# EVIDENCE-BASED PRACTICE RECOMMENDATIONS

Initial Assessment and Management of Pediatric Dental Emergencies  
Caglar D, Kwun R. June 2010; Volume 7, Number 6  
The emergency clinician must be able to quickly recognize dental injury patterns in the pediatric population and must be familiar with the anatomy unique to this group. Of specific concern is the emergency treatment of primary teeth versus permanent (secondary) teeth. This review of available evidence in the literature will equip the emergency clinician with the information needed to provide the most up-to-date care. For a more detailed and systematic look at pediatric dental emergency injuries, see the full text article at [www.ebmedicine.net](http://www.ebmedicine.net).

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<td>First determine which type of tooth has been affected. (The management of dental trauma in children differs between primary and permanent teeth.)</td>
<td>The mechanism and time of injury are particularly important aspects of the history because they are used to stratify the risk of associated injuries, the available treatment options, and the ultimate viability of the tooth. The patient’s tetanus vaccination status should be determined as well as the need for spontaneous bacterial endocarditis prophylaxis based on the patient’s medical history.</td>
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<td>The management of injuries to primary teeth should be focus on controlling pain and preventing damage to the permanent teeth that are developing in close proximity to the apices of the primary incisors and molars. Intruded teeth should be removed, and avulsed primary teeth should not be re-implanted. 26,27</td>
<td>Acetaminophen can be given for analgesia and an ice pack may help reduce local swelling and stop bleeding to facilitate evaluation of the oral tissues in the emergency department (ED). With dental concussions and subluxations of the primary teeth, the risk of injury to the underlying permanent teeth buds is low. These injuries can typically resolve spontaneously and can generally be treated with supportive care, pain control, and outpatient dental follow-up. Radiographs may be advised to detect any damage to the surrounding alveolus, although bone injury is unlikely. A soft diet is recommended for comfort.</td>
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<td>Luxation injuries to the permanent teeth are true dental emergencies. The tooth should be repositioned in an anatomically correct position, if possible, and splinted with a flexible splint. The patient should have outpatient dental evaluation within the following week to assess the viability of the injured tooth.</td>
<td>Management should be focused on maintaining the vitality of the periodontal ligament. For lateral luxation and extrusion injuries, the tooth should be repositioned with a semirigid (flexible) splint for 2 to 3 weeks. Intrusion injuries of a permanent tooth found to have an immature root on radiography may be allowed to re-erupt over 3 to 6 weeks, whereas injured teeth with mature roots require prompt orthodontic or surgical extrusion and eventual root canal therapy by a dentist. 22</td>
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<td>An avulsed permanent tooth should be handled only by the crown and re-implanted as soon as possible to improve the tooth’s viability. The tooth should not be allowed to dry and should not be scrubbed, which would remove the remaining periodontal cells that are critical to tooth viability.</td>
<td>The prognosis for avulsed permanent teeth worsens in direct proportion to the length of time they are outside the mouth. Permanent teeth require urgent reimplantation because success is time-dependent. 36 There is an 85% to 97% survival of permanent teeth when they are replaced within 5 minutes, but survival is near zero after 1 hour. 37 If the tooth cannot be reimplanted within 5 minutes, the tooth should be stored, in order of preference, in UW-Belzer solution, Hanks’ balanced salt solution, cold milk, saliva, physiologic saline, or clean water. 25</td>
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<td>Child abuse should always be a consideration in cases of facial and dental trauma, especially in young infants and toddlers.</td>
<td>Up to 75% of abused children have orofacial injuries. 38,39 An inconsistent history or the presence of atypical bruising or developmentally inappropriate injuries should alert the ED clinician to possible abuse. A torn upper labial frenulum and bruising of the labial sulcus in young, preambulatory patients should alert the emergency clinician to possible abuse. Accidental falls are more likely to cause bruising on the skin overlying bony prominences of the forehead or chin. 50 Children with bruising to the softer areas of the cheeks or neck should be thoroughly evaluated for possible abuse.</td>
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<td>Preventive measures must be incorporated in the home care of primary and permanent teeth in order to maintain good dental health.</td>
<td>Since patients often present to the ED only after symptoms of progressive disease have become severe, it is crucial to provide anticipatory guidance for dental hygiene at each opportunity.</td>
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See reverse side for reference citations.
REFERENCES


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