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Kids with dental trauma often present to medical offices



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Epidemiological studies reveal that one in two children can be expected to sustain a dental injury, most often between ages 8 and 12 years. Because many children present to a medical office before the dental office, physicians play an important role in managing dental injuries and improving the prognosis.

The management of injuries to the primary and permanent dentition differs significantly. This article will focus on dental trauma in the permanent dentition of children older than age 6.

One-third of dental injuries have been shown to cause permanent sequelae to children. In addition, the time and cost of dental trauma can be substantial. For example, crown fractures may require up to 16 dental visits, and replacing a tooth may cost several thousand dollars.

If a fractured or avulsed (knocked out) tooth is unsalvageable or the family cannot afford treatment, the tooth may be extracted, thereby affecting the child's dental development. Early loss also can have a psychosocial impact on a child, who must deal with the consequences of missing a tooth (usually a front tooth).

Common etiologies for dental trauma include accidental falls during play and sport activities and child abuse. An accurate diagnosis and appropriate/rapid treatment can maximize oral health and esthetic outcomes in most dental trauma cases.

The most severe form of permanent tooth trauma and one that requires immediate attention and medical care is an avulsion. When a tooth is avulsed, the blood supply is severed and the periodontal ligament (PDL) is severely damaged. While pulp necrosis is certain, it is possible for the pulp space of the replanted tooth to revascularize under spe-



An avulsed (knocked out) tooth is the most severe form of permanent tooth trauma and requires immediate medical care.

cific circumstances. Therefore, when the avulsed tooth is immature with an open apex, efforts should be made to promote revascularization.

If the avulsed tooth can be located, it is best to replant it at the accident site immediately and atraumatically. The physician should obtain a thorough history, including the precise time of the injury as well as the conditions under which the tooth has been stored and transported.

If a decision is made to replant, the avulsed tooth should be examined for obvious contamination. If visibly contaminated, the root surface should be rinsed gently with tap water or a sterile saline until visible contaminants have been removed. One should confirm that the plug to the sink is in place so the tooth does not go down the drain. Root surface debris should not be scraped off because this may destroy viable PDL cells. No effort should be made to sterilize the tooth surface because this may damage PDL tissue.

Following replantation of the tooth, the child should be referred to a dentist to stabilize the tooth and for follow-up care. If the tooth cannot be replanted, it should be placed in a physiologic medium such as cold milk or Hank's Balanced Salt Solution (Save-a-Tooth kit). The child then should be referred to a dentist.

Maxillofacial trauma also may coexist with dental trauma. Thus, an evaluation and treatment of the child's overall health and well-being is the first step in the overall management of trauma patients.

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RESOURCE

For more information about management of dental trauma, visit the International Association of Dental Traumatology Web site, www.iadt-dentaltrauma.org.