

## A Firm Bite for Children

*A lack of mineral substances can lead to so-called „chalk-teeth“. vFM Dental Laboratory GmbH helps affected children with newly developed dental crowns.*



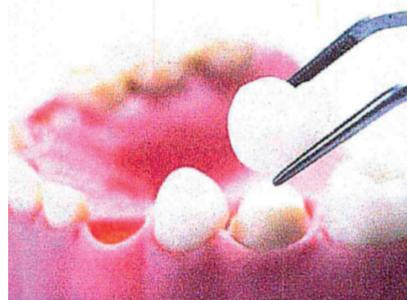
*They are helping children with "chalk teeth": Alexander von Fehrentheil, CEO of vFM Dental Laboratory (left), and Johann Philipp Loewe (right)*

Thanks to enhanced dental hygiene, the formation of dental cavities with German children is declining. According to German Dentists Association, 12-year-old children had an average of 3.9 carious teeth in the year of 1989, whereas in 2009, the number dropped to merely 0.7 carious teeth per child. To the horror of many parents concerned with their children's dental hygiene, dentists are increasingly diagnosing faulty amelogenesis, the so-called molar-incisor-hypomineralization (MIH). Children affected with MIH show pasty and dull teeth. Those teeth even are in danger of crumbling when chewing. This phenomenon is also referred to as "chalk-teeth". According to vFM Dental Laboratory GmbH CEO Alexander von Fehrentheil, MIH is an illness that appears in 1 out of 10 school children. Physicians and scientists alike are facing a mystery, because the exact cause of "chalk teeth" remains unknown. However, it has been clearly recognized that teeth that are affected by MIH, are insufficiently mineralized. Possible causes that are currently being debated, are certain chemicals and additional substances added to plastic wrappings used to package food products. Dentists can help affected children by adding dental crowns to "chalk teeth". This is where vFM Dental Laboratory GmbH comes into play. Alongside Sascha Morawe (42), Alexander von Fehrentheil (38) founded the company in November 2006. About two years ago, the two denturists and their 14 employees moved to Borsteler Chaussee. On an area of 340 m<sup>2</sup>, they manufacture all kinds of dentures and tools for orthodontic procedures. "With the help of the SIGNO-KMU-Patentaktion funded by the Federal Ministry of Economy, we have filed a patent application for a procedure that manufactures kids' crowns in way that has numerous advantages

compared to conventional treatment methods", says Management Expert Johann Philipp Loewe. Up until now, dentists selected crowns from standardized crown sets that would best concur with the children's teeth size. Conventional crowns are made from steel or zircon. The hardness grade of these materials does not suit the natural enamel. In the long run, these materials can lead to a faulty weight bearing of the jaw joints which are still in growth. Loewe adds: "Aesthetic reasons also play a crucial role."

Employees of vFM Dental Laboratories GmbH make crowns from biocompatible and ceramic-reinforced composite materials. Those are tooth-colored, sculptural filling materials. They concur with the degree of hardening of natural enamel and are brought into shape within the child's mouth. As the jaw grows, new crown material can be added. Unlike conventional methods, during this procedure, no acid is used within the children's mouth. On top of that, all crowns can be added in just one sitting. "That's a crucial fact when treating children", stresses Johann Philipp Loewe.

KidCadCrowns were thoroughly tested in a study focused on material characteristics carried out by the Otto-von-Guericke-University Magdeburg. They are sold directly to dental offices. Dentists can select and order suitable crowns according to every customer at vFM Dental Laboratory. Sets of crowns can be mixed and matched individually



*Flexible dentures: Crowns by vFM Dental Laboratory GmbH can be modified to fit form directly in the child's mouth*

according to form and color needs. "This, too, separates us from other providers", adds Alexander von Fehrentheil. "Zircon-crowns, for example, are imported from the United States and can only be purchased in 'Hollywood-white'". vFM Dental Laboratory sees itself

as a pioneer in the digitalization of prosthetic dentistry procedures. Their innovations already become evident in the scanning-process of the children's jaws. What they can also do is make digital modifications to planned corrections in adults' tooth position for individuals who chose an invisible and easy-to-clean splint rather than permanent braces. "These new techniques will soon be utilized by many clients", says von Fehrentheil. "That is because they make possible new treatment methods, costs will sink and quality is going to increase."

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