By Jordan

A majority of the people asked, confirmed that their teeth are more important than other high interest personal care categories, for example hair and even skin care. The reason for this is that we need our teeth to be healthy and strong in order to enjoy the food we eat like eating, throughout our lifetime. In the past, it was an assumption that we would lose a significant number of our teeth. That is not the case for today’s older adults who are keeping their natural teeth longer than ever before. More and more people are even keeping their teeth throughout their lifetime.

What many people do not know, is that the risk of cavities increases with age. One of the reasons is dry mouth, a common side effect of many prescription medications. About 40 per cent of people over the age of 65 have a disease called dry mouth which can cause tooth damage. Another reason is that the juices inside the teeth become smaller and less sensitive. By the time you feel pain from a cavity, it may be too late.

So how can you best take care of our teeth, so that we last our lifetime? The answers lies in daily care and regular visits to the dentist or hygienist. Follow the dentist’s recommendation and brush twice a day, and use, at least once a year, a professional product of choice to clean where a toothbrush cannot reach. Fluoride strengthens the tooth and reduces the risk of decay, so it is important that the toothpaste contains the recommended amount of fluoride. Dentists also recommend a soft toothbrush that has good much in order to clean brackets and difficult areas in the mouth properly. Diet and lifestyle also affect teeth and gums so stop to smoking and minimizing the intake of alcohol and other and acid containing foods and drinks are important steps to make. By daily removing plaque on around teeth, as well as along the gum line, teeth and gums have the best chance of keep- ing healthy.

There are several factors that affect our brushing results. How we brush and how long we brush is two of the most central Dentists recom- mend brushing for two minutes to get the best results, but few people actually do this. 50% of health care recommendations are not practiced. People also have a bad conscience when it comes to brushing their teeth. They know they should brush better and put more effort to keep their teeth healthy for life. Another study shows that men are notably less likely to brush their teeth twice a day than women.

75% of women brush their teeth the recommended twice a day versus 65% of men. Women are also flowing more frequently than men. Here are a few suggestions for taking care of the teeth:

- Use a toothbrush that feels comfortable to hold. There are different shapes and sizes. In a study it was found that the design of the toothbrushes affected the way people brushed and that people had a preference for how they brushed. If you hold the toothbrush in a light grip not clasp fingers around the toothbrush and turn the handle a few times when you brush, you most likely prefer a slimmer, precision style handle. On the other hand, if you prefer a thicker handle you probably have a more stable grip.
- The size of the head comes in different sizes and the preference is also very personal. The important thing is that you can easily brush the teeth easily around your mouth in order to reach and properly clean all areas, especially the back teeth.
- How the bristles are shaped can affect performance. Dentists recom- mend soft bristles that are gentle to teeth enamel and to your gums. It’s important that the toothbrush leaves you feeling clean and does not irritate the softer gum tissue.
- If travelling, keep brushes in a dental travel case to protect them from humidity and hygiene.

Keeping our teeth strong and healthy is important and it’s our daily efforts that help us achieve this goal.

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My Teeth are important

“My Teeth are important”, is the feedback when asking people about their teeth.1

By Dr David Alexander, Singapore

With the Minamata Convention on Mercury signed in 2013 and its pro- posed phase-out of mercury-containing products, including dental filling, dentistry has entered a new era in which new and less harmful filling materials than amalgam are increasingly being used. This year at ICDM, an entire sym- posium will be dedicated to that topic. Scoping editors this week, Dr David Alexander spoke with pres- ident Prof. Henk Nieu from the University of Queensland in Australia about the post-amalgam era and its impact on dental practice.

Dr David Alexander: Why is now the time to be organising such a detailed symposium on dental restorative ma- terials?

Dr Henk Nieu: The scope of the Mi- namata Convention is much wider than merely the man-made product “protect human health and the envi- ronment from anthropogenic emis- sions and releases of mercury and mercury compounds.” In 2014, the FDI World Dental Federation issued a policy statement on dental amalgam supporting the recommendations of the Minamata Convention, which in- cludes a phase-down of amalgam. At this material has been one of the manmades of dentistry for over 150 years and has had a significant impact on the way dentistry is practised every day. It seems we need to start preparing to- day.

Surely with all the various tooth col-oured restorative materials available we are already in the post-amalgam era?

You are right, with the wide choice of tooth-coloured restorative materials and their improved performance, we are well equipped to enter the post-amalgam era in dentistry. How- ever, the call by the FDI and United Nations Environment Programme (UNEP) for a global amal- gam strategy has removed amalgam as an important topic in many parts of the world. This is mainly because of its perceived cost, long term and high technique tolerance. There are billions of amalgam resto- rations still in service and the search for the ideal tooth replacement ma- terial is still ongoing.

In preparation for the eventual re- moval of amalgam, the FDI policy statement stresses that authorities should work with the dental profes- sion on a comprehensive global dental materials research agenda together with effective preventive strategies. In the post-amalgam era, the profession has to focus on both restorations and preventive ap- proaches to the management of dental diseases.

Briefly, how did the United Nations treaty on limiting the use of mercury come about?

It started with the realisation of the negative impacts of mercury on the environment. The United Nations UNEP first looked into this issue in 2001. By 2003, it had come to the realisation that it was necessary to take action to reduce the use of mercury globally. However, by September 2001, it was evident that there was insufficient voluntary action, so it was decided to step up the campaign by initiating a formal action programme. This is the birth of the Minamata Convention, which was finally signed in 2013. Today, over 118 nations have signed it.

As far as dentistry is concerned, what will be the main changes in everyday practice?

The main changes include focusing on managing dental diseases, early detection and empowering patients to take control of their health. When repair is required, the focus should be on maximum preserva- tion of tooth structure. This can be achieved only with the use of adhe- sive-dentistry and not amalgam. In order to gain public confidence, dental practitioners should demon- strate the importance of training to safe handling practices, equipment and restorative tech- niques to handling practices, and to the participants with an understanding of the rationale behind the need to phase down the use of dental amalgam and to gain a detailed and complete update on the latest advances in dental materials and the optimal techniques for clini- cal care. This will enable the participants to gain detailed knowledge on tooth- replacement material and the symposium will prepare participants for this new phase.

As you already stated, dental amal- gam has been one of the mainstays of dentistry for over 150 years. How can dental professionals acquire the knowledge, learn the skills and train their supporting staff to adopt the new restorative materials while patients may enjoy the benefits of these mod- ern materials, in most cases, in place of amalgam?

The alternative restorative materials to dental amalgam are not that new, thus, most dental professionals and their supporting staff will already be familiar with these materials, even if they are not in widespread use in their clinics. New are the features and benefits that the most recently developed materials offer. The sym- posium will place much emphasis on this aspect, especially regarding the clinical techniques. Therefore, the adoption of new techniques, un- derstanding the strengths and the limitations of various materials, and the training of the wider dental community is essential. A benefit for every member of the dental team will be seen in patient satisfaction, as the aesthetics and longevity are so much greater now. The symposium will address restor- ing a single tooth as well as the en- tire dentition, and re-establishing a healthy oral environment.

What are the major learning out- comes of the whole-day symposium? This symposium will enable par- ticipants to understand the rationale behind the need to phase down the use of dental amalgam and to gain a detailed and complete update on the latest advances in dental materials and the optimal techniques for clinical care. By the end of the symposium, partici- pants will have gained practi- cal knowledge how to deliver effective, evidence-based and patient-centred preventive and restorative solutions in the everyday practice of dentistry.

We have assembled a panel of inter- national experts in dentistry, scientists and clinicians to share their knowledge and clinical experience and enable a greater understanding of the opportunities for oral health and dental practice in the shift towards the post-amalgam era of dentistry.

By attending the symposium, will dentists be able to gain sufficient knowledge and skills to initiate the changes required in their practices?

The secret to success in responding to this call to action is to focus on preparing for the new era. The symposium is intended to provide par- ticipants with an understanding of the rationale behind the phase-down of amalgam, and participants will gain detailed knowledge on tooth- coloured restorative materials, learn new skills on the selection and application of restorative materials, be able to communicate the significance of the changes to members of the den- tal team and patients. At the end of the day, participants will feel ready and empowered to embark on this new approach.

The key stated with free mer- cury has been well acknowledged by the dental profession. Waste management and safe handling of amalgam have been observed, and there are well regulated. One can ar- gue that, for the majority of dental practitioners, the transition to tooth- coloured restorative materials hap- pened a while back. These materials have much improved performance and they are now very popular. The main objective of this symposium is to bring together a group of expe- rienced experts to provide the latest in- formation to the participants, as well as to share their knowledge and experiences and skills. The list of speakers includes eminent dental leaders, scientists and clini- cians who will ensure that each participant will benefit.

Thank you very much for the inter- view.

Editorial note: Continue to DTI’s Dental Tribune Middle East & Africa Edition  |  5/2016
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Where the magic happens

What goes on behind the scenes at Philips? We find out how in-lab research and years of innovation helped create Philips Zoom! whitening.

By Philips

Tooth whitening has been at the forefront of cosmetic dentistry for years – centuries, even. Its history can be traced back thousands of years, long before the toothbrush was invented and certainly before dentists were around.

Philips has been at the centre of this journey for years. Away from oral healthcare, the first Philips’ patent dates back to 1905 – an invention by Gerard Philips to extend the burning time of a light bulb. The company has been innovating light research ever since, so you can bet Philips knows a thing or two about adapting light for optimum tooth whitening.

Six shades lighter

Last month, Aesthetic Dentistry Today attended a live demonstration of Philips Zoom! Whitening in its lab, learning about the science behind light and basic colour theory along the way.

Dr Nigel Young, lead research scientist at Philips, says that when it comes to whitening, patients want something that works – which may sound obvious. But most of the time, patients are looking for ‘instant gratification’, and often, home whitening will not last as long, or be as effective, as professional chairside whitening. Here’s where Philips comes in: Zoom! is an in-office tooth whitening procedure, with a blue light-activated system. The action of the lamp activates the stains on the teeth and makes them react faster with the hydrogen peroxide. Essentially, this means that whitening lasts longer: set at the optimum pH level (approximately eight), and with the incorporation of amorphous calcium phosphate (ACP) in a dual barrel syringe, Zoom! ensures that teeth are not damaged and that the patient does not experience sensitivity.

The process is cool, too. The team wants to debunk the myth that heat activates whitening (which only causes dehydration and ‘false’ whitening). It achieves up to six shades of whitening with 6% hydrogen peroxide, in compliance with EU regulations – and only blue light-activated whitening can achieve this. But how?

The face lift

In basic colour theory, yellow light naturally absorbs blue. (Think of yellow light as the ‘stains’ on teeth.) The energy absorbed by the chromophore (which is yellow) excites its bonds, making them easier to break – called photobleaching. Once excited, the bonds are more likely to interact with peroxide, which breaks the network of double and single bonds and decolours the molecule. Blue light greatly enhances the reaction rate.

Light-cured restoratives work on the same principle: a yellow pigment (camphorquinone) is added to the restorative (so little is required that it still appears white). The light absorbed by the pigment activates the chromophore and that energy causes a set of fast cross-linking reactions that solidify the restorative.

Dr Zaki Kanaan, a dentist in London and a past president of the British Academy of Cosmetic Dentistry, describes tooth whitening as a ‘scalpel-free face lift’.

According to Dr Kanaan, it is the most common treatment in practice and is increasing revenue and offering patients a choice; home tooth whitening is still the ‘gold standard’, he says, but if you don’t offer tooth whitening in practice, someone else will.

Zoom! can be done in 90 minutes, but Dr Kanaan is quick to point out that one session will not be enough. ‘It reduces what you have to do at home, and that’s important to patients,’ he says. ‘It helps kick-start the process, and patients who really want this procedure will be happy to watch a 90-minute film while they have it done.’

He adds: ‘It offers huge PR and marketing potential, too – patients come in to practice and ask for Zoom! by name, showing they trust it as much as professionals.’

Myths about whitening

• Heat does not accelerate whitening
• Hydrogen peroxide is not activated by blue light (as it is colourless)
• Dehydration actually causes ‘false’ whitening
• Home care whitening has a place, but it can take longer to achieve ideal results
• Zoom! does not harm enamel or exacerbate tooth sensitivity

Safety first

Tooth whitening is a complex mix of chemistry and physics, and Philips has ensured that it works with the right researchers to understand the process behind whitening.

Philips works with four of the world’s top 10 universities and partners with leading academic institutes in the UK for oral healthcare, including the Eastman Dental Institute and King’s College London.

Dr Young says the lab at Philips headquarters in Cambridge is ‘where the magic happens’. The team assessed Philips Zoom! whitening here, looking at pH levels, sensitivity tests, experiments in a dark room, as well as ensuring extracted bovine and human teeth were not dehydrated to skew results. In vitro testing of coffee, tea and red wine stains on extracted human teeth were also conducted.

Follow-up, Dr Young says, is essential. The team has been researching this area and product since 2012, and made ‘absolutely sure that Zoom! was safe and effective for use’.

The only way is up

Philips is keen to invest, research and innovate in oral healthcare, maintaining its position as one of the key figures in the dental industry. The company aims to improve the lives of three billion people by 2025 on a daily basis, and bring this healthy living into prevention, diagnosis and therapy.

Dr Young also emphasised Philips’ role in future oral healthcare, saying: ‘Our aim is to push oral healthcare to the forefront of general wellbeing. The main question we ask ourselves is: how can we make people more aware of how to take care of their body?’

“We came to Cambridge for a reason – we work with some of the best researchers in the world, and we hope to continue this learning and innovating long into the future.”

Originally Published by: Carlotta Fahl, Managing Editor, Aesthetic Dentistry Today (FMC Publications), August 2016, UK

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