

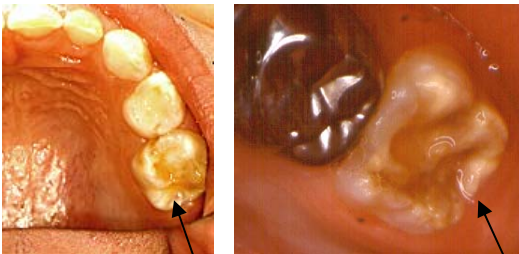
ENAMEL HYPOPLASIA: CAUSES AND TREATMENT OPTIONS

What is enamel hypoplasia?



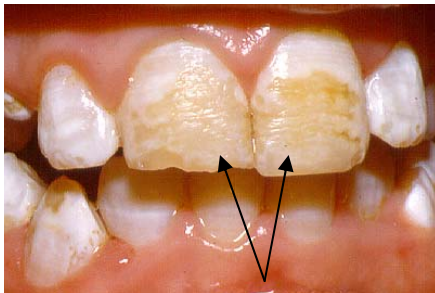
Enamel hypoplasia (EH) is a defect in tooth enamel that results in less quantity of enamel than normal. The defect can be a small pit or dent in the tooth or can be so widespread that the entire tooth is small and/or mis-shaped. This type of defect may cause tooth sensitivity, may be unsightly or may be more susceptible to dental cavities. Some genetic disorders cause all the teeth to have enamel hypoplasia.

What does enamel hypoplasia look like?



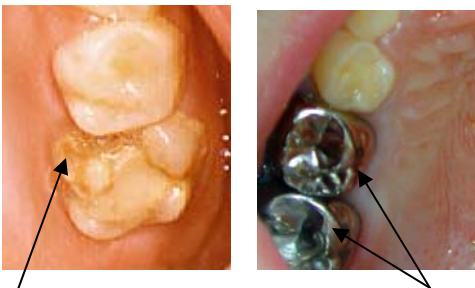
EH can occur on any tooth or on multiple teeth. It can appear white, yellow or brownish in color with a rough or pitted surface. In some cases, the **quality** of the enamel is affected as well as the quantity.

What causes enamel hypoplasia?



Environmental and genetic factors that interfere with tooth formation are thought to be responsible for EH. This includes trauma to the teeth and jaws, intubation of premature infants, infections during pregnancy or infancy, poor pre-natal and post-natal nutrition, hypoxia, exposure to toxic chemicals and a variety of hereditary disorders. Frequently, the cause of EH in a particular child is difficult to determine.

What are the treatment options for enamel hypoplasia?



Breakdown adjacent to composite filling.

Stainless steel crowns.

Treatment options depend on the severity of the EH on a particular tooth and the symptoms associated with it. The most conservative treatment consists of bonding a tooth colored material to the tooth to protect it from further wear or sensitivity. In some cases, the nature of the enamel prevents formation of an acceptable bond. Less conservative treatment options, but frequently necessary include use of stainless steel crowns, permanent cast crowns or extraction of affected teeth and replacement with a bridge or implant.

ENAMEL HYPOPLASIA - TREATMENT OPTIONS

Treatment of teeth with enamel hypoplasia must be determined on an **individual basis** in consultation with the child's pediatric or family dentist. The following treatment options are based on the available literature and the experiences of faculty members in our department and should be adapted to meet the needs of each patient.

Treatment for posterior teeth:

1. For sensitive teeth with minimal wear, you may apply SuperSeal (Phoenix Dental Inc.) or another desensitizing agent (such as potassium nitrate) as needed.
2. For mildly hypoplastic molars, place pit and fissure sealant on the occlusal surface.
 - at 6 month re-evaluation, if sealant is lost, go to step 2
3. Remove demineralized enamel and restore with composite.
 - at 6 month re-evaluation, if composite is lost, either replace using good isolation techniques or go to step 3
4. Perform minimal reduction of tooth and cement a stainless steel crown
 - evaluate clinically and radiographically as indicated
5. For permanent molars, stainless steel crowns are intended for temporary use only. These teeth should be restored with a permanent cast crown in the late teen years or early adulthood.
6. In cases where the first permanent molars are unrestorable or marginally restorable, extraction prior to the eruption of the second molars may be a reasonable alternative.

Treatment for anterior teeth:

1. For sensitive teeth with no wear, you may apply SuperSeal (Phoenix Dental Inc.) or another desensitizing agent (such as potassium nitrate) as needed.
2. If there are esthetic concerns, direct or indirect composite veneers may be bonded to the affected tooth.
3. For permanent anterior teeth, composite or porcelain veneers or porcelain crowns may be used.

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