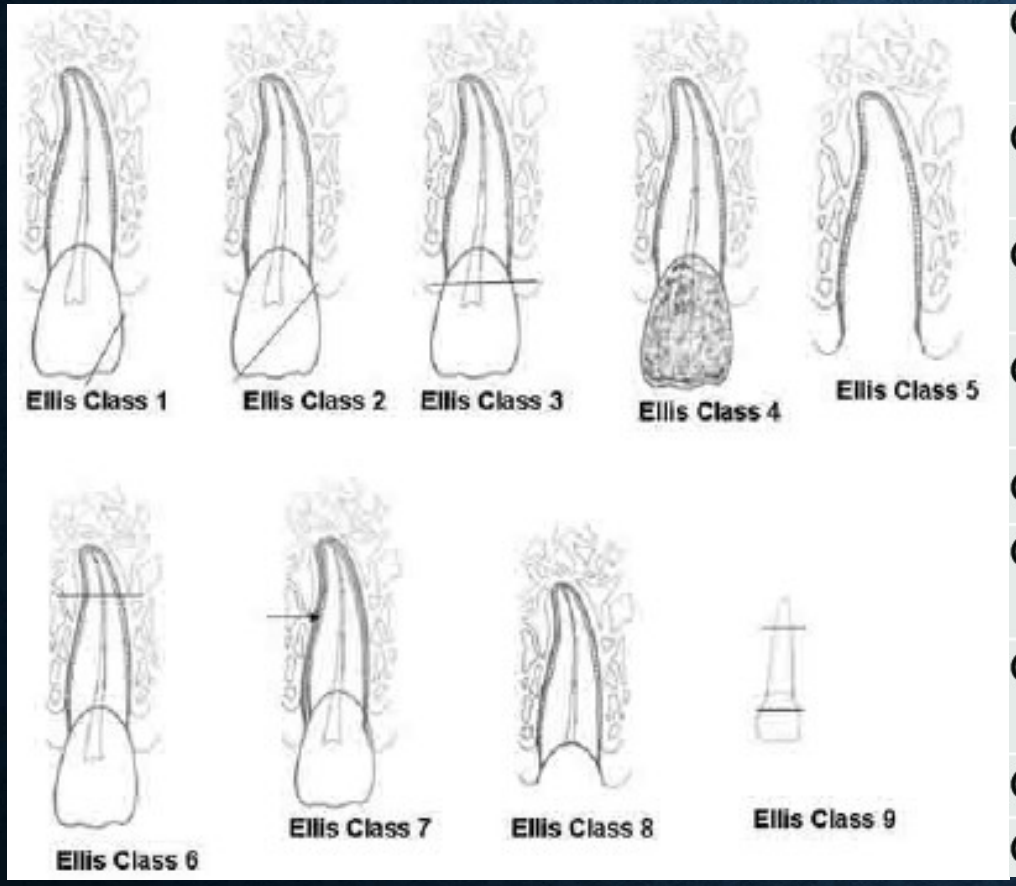
PHYSICAL AND CHEMICAL INJURIES OF THE ORAL CAVITY

FRACTURES OF TEETH

- children are especially prone to sustain this type of injury
- boys are more frequently involved than girls.
- There is a definite predilection for involvement of maxillary teeth, with between 75 and 90% of fractures occurring there.

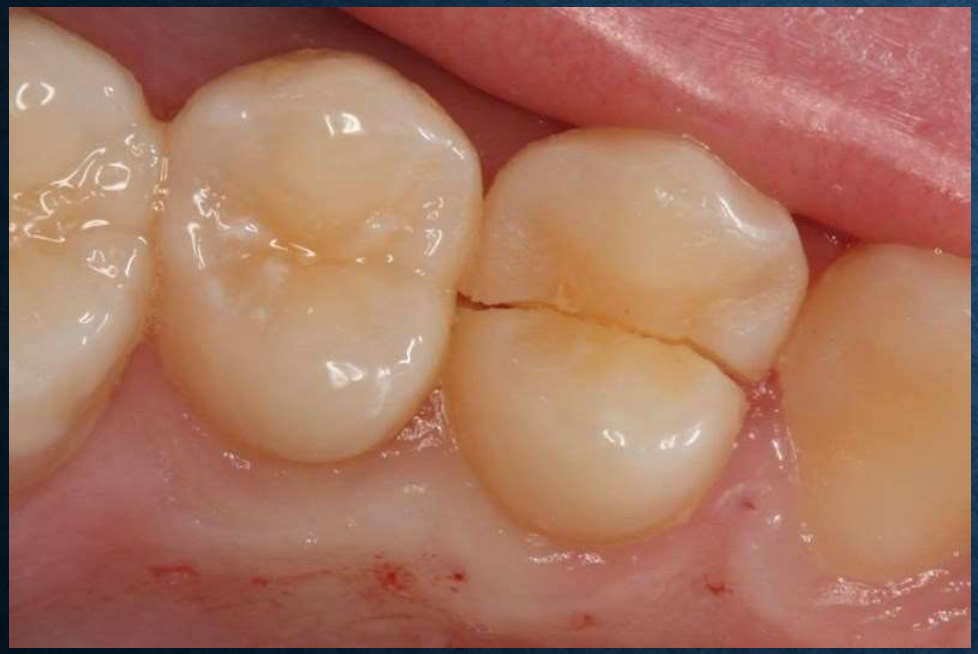


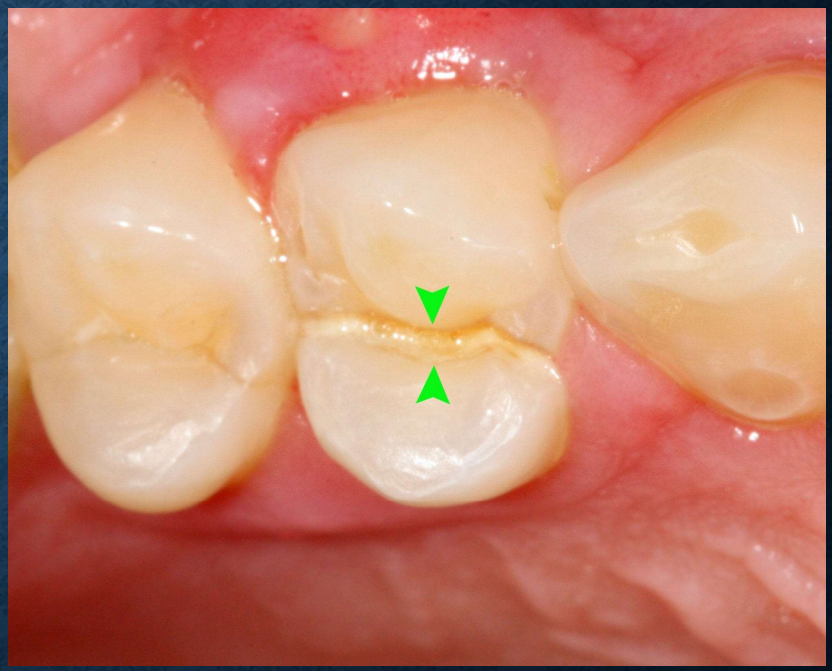
Class I	Simple crown fracture with enamel involvement
Class II	Extended crown fracture with dentinal involvement, without pulp exposition
Class III	Extended crown fracture with dentinal involvement, with pulp exposition
Class IV	Non vital teeth, with or without loss of crown tissues
Class V	Traumatically avulsed teeth
Class VI	Crown fracture, with or without loss of crown tissues
Class VII	Tooth luxation without crown or root fracture
Class VIII	Cervical crown fracture
Class IX	Traumatic injuries on primary dentition

- If there is crown fracture without pulp involvement, vitality of the tooth is usually maintained
- If the dentin over the pulp is exceedingly thin, bacteria may penetrate the dentinal tubules, infect the pulp and produce pulpitis, leading to death of the pulp.
- pulp exposure does not necessarily imply that death of the pulp will occur. In some cases the exposure can be capped by calcium hydroxide, and a dentinal bridge will form as a part of the healing reaction.
- Pulpotomy or pulpectomy may often be necessary; however, since the pulp becomes infected almost immediately after the injury

CRACKED TOOTH SYNDROME

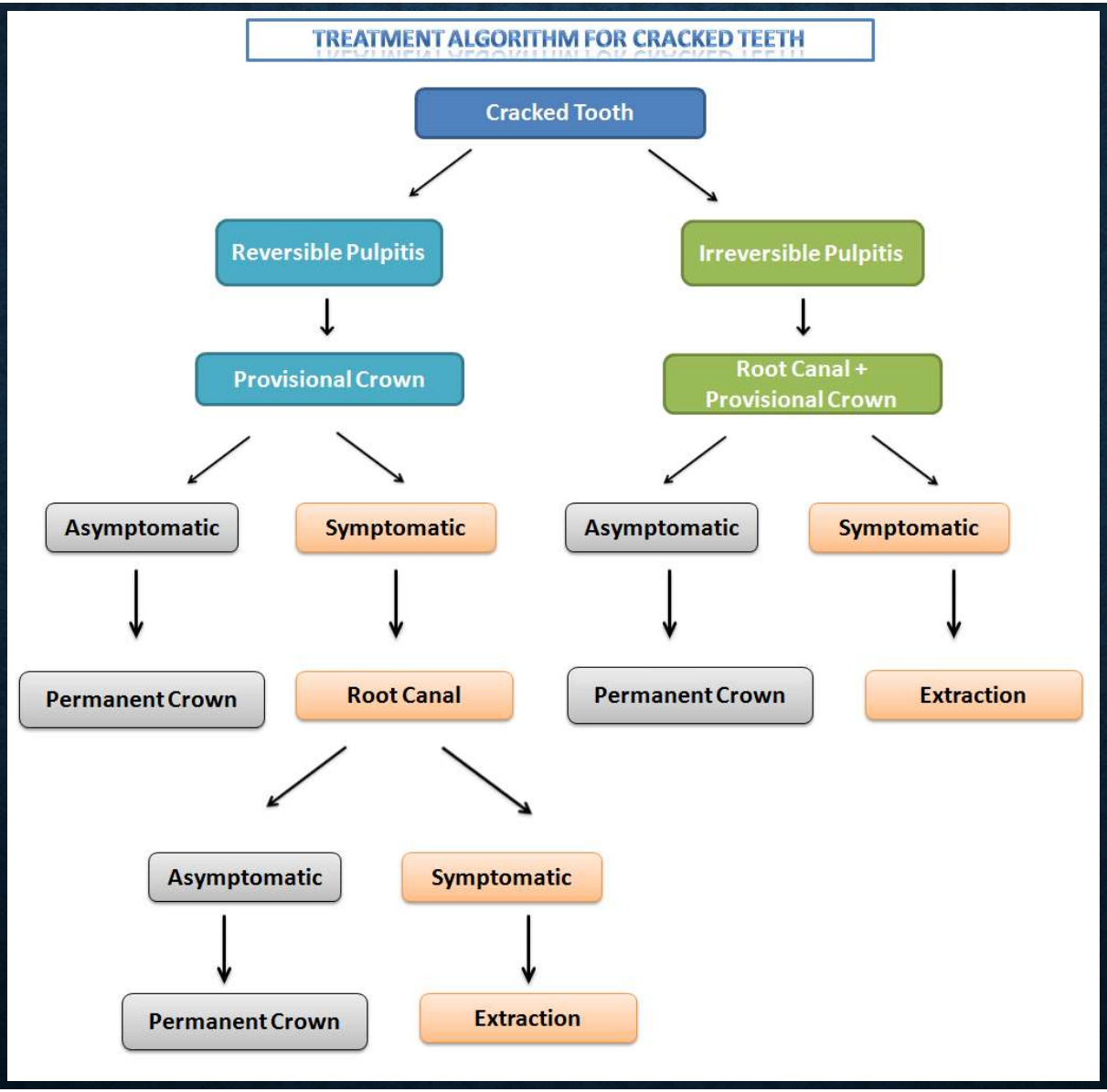
- Characterized by sharp pain on chewing without any obvious reason, which is actually caused by a 'hidden' crack of the tooth.
- These are incomplete fractures that are too small to be seen on radiographs.
- The typical symptom is sharp fleeting pain when releasing biting pressure on an object.
- This is because when biting down, the segments are usually moving apart and thereby reduce the pressure in the nerves of the pulp.
- When the bite is released, the 'segments' snap back together sharply increasing the pressure causing pain.
- Causes of CTS include attrition, bruxism, trauma, accidental bitting on a hard object, presence of large restoration, and improper endodontic treatment.





TREATMENT AND PROGNOSIS

- ranges from stabilization with a stainless steel band or crown to endodontic treatment and restoration.
- If untreated, CTS can lead to severe pain, possible pulpal necrosis and periapical abscess.
- In some cases, such as in vertical root fractures (split root) in single rooted teeth, the only treatment option is tooth extraction


TREATMENT ALGORITHM FOR CRACKED TEETH
Cracked Tooth
Reversible Pulpitis
Irreversible Pulpitis
Provisional Crown
Root Canal + Provisional Crown
Asymptomatic
Symptomatic
Asymptomatic
Symptomatic
Permanent Crown
Root Canal
Permanent Crown
Extraction
Asymptomatic
Symptomatic
Permanent Crown
Extraction

ABRASION

- Wearing away of tooth substance due to mechanical means is known as abrasion.
- The most common cause is the faulty brushing techniques.
- Habits such as opening the hairpin constantly using anterior teeth, holding bobby pins, and holding pipe also produce a characteristic form of abrasion

INJURIES TO THE SUPPORTING STRUCTURES OF THE TOOTH

Concussion

- produced by injury which is not strong enough to cause serious, visible damage to the tooth and the periodontal structures
- Pulp gives normal response to vitality test
- characteristic feature is the increased sensitivity of the tooth to percussion from any direction
- Treatment consists of selective grinding of the tooth to eliminate occlusal forces.

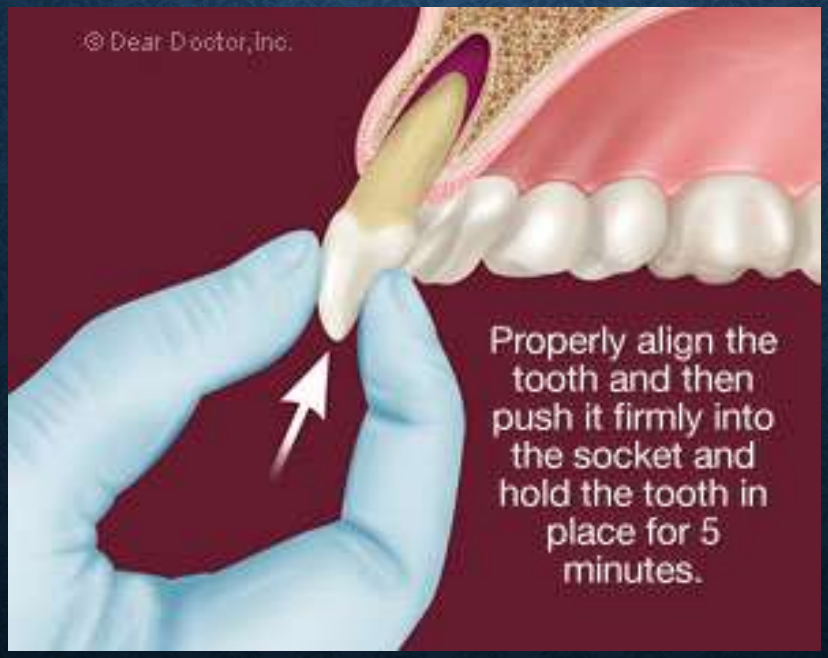
SUBLUXATION

- abnormal loosening of tooth without displacement due to sudden trauma.
- Tooth is mobile on palpation and sensitive to percussion and occlusal forces.
- Rupture of the periodontal tissue is usually evident by bleeding at the gingival marginal crevice.
- In time tooth becomes nonvital due to severance of apical blood supply.

AVULSION

- Avulsion is dislocation of the tooth from its socket due to traumatic injury. It can be partial or total.
- Partial avulsion includes intrusion, extrusion, or facial, lingual or palatal, or lateral displacement.
- usually accompanied by fracture of the alveolar bone.
- Partial avulsion is managed by reposition of the tooth and stabilization with splints.
- Completely avulsed tooth can be replanted in its socket.

- The prognosis of the replantation will be good if the extraoral time is minimal and the avulsed tooth is kept in a suitable medium during transportation.
- Nevertheless many of the replanted teeth undergo ankylosis to the alveolar bone or root resorption.
- Tooth Ankylosis: Fusion between the tooth and bone



PHYSICAL INJURIES OF THE BONE

- Fractures of Jaws
- Fracture may be simple, greenstick, compound, or comminuted.
- In simple fracture, the bone is broken completely; the overlying structures are intact and are not exposed to exterior.
- Greenstick fracture common in children is characterized by break of bone in one side and bend on the other side.
- In compound fractures external wound is associated with the break and is common in road traffic accidents.
- Bone is crushed or splintered in comminuted fractures and may or may not be exposed to the exterior.