

## Developmental disturbance of permanent teeth following trauma to primary dentition in young athletic children

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### Abstract

Orofacial trauma is a serious orodental and general health problem that may have medical, esthetic and psychological consequences for young athletic children and their parents. When the root of the primary tooth is close to the unerupted permanent tooth, primary tooth trauma may result in developmental disturbances in the crown of the unerupted permanent tooth. This study presents a case report in which injury to the primary dentition resulted in morphological changes in the germ of the permanent successor. The permanent incisor erupted with an enamel hypoplasia and was treated with light-cured composite resin restoration. This procedure re-established the function, the esthetic appearance and self-esteem of the patient.

**Keywords:** Enamel hypoplasia, Dental trauma

### Introduction

Orofacial trauma is a serious orodental and general health problem that may have medical, esthetic and psychological consequences for young athletic children and their parents. Sequelae in the permanent dentition after trauma to primary dentition are usually related to intrusive injury; either the coronal or root region or the entire permanent tooth germ may be affected (Autun et al, 2009). An intrusive injury occurs when the impact of an axial force displaces the tooth within the socket. 18% to 69% of intrusive injuries to the primary dentition are caused by the anomalous development of the permanent teeth (Flores, 2002). Such alterations in dental pathology can include white or yellow brown discoloration, or circular enamel hypoplasia; crown dilaceration; root duplication; vestibular or lateral root angulation or dilaceration; partial or complete arrest of root formation; sequestration of the permanent tooth germ; and disturbed eruption. Of these

enamel hypoplasia and dilacerations are the most common sequelae (Andreasen & Andreasen, 1994; Andrade et al, 2007).

The present study relates a clinical case of an aesthetic treatment in permanent teeth with localized crown malformation, enamel hypoplasia/dilacerations as a result of traumatic injury in the primary lower central incisor.

### Case Report

A 12 year old young athletic basketball player reported to the O.P.D Clinics of Dr Harvansh Singh Judge Institute of Dental Sciences, Panjab University Chandigarh with a chief complaint of unesthetic lower anterior teeth which were altered in shape and color. Following clinical examination a diagnosis was made of enamel hypoplasia in lower left central incisor which presented with yellowish brown discoloration and crown dilaceration in the incisal one third (Figure 1). His medical history revealed that at 44 months