

Caries prevention in paediatric patients

Prevention programmes adapted to the individual patient's needs

Jacqueline Esch, Munich, Germany

14

There is an increasing awareness worldwide that individual caries prevention programmes for children are particularly important. As a consequence numerous countries have published their own guidelines with recommendations regarding effective preventive strategies. In Germany a new concept was developed that suggests starting with dental examinations at six months of age to ensure early identification of high caries risk. It is also used to teach parents adequate oral hygiene techniques for their kids and inform them about relevant aspects of a healthy diet.

Individual preventive programmes

The pertinence of individual preventive programmes for children is obvious: On one hand the primary teeth have a decisive impact on the development of the jaw. On the other the main goal of maintaining an individual's natural dentition for a lifetime is reached only if the patient shows compliance, implements the required oral hygiene practices at home and visits the dentist on a regular basis. This is most likely when a child becomes familiar with the procedures very early.

The Bornholm method

In our international practice for paediatric dentistry in Munich, Germany, we have implemented the so-called Bornholm method, an effective caries prevention programme recommended by the Department of Preventive and Pediatric Dentistry at the University of Greifswald, Germany. It suggests that the first appointment is made when the child is eight months old to give parents advice regarding

dental care at home, check the effectiveness of their techniques, examine the teeth and remove plaque in the dental practice. The diagnosis and an additional caries risk assessment using a scoring system are taken into account to determine the recall intervals for check-ups and professional tooth cleaning. During the subsequent visits which are continued until the age of 18, the prevention programme is adapted to the age-specific and individual skills and knowledge of the children. The goal is to teach them how to prevent caries progression with optimal oral hygiene and ensure that no fillings are required and an inflammation of the soft tissues does not occur.

The following case example shows how we proceed with a ten-year-old child.

Patient case

The female patient visits our dental practice twice per year for professional tooth cleaning and advice. At first she was asked to clean her teeth. For an assessment of the caries risk (which is not necessary at every appointment) 3M™ ESPE™ Clinpro™ Cario L-Pop™ was used (Fig. 1). This rapid test determines the lactic acid formation rate on the tongue and thus measures the metabolic activity of caries-causing bacteria. The swab was turned on the tongue four times and then brought into contact with the diagnostic liquid in the blister as recommended by the manufacturer (Fig. 2). Afterwards the test swab showed the colour of field 5 on the colour chart, indicating a moderate rate of lactic acid production (Fig. 3). This means that there are some weaknesses in the oral hygiene of the patient and there is a medium caries risk.



Figure 1: Administration of the lactic acid indicator swab.



Figure 2: Activating of the diagnostic liquid in the blister and turning of the swab.



Figure 3: Result of the caries test.

Subsequently, a plaque test was performed with coloured liquid (Fig. 4). After rinsing with water the remaining plaque was revealed (Fig. 5), showing that tooth brushing techniques needed to be improved. Specific advice was given. For professional tooth cleaning, 3M™ ESPE™ Clinpro™ Prophyl Paste with a fine grit was used (Figs. 6 and 7). Figure 8 shows the result of the treatment.



Figure 4: Performing the plaque test.



Figure 8: Patient after professional tooth cleaning.



Figure 11: Application of 3M™ ESPE™ Clinpro™ White Varnish onto the patient's teeth horizontally in a thin, uniform layer.



Figure 5: Situation after rinsing with water.

In a final step, 3M™ ESPE™ Clinpro™ White Varnish may be applied for additional fluoride treatment and caries protection (Figs. 9 to 12). This product leaves behind a virtually invisible film that adheres to the tooth surface and continuously releases fluoride.



Figure 12: The fluoride varnish also migrates to hard-to-reach surfaces, which is supported by the patient licking the teeth with her tongue.



Figure 6: Incorporation of the polishing paste into the instrument.



Figure 9: Dispensing of the sodium fluoride-containing varnish onto the dosage sticker to ensure that the recommended amount of varnish – 0.25 ml for patients with primary dentition – is applied.



Figure 7: Professional tooth cleaning and polishing.

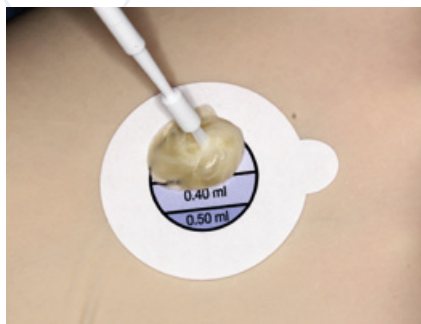


Figure 10: Thorough mixing of the varnish with the applicator brush (as with all sodium fluoride varnishes, the components might separate during storage).

Conclusion

Based on our experience with children of all ages we recommend the integration of individual caries prevention programmes into the dental practice. The treatment and advice given should be adapted to the specific needs of the patient by taking into account his age, social factors and his caries risk. By beginning early and creating a positive childhood experience, the compliance of the young generation is ensured and the basis for a lifelong preservation of the natural dentition are laid.

Contact

Dr. Jacqueline Esch
info@kinderzahnärzte.com