

Dental Anatomy

Pulp: contains the neurovascular supply of the tooth.

Dentine: connective tissue which is mineralised but softer than enamel. Sensory receptors are present so fracture causes pain.

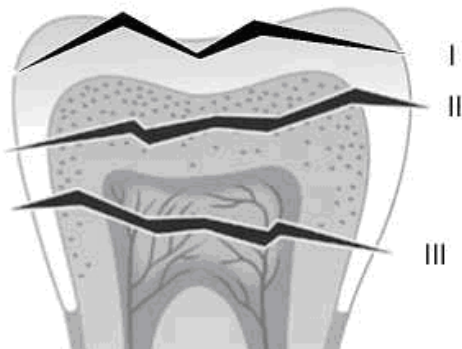
Enamel: highly mineralised, very hard outer surface of the tooth. It lacks a nerve supply (painless) and is avascular.

Crown: the portion projecting above the gingiva and covered in enamel.

Root: the part which anchors the tooth in alveolar bone.

Dental Trauma

Teeth may be fractured, subluxed (loosened), avulsed (pulled from the socket) or intruded (displacement of the tooth into the alveolar bone). There may or may not be an associated fracture of the alveolar bone.



Dental Fractures

Ellis Classification:

- I: Enamel only
- II: Enamel and dentine
- III: Enamel, dentine and pulp

Type I and II fractures require no immediate intervention, but type II fractures may be painful. Discharge the patient and advise them to follow-up with their dentist.

Type III fractures involve the pulp and are exquisitely painful. The pulp is visible as a small area of bleeding or little red dot. These require acute management – refer to the on-call dentist.



Avulsed Teeth

Aspiration must be excluded if the tooth is unaccounted for – order a CXR and if the tooth is in the lungs refer for bronchoscopy. If not retrieved the risk is pulmonary abscess/collapse.

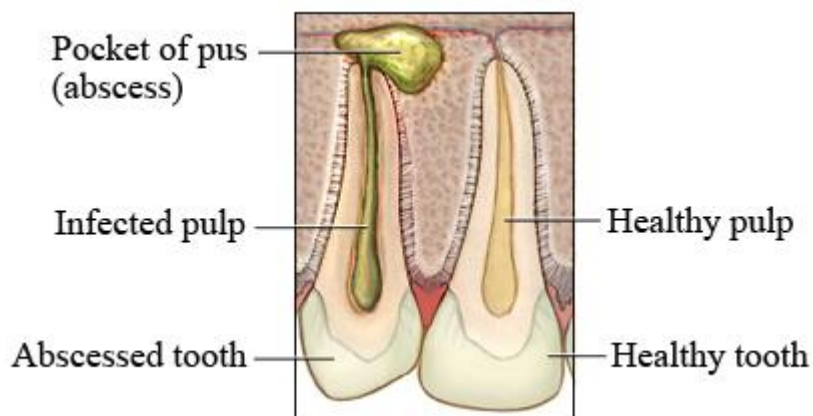
Permanent avulsed teeth are suitable for reimplantation – the sooner this is done the more likely the tooth will remain viable. Primary teeth are not suitable for reimplantation.

The tooth should be transported in milk – successful treatment depends on the viability of periodontal ligament cells on the root surface. The compatible PH, fluid osmolality and nutrients in milk helps to preserve these cells.

The tooth should be washed in saline prior to insertion. Do not scrub the tooth or handle the root.

Orient the tooth and press firmly into the socket. Ensure tetanus prophylaxis is given if needed and prescribe oral antibiotics (eg. co-amoxiclav). Keep in place with a mouth guard or by biting down on a swab and refer to the dentist for stabilisation.

Dental Infections



Bacteria cause plaque and caries.

Erosion into the pulp causes pulpitis. Inflammation rapidly increases pressure in the pulp which occludes blood vessels and results in pulp necrosis.

Pus erodes through the tooth's apical foramen to form a periapical abscess. Pus may then erode out of bone into the surrounding soft tissues.

Clinical Features

As pulpitis develops there is toothache worse with sugar & heat. As the pulp becomes necrotic pain resolves. If there is progression to periapical abscess pain returns and there is tenderness to chewing and touch. Localised soft tissue swelling, fever or sepsis may result.

Management

Toothache without complication: advise the patient to seek dental care.

Associated facial swelling: often oral antibiotics and dental f/u. D/w max-fax if in doubt.

Sepsis, dysphagia or trismus: prescribe IV antibiotics and refer to max-fax for inpatient management.