Classification of dental trauma & management of dental avulsions
Take home messages:

- You can make a difference when it comes to teeth as well!
Dental nomenclature & tooth anatomy.
Learning Outcomes

- Understanding of the main components of tooth anatomy and structure.

- The ability to describe and record both the primary and secondary dentition using appropriate nomenclature.

- The ability to classify dental traumatic injuries.
Basic tooth anatomy

- Enamel
- Dentin
- Pulp
- Cementum
- Periodontal membrane
- Nerve and blood supply
Lets talk in **tooth No’s** & make **things easy**!
Deciduous or Primary Teeth
What about in the mixed dentition?
OGP of a 7 year old
Assessment & Classification of traumatic dental injuries
Things to look for:

- Soft tissue injuries – lacerations, de-gloving.
- Tooth mobility
- Occlusal (bite) level of injured teeth
- Any tooth pieces missing? Where are they?
- Of 6000 patients presenting with facial injuries to ED, 48% had dental trauma.


Classification of traumatic injuries


- Two main groups:
  - Injuries to the hard dental tissues of the mouth.
  - Injuries to the periodontal tissues or supporting tissues of the teeth.

Injuries to the hard dental tissues of the mouth:

- **Crown infraction**
  - an incomplete fracture of the enamel without loss of tooth structure.

- **Uncomplicated crown #**
  - Crown # without pulp exposed

- **Complicated crown #**
  - Crown # with pulp exposed

- **Uncomplicated crown-root #**
  - Crown # extending below the gum line & involving the tooth root but not exposing the pulp.

- **Complicated crown-root #**
  - Crown # extending below the gum line & involving the tooth root but also exposing the pulp.
How would this injury be classified using WHO classification?
Injuries to the periodontal tissues or supporting tissues of the teeth:

- **Root fractures** – where the tooth root only is involved
- **Concussion**
  - refers to injury to the tooth supporting structures without abnormal loosening or displacement
- **Subluxation**
  - Tooth loosening without displacement
- **Intrusive luxation**
  - Tooth is pushed into tooth socket, towards gum
- **Extrusive luxation**
  - Tooth is pushed away from tooth socket but not yet avulsed
- **Lateral luxation**
  - Tooth is pushed either antero-posteriorly or mesio-distally i.e. sideways of its long axis.
- **Avulsion**
  - Tooth has come out of socket completely
Which teeth are involved in this injury (13yr old boy) and how would this be classified?
Gabriel at 8yrs….who needs patients when you have 4 boys!
Classify this injury.
Dental luxations & avulsions

Useful link:
http://www.dentaltraumaguide.org
Learning outcomes:

- Ability to provide effective emergency treatment for dental avulsion.
- An understanding of luxation injury management
Luxations & avulsions involving deciduous teeth:

Key points:

- Never replant a deciduous tooth
- For near avulsions, if the tooth is interfering with the bite or is at risk of being swallowed or inhaled, extract it.
- Make sure the tooth has been accounted for
- Refer to dentist when practical

Useful link:
http://www.dentaltraumaguide.org
Luxation (displacement) injuries involving permanent teeth

- Where possible, if interfering with bite &/or an inhalation risk…….try & reposition & splint.
- Refer to dentist ASAP– since these injuries are time critical.

Useful link:
http://www.dentaltraumaguide.org
Avulsions and splinting of permanent teeth

- **Key points:**
  - Best if done immediately or within a few hours of injury.
  - Storage medium is most important.
  - Splinting time is 10-14 days
  - Refer to dentist ASAP or within 2 weeks if able to splint
## Avulsions:

- What is OK to transport an avulsed tooth in?

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<td>Contact lens saline</td>
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</tr>
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<td>Saliva</td>
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17 yr old playing cricket & caught ball with mouth
Avulsed tooth showing ligament cells around root portion vital to re-implantation success.
Treating an avulsion
Splinting avulsed tooth to adjacent teeth with GIC
Emergency splints

- A good temporary splint can be made using Al foil and Blu-Tac (or equivalent).
- Use the patients mouthguard or orthodontic retainer.
- Stomahesive wafer cut to size.
Post re-implantation instructions:

- Determine tetanus immunisation status.
- Give oral Doxycycline (100mg for adults) 2x/day for 7 days if >12yrs. If <12yrs give Penicillin V.
- Chlorhexidine(0.1%) mouthwash 2x/day for 7 days.
- Soft diet for 2 weeks.
- Follow up by dentist as soon as practical.
Questions???