

## TRAUMA

Following is a quick guide to dental trauma for fully formed teeth with closed apices. Immature developing teeth will need certain treatment alterations. Please visit <http://dentaltraumaguide.org/> for more information on dental trauma diagnosis and treatment.

### Concussion



- The tooth gets knocked.
- Tender to touch or tapping.
- No increased mobility or displacement
- Positive response to EPT and cold test.
- No radiographic abnormalities.
- No RCT needed, but continue to monitor pulpal condition.

### Subluxation



- Similar to concussion, but has increased mobility and no displacement.
- Tender to touch or tapping.
- Bleeding from the sulcus.
- Positive response to EPT and cold test, but might get the initial negative response.
- Usually no radiographic abnormalities.
- Usually no RCT needed. Apply flexible splint if necessary for 2 weeks.
- Continue to monitor pulpal condition.

## Extrusion



- The tooth is extruded out of the alveolar socket. It might be labially or palatally inclined.
- Tender to tapping and excessive mobility.
- Usually negative response to EPT and cold test. Revascularization can occur in immature teeth.
- Increased PDL space in a radiograph.
- Reposition and stabilize the tooth for 2 weeks.
- RCT is needed if the tooth continues to have negative response.

## Lateral luxation



- The tooth is displaced laterally accompanied by alveolar bone fracture.
- The root is forced into the bone and the tooth is usually immobile.
- High metallic (ankylotic) percussion sound.
- Negative pulpal response.
- Reposition the tooth and alveolar bone and splint for 4 weeks.
- RCT is needed if the tooth continues to have negative response.

## Intrusion



- The tooth is pushed axially into the alveolar bone.
- Immobile
- High metallic (ankylotic) percussion sound.
- Negative pulpal response.
- Lack of PDL space and CEJ is more apically located than non-injured adjacent teeth.

- Reposition and splint for 4 weeks.
- RCT within 3-4 weeks post-trauma.

### Avulsion



- The tooth is completely out of the socket.
- Replanting the tooth within 30 minutes will increase the chance of survival.
- Transport the tooth in milk or special storage media (Hanks balance solution or saline), or in patient's own saliva. Avoid storing in water.
- Apply flexible (physiological) splint for 2 weeks.
- Initiate RCT 2 weeks after replantation and prior to splint removal.

### Enamel-Dentin-Pulp Fracture



- In young patients with open apices or even in completely formed roots, pulp capping or partial pulpotomy with MTA is a treatment of choice.
- In older patients with closed apices, RCT is recommended

### Crown-Root Fracture with pulp involvement



- Restorability of the tooth should be evaluated.
- A Cone Beam CT will reveal the fracture in 3D.

- Pulpotomy in young patients with open and closed apices and RCT in older patients.
- Gingivectomy or extrusion of the tooth might be indicated prior to restoring the tooth.

### Root Fracture



- The coronal segment may be mobile or displaced.
- Initial EPT and cold test might be negative.
- A root fracture is visible in a radiograph. A Cone Beam CT will reveal the fracture in 3D.
- Reposition the tooth to its original position.
- Stabilize with a flexible splint for 4 weeks. If fracture is at the cervical area, longer splinting time is needed.
- Monitor healing and pulp status.
- Usually RCT is not needed.
- RCT of the coronal segment is indicated if the pulp becomes necrotic or there is sign of infection at the fracture site.