

# Dental Trauma – Primary Teeth

The most common injury site is the maxillary (upper) central incisors accounting for more than 50% of all dental injuries. Oral injuries typically result from falls, bike and car accidents, sports-related injuries, and violence. The mouth is also a common site for non-accidental trauma, and child abuse should always be considered in a child presenting with oral trauma.  
Primary Dentition Peak Incidence: 2-3 years of age.

## Caring for a Patient with Dental Trauma

### Clinical examination

*Examine* the face, lips and oral muscles for soft tissue lesions.

*Palpate* the facial skeleton for signs of fractures.

*Inspect* the dental trauma region for fractures, abnormal tooth position, tooth mobility, and abnormal response to percussion.

### Questions relating to the injury

**Where did the injury occur?** Screening for wound contamination.

**How did the injury occur?** This may lead to identification of the impact zones.

**When did the injury occur?** Many dental injuries are time sensitive and prognosis is dependent on prompt treatment.

**Was there a period of unconsciousness?** If so, will require medical attention.

**Is there any disturbance in the bite?** If so, prompt referral to a dentist is indicated.

**Is there any reaction in the teeth to cold and/or heat exposure?** If so, pulpal irritation has occurred.

**\*\*When in doubt and for additional consultation, take a picture and email it to a dental provider on call.**

### Discolored Primary Incisor



#### Findings:

Color change is a common symptom of primary tooth trauma and may range from yellow to gray to black.

#### Treatment:

Non-urgent referral to a dentist. Any color change in a traumatized primary tooth should be a signal for the need for clinical and radiographic assessment by a dental provider.

#### Inform Parent:

- Schedule a visit with the dentist for clinical and radiographic evaluation.
- Monitor soft tissue health and seek treatment if swelling of the gingival tissues should arise.
- Tooth may be monitored or require definitive treatment such as follow-up root canal therapy or extraction.

### Crown Fracture of Primary Incisor without Pulp Exposure



#### Findings:

Fracture of a crown that involves enamel and dentin only with no pulp exposure. The crown of the tooth does not bleed but there may be bleeding in the gingival sulcus.

#### Treatment:

Inspect injured lips, tongue, and gingiva to rule out presence of tooth fragments. Referral to a dentist within 24-48 hours. The fracture will be restored with a composite dental restoration. If the tooth is also mobile and/or displaced, immediate referral to a dentist to determine if additional treatment is necessary.

#### Inform Parent:

- Fractured tooth should be restored to guard pulpal health.
- Fractured tooth requires clinical and radiographic follow-up.
- Fractured tooth should be monitored for potential color changes.

### Crown Fracture of Primary Incisor with Pulp Exposure

Fractured primary tooth



#### Findings:

Fracture of a crown that involves enamel, dentin and pulp tissues. The crown of the tooth will appear to "bleed" due to pulp exposure. Tooth may or may not be mobile and injury is often painful.

#### Treatment

Immediate referral to a dentist for evaluation and treatment. Extraction is often treatment of choice.

#### Inform Parent:

- The "nerve" of the tooth has been exposed and prompt treatment is necessary.
- Definitive treatment is dependent on size of exposure, age of tooth and child's ability to tolerate treatment.
- If tooth is preserved, there is a guarded prognosis and increased risk for secondary inflammation or infection requiring additional treatment.

# Dental Trauma – Primary Teeth

## Subluxation of Primary Incisor



### Findings:

Subluxation involves injury to supporting structures of the tooth. The tooth is tender to percussion and there will be bleeding in the gingival sulcus. The tooth is loose but is not displaced.

### Treatment:

Referral to a dentist within 24-48 hours. Splinting of primary incisors is generally not recommended. Soft diet for 2 weeks. Follow-up pending clinical and radiographic findings.

### Inform Parent

- Monitor for changes in tooth color that may indicate pulpal necrosis.
- Monitor health of soft tissues and seek immediate treatment if pain or swelling arise.

## Luxation of Primary Incisor



### Findings:

Luxation involves injury to the tooth and its supporting structures, resulting in tooth displacement. The injured tooth is at risk for pulpal necrosis and root resorption. Depending on the severity of the luxation, occlusion may be compromised.

### Treatment:

Immediate referral to a dentist for clinical and radiographic assessment. If occlusion is compromised, the luxated primary teeth may need to be extracted. If occlusion is not compromised, the luxated primary teeth may be monitored. Repositioning and splinting of luxated primary teeth is not recommended.

### Inform Parent:

- Treatment is dependent on age of patient, degree of luxation and occlusion.
- Luxated teeth require close clinical and radiographic follow-up.
- Guarded prognosis.

## Intrusion of Primary Incisor



### Findings:

Displacement of the tooth *into* the alveolar bone. This injury can be accompanied by subtle fracture of the alveolar socket. Primary tooth intrusion is associated with a potential risk of damage to the underlying permanent tooth bud. Intruded incisors may appear short or barely visible and are often mistaken as being a fractured incisor.

### Treatment:

Although alarming, it does not require immediate care unless the occlusion is compromised. Clinical and radiographic assessment should be performed by a dentist as soon as possible (ideally within 24-48 hours from time of trauma). OTC pain relief as needed.

### Inform Parent:

- Intruded tooth may spontaneously re-erupt within the next 1-4 weeks.
- Possible complications that may occur include lack of re-eruption, rotation or discoloration of teeth following re-eruption and pulpal necrosis. Soft tissues should be monitored for swelling or fistula development.
- Intruded tooth may require extraction pending clinical and radiographic findings.
- Intrusion injuries sustained in children under 3 years of age have an increase risk for damage to the underlying permanent tooth bud.

## Avulsion of Primary Incisor



### Findings:

The tooth is completely displaced *out* of its socket. Clinically the socket is found empty or filled with a coagulum.

### Treatment:

Primary avulsed teeth are generally not re-implanted so as to avoid injury to the developing permanent tooth bud. Immediate referral to dental provider for clinical and radiographic assessment as there is the potential for a fractured root to be present in the socket. \*\*if the avulsed tooth/teeth is not found, a chest x-ray may be needed to rule out potential aspiration.

### Inform Parent:

- The dentist will discuss potential long-term complications following an avulsion of a primary tooth.
- The permanent tooth bud may be at risk especially if the avulsion injury occurred in a child under 3 years of age.