



British Society of
Paediatric Dentistry
Improving children's oral health

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Molar Incisor Hypomineralisation (MIH)

A BSPD position paper on the dental condition affecting 1m UK children

What is MIH?

Molar Incisor Hypomineralisation (MIH) is a dental condition which affects the enamel of permanent teeth. The affected teeth are likely to be molars, incisors and sometimes the adult canines can be affected too. MIH is most likely to be seen on the first four adult molars to come through, one in each back corner of the mouth.

Teeth affected by MIH are characterised by poor-quality enamel with a white, yellow or brown discoloration. This faulty enamel is more vulnerable to crumbling and decay. The severity of these enamel defects can vary considerably. In its mildest form, it is possible for a child to have MIH and for parents to be unaware of the condition, with only a dentist being able to identify the telltale signs.

Who is affected?

MIH is a worldwide problem [1]. It affects about 15% of Caucasian children and why it happens and what causes it is not fully understood [2]. An estimated one in eight children in the UK is affected by MIH, around one million children.

What is the impact of MIH?

The impact of MIH depends on the severity. Many people with MIH will have either no noticeable or only minor side effects, whilst others may find their affected teeth are vulnerable to wear. In more severe cases there are additional possible side effects:

- Because the outer enamel layer of the teeth is often softened by MIH, affected teeth are more susceptible to decay (dental caries). Preventive measures, such as brushing with fluoride toothpaste and restricting sugar in the diet are doubly important in children with MIH
- There can be aesthetic implications - about half of children with MIH will have white or yellow patches on some of their front teeth
- Teeth affected by MIH may be more sensitive. Sensitivity and discomfort when trying to brush the back teeth may be one of the first signs of MIH
- When treatment is needed, it can be more difficult to make the teeth go numb with a local anaesthetic

How can MIH be managed?

Most children with MIH can be managed in primary care. (3) Teeth which are only mildly affected by MIH can be protected with fissure sealants (protective coatings on back teeth). Those that are more seriously affected, and suffer decay or breakdown often need more active treatment. In these cases, the tooth might need to be repaired and protected with a tooth coloured filling or a special type of crown. For teeth that are sensitive, fluoride varnish can help and can be applied regularly in line with national guidance. (4)

Front teeth rarely breakdown or decay, but about half of children with affected back teeth will have white, yellow or more occasionally brownish patches on their front teeth. These patches can become less obvious over time, but sometimes cause cosmetic concerns. Treatment options include polishing, bleaching and masking with a veneer of special plastic filling material. If treatment is wanted, the risks and benefits of early cosmetic treatment of young permanent teeth need to be considered carefully.

When molar (back) teeth are more severely affected, extraction may be recommended. If this is done at the right time, in many children the second permanent molars (which are usually unaffected by MIH) can grow into their place. If orthodontics might be required in the future, a decision about the best timing of the extractions can be made in conjunction with an orthodontist [5].

Treatment planning for first permanent molar extraction can be complex and depends upon a number of factors [6]. In these cases, a referral to a specialist in paediatric dentistry is recommended where possible at about the age of 8 to 9 years. Your paediatric dentist may liaise with an orthodontic colleague to help plan the most appropriate care. In areas where there is a shortage of paediatric dentists there should be a direct referral to an orthodontist.

In order that all children have access to a paediatric specialist when they need one, BSPD continues to call for more paediatric specialists to be trained and equally distributed throughout the UK.

BSPD recommends a dental check by the age of one (7). This is so that all children see a dentist when their teeth first come through and also ensures that children with MIH or any other dental condition can be diagnosed early and, with their parents, can receive preventive advice at the optimum time.

Key points:

- **MIH often first becomes apparent when the permanent teeth start to erupt**
- **Early diagnosis of MIH is important in order for the affected teeth to be monitored or treated**
- **BSPD recommends that children have regular appointments throughout childhood starting from when their first teeth come through or by the age of one**
- **Children with MIH may need to be seen more than once a year by their dental team**
- **A referral for a specialist opinion should be considered for those children who are most severely affected by MIH by age 9 at the latest**
- **Dental decay is almost always preventable. With appropriate management, the impact of MIH on developing teeth can be kept to a minimum**

- **A healthy diet which limits sweet foods and drinks to mealtimes, as well as use of a fluoride toothpaste are recommended for all children - and are especially important in those affected by MIH whose teeth are more prone to decay.**

[1] Zhao, D, Dong, B, ; Yu, D, Ren, Q; Sun, Y(2017-07-21). The prevalence of molar incisor hypomineralization: evidence from 70 studies. *International Journal of Paediatric Dentistry*. [doi:10.1111/ipd.12323](https://doi.org/10.1111/ipd.12323). *ISSN 1365-263X*. *PMID 28732120*.

[2] Crombie F, Manton D, Kilpatrick N (2009). Aetiology of molar- incisor hypomineralization: a critical review. *Int J Paed Dent* **19**: 73-83.

[3] <https://www.nature.com/articles/sj.bdi.2018.814>

[4] <https://www.gov.uk/government/publications/delivering-better-oral-health-an-evidence-based-toolkit-for-prevention>

[5] https://www.rcseng.ac.uk/fds/publications-clinical-guidelines/clinical_guidelines/documents/a-guideline-for-the-extraction-of-first-permanent-molars-in-children

[6] [Cobourne M T](#), [Williams A](#), [Harrison M](#) (2014). National clinical guidelines for the extraction of first permanent molars in children. *Br Dent J* 217: 643-648.

[7] <https://dentalcheckbyone.co.uk>