

“TRAUMATIC DENTAL INJURIES IN THE PRIMARY DENTITION”

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Abstract Traumatic dental injuries to the primary dentition and oral cavity are common occurrences in children and young people. A recent international epidemiological study on traumatic dental injuries (TDIs) involving primary teeth revealed a worldwide prevalence of 22.7%. They frequently occur in young children as they learn to crawl, walk, run and embrace their physical environment. These injuries often represent painful, distressing events and may result in adverse long-term physical, aesthetic and psychological consequences for the child. Various studies have examined the risk factors that increase the likelihood of TDIs in the primary dentition. Children with increased overjet and inadequate lip coverage have a higher incidence of dental injuries. In primary dentition, the risk of dental trauma is three times greater with an increased overjet greater than 6 mm, whereas children with an overjet less than 3.5 mm are half as likely to suffer from dental trauma. A positive association between anterior open bite and traumatic injuries has also been found. Traumatic dental injuries can be classified into soft tissue injuries, hard tissues injuries (e.g., fractures), and periodontal injuries (e.g., luxations). Tooth mobility, color, tenderness to manual pressure, and the position or displacement of the tooth/teeth should be recorded at the initial assessment. The color of injured and uninjured teeth should also be recorded at every clinic visit. Discoloration is a recognized common complication following luxation injuries. It is usually seen 10 to 14 days after the original injury. Clinically, teeth with grey discoloration can recover to their original color, become yellowed or remain grey. Teeth with dark discoloration can remain clinically asymptomatic with no radiographic signs of necrosis until natural exfoliation. Root canal treatment is not recommended for discolored teeth unless there are clinical signs of infection of the pulp. Radiographs are an important diagnostic tool for diagnosing TDIs and serve as a baseline when compared to follow-up appointments. Intra-oral radiographs may include periapical radiographs (size 0 sensor/film, paralleling technique) or occlusal radiographs (size 2 sensor/film). The management of traumatic dental injuries to the primary dentition aims to prevent damage to the developing permanent tooth germ, alleviate pain, and minimize possible complications, such as infection. There is currently limited evidence to support many of the treatment options of primary dentition. The child's cooperation in an emergency, the time for natural exfoliation of the tooth, and the impact on the occlusion are all important considerations that influence treatment. A conservative approach involving observation is often the most appropriate option. But, extracting the traumatized tooth is usually required in cases of tooth fracture with pulp involvement, luxation injuries close to the developing permanent tooth, and those that interfere with occlusion. At the initial presentation, a rapid referral should be made to a child-orientated team with expertise in managing TDIs.

Key words: traumatic dental injuries, primary dentition, dental trauma, TDIs