautifully with the Damon System?

- Dr. Jeff Kozlow (USA)
  Enhancing Efficiency and Effectiveness through Digital Orthodontics

- Dr. Philipp Van Steenberghe (Belgium)
  Early Elastic: a new world to explore

- Dr. Hans Swohelzer (Germany)
  Marketing in orthodontics: tips and tricks to be a successful and modern orthodontist today

- Dr. Andrei Tkhtosenko (Russia)
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