

# Oro Dental Trauma: Causes, Types, and Management

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## DESCRIPTION

Dental trauma refers to any injury or damage that occurs to the teeth, gums, or surrounding structures as a result of an external force. Oro dental trauma specifically refers to dental trauma that occurs in the oral cavity, which includes the teeth, gums, tongue, and other soft tissues. Oro dental trauma can occur at any age, and it can result from various causes, such as accidents, sports injuries, falls, avulsion, assaults, and even the dental procedures. Oro dental trauma can have a significant impact on a person's oral health, aesthetics, and overall quality of life.

## Causes of oro dental trauma

There are several common causes of oro dental trauma, including:

**Accidents:** Accidents, such as motor vehicle accidents, falls, and workplace accidents, are one of the leading causes of oro dental trauma. The impact from accidents can cause teeth to be knocked out, fractured, or displaced, and can also cause injuries to the gums and other soft tissues in the oral cavity.

**Sports injuries:** Sports-related activities, especially contact sports such as football, basketball, and hockey, can result in oro dental trauma. Impact from collisions, falls, or blows to the face during sports activities can cause tooth fractures, avulsion (complete displacement of a tooth from its socket), and other traumatic injuries to the oral cavity.

**Dental procedures:** Although rare, dental procedures can sometimes result in oro dental trauma. For example, tooth extractions, root canal treatments, and other dental procedures can occasionally cause iatrogenic (treatment-induced) injuries, such as fractures, perforations, or injuries to the surrounding soft tissues.

## Types of oro dental trauma

Oro dental trauma can present in various forms, depending on the nature and severity of the injury. The types of oro dental trauma include:

**Dental fractures:** Dental fractures are one of the most common types of oro dental trauma. Dental fractures can occur in different ways, such as enamel fractures (limited to the outer layer of the tooth), dentin fractures (extending into the inner layer of the tooth), and complex fractures (involving both enamel and dentin). Dental fractures can result in tooth sensitivity, pain, and aesthetic concerns.

**Avulsion:** Avulsion refers to the complete displacement of a tooth from its socket. Avulsion can occur as a result of accidents or physical assaults, and it is considered a severe form of oro dental trauma. Avulsed teeth should be handled carefully, and immediate dental attention is required to attempt to re-implant the tooth successfully.

**Soft tissue injuries:** Oro dental trauma can also result in injuries to the soft tissues in the oral cavity, including the gums, tongue, lips, and cheeks. Soft tissue injuries can range from minor cuts and abrasions to more severe lacerations, contusions, and puncture wounds. Soft tissue injuries can cause pain, swelling, and difficulty in speaking or eating.

**Root fractures:** Root fractures occur when the root of a tooth is fractured, usually as a result of a direct impact to the tooth. Root fractures can be classified as horizontal root fractures (fracture line runs horizontally along the root), vertical root fractures (fracture line runs vertically along the root), or oblique root fractures (fracture line runs diagonally across the root). Root fractures can be challenging to diagnose and manage, as they may not always present with obvious clinical signs or symptoms.

## Management of oro dental trauma

The management of oro dental trauma depends on the type, severity, and location of the injury, as well as the age and general health of the patient. Prompt and appropriate management of oro dental trauma is crucial to minimize complications and optimize outcomes. Here are some general principles for managing oro dental trauma:

**Immediate care:** In cases of avulsion, immediate care is critical. The avulsed tooth should be handled by the crown (avoid

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touching the root) and rinsed gently with water or saline to remove debris without scrubbing or brushing. The tooth should be re-implanted into its socket as soon as possible, preferably within 30 minutes of the injury. If immediate re-implantation is not possible, the tooth should be kept moist by placing it in a container with milk, saliva, or a tooth preservation solution, and the patient should be rushed to a dental professional for immediate evaluation and management.

**Dental evaluation:** All cases of oro dental trauma should be evaluated by a dental professional as soon as possible, even if the injury appears minor. A thorough clinical and radiographic examination should be performed to assess the extent of the injury and determine the appropriate treatment plan. In some cases, additional diagnostic tests, such as pulp testing, vitality testing, and cone-beam computed tomography (CBCT), may be necessary to obtain a comprehensive assessment of the injury.

**Restorative treatment:** Depending on the type and severity of the dental injury, restorative treatment may be needed to restore the form, function, and aesthetics of the affected tooth or teeth. Dental fractures may require restoration with tooth-colored

composite resins, dental crowns, or veneers. Avulsed teeth that have been successfully re-implanted may require root canal treatment and splinting to stabilize the tooth. Luxated teeth may require repositioning and splinting to allow for healing and stabilization. Root fractures may require root canal treatment, splinting, or extraction, depending on the location and extent of the fracture.

**Periodontal care:** Soft tissue injuries may require sutures or other appropriate wound management techniques to promote healing and prevent infection. In some cases, periodontal procedures, such as gingival re-contouring or grafting, may be needed to restore the integrity and aesthetics of the gum tissue.

**Follow-up and monitoring:** Regular follow-up appointments with the dental professional are essential to monitor the progress of healing, assess the success of the treatment, and address any complications that may arise. Follow-up appointments may include clinical and radiographic examinations, pulp testing, vitality testing, and other diagnostic tests as needed.