



Treatment of children also benefits from an improved view

Increased quality requirements in dentistry also apply to the treatment of children and adolescents. In addition to successful caries prevention programs, the early diagnosis of oral illnesses involving primary and permanent dentition was able to achieve a significant reduction in the prevalence of caries (1, 2). The trained and increasingly accurate view through magnifying glasses enables a more precise diagnosis and provides refined, minimally invasive therapy options for the treatment of pediatric patients.
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Dentists who frequently treat younger patients in their practice know that the much smaller size of milk teeth requires a particularly keen eye in addition to certain special skills. In spite of the satisfactory decrease in caries in older children and adolescents, the diagnosis and therapy of so-called "hidden caries" (hidden dentin lesions involving non-

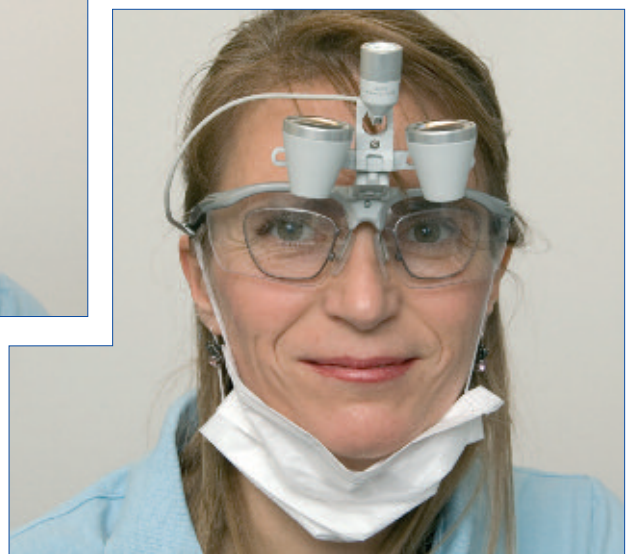
reason this age group should generally be x-rayed for occlusal caries in its early stages. All too often, the primary dentition in this age group appears to be clinically-healthy. However, because approximately 50% of these children are statistically-free of caries, the non-selective use of x-rays is not justifiable (4, 5).

Together with the anamnesis, the use of the binocular loupe for a better view of the approximal region has become indispensable for the pre-selection of children whom I would like to x-ray. The results of a comparative study involving students reveal a significant qualitative difference in fillings of milk teeth with and without the use of magnification (6).



cavitated occlusal surfaces of teeth) represent a frequently underestimated challenge. 80% of caries in the 13 and 14 year old age group involves fissure caries. The ratio of approximal lesions only increases in the subsequent age group (3). Problems resulting from the small size of milk teeth can at least partially be alleviated with the magnification effect of magnifying glasses. Also, the depth of focus of the binocular loupe assures a constant working distance and a better ergonomic work posture.

The benefits become apparent in the diagnosis. In small children between the ages of 4 to 6, the risk of an occurrence of approximal caries involving the deciduous molars increases significantly. For this



Because of the risk of destruction of the intact enamel of initial lesions and the transfer of caries to other healthy areas, the use of a pointed probe for the diagnosis of occlusal caries is no longer acceptable. Instead, it is preferable to diagnose - "hidden caries" mainly by visual inspection using the Ekstrand criteria (Ekstrand et al.), which refer to



white and brown opacities on moist or air-dried dental surfaces. The additional use of laser fluorescence and electronic resistance measurements is also recommended. Again, the dentist's precise view is invaluable. Without magnification, I would have difficulty in classifying discoloration of the occlusal surfaces according to the Ekstrand criteria with the same accuracy. The microinvasive therapy of initial lesions in dentin requires the use of precise instruments, which is only possible in a proper manner under magnification of the work area.

Like many colleagues, I can't imagine working without the binocular loupes now that I am used to them. However, the path was not without obstacles. In addition, I was convinced until several years ago that magnifying glasses on my nose would scare the younger and more anxious patients. But I soon realized that the children immediately accepted my explanation that I was using "binoculars."

Another obstacle was the difficulty in finding the proper visual aid right away. Binocular loupes that slide on the nose, or do not provide an adequate amount of light, constantly drain the battery, leave ugly pressure marks on the bridge of the nose, etc. are very distracting.

In my search for comfortable and visually esthetic binocular loupes, I came across the HEINE HR series mounted on the S-Frame. Because they are surprisingly light in spite of the high-resolution optics and fit any head and face shape thanks to individually-adjustable temples and bridge, they provide a secure and comfortable hold even without

a retaining strap which in turn is beneficial for the hair. In my opinion, HEINE binocular loupes are characterized by an extraordinarily large, undistorted visual field and an impressive depth of field, thus making my work easier.

The illumination of the working area is especially precise and shadow-free thanks to the position of the LED between the eyepieces. The loupe bracket can be flipped up easily, enabling me to talk to my patients without removing the loupes.

The HEINE system is customizable like a modular kit to suit your needs and the application. For example, loupe optics with a magnification of 2.5x can easily be switched to 4 or 6x. In addition, any existing ametropia can be corrected with a correction frame fitted to the S-Frame. If the ametropia changes over time, the corrective lenses can simply be replaced by new ones without the need to replace the whole frame. As an added benefit, the loupes can be used by different dentists.

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