Trauma is not an eventful situation for a child, the parents or even the practitioner. It is a very dramatic situation.

We will start with an introduction to trauma.
-Primary : peak age 2-4 years (handicped children, shoes of their mothers/fathers) -Permanent: peak age 8-10

Most predisposed tooth to trauma are the maxillary central incisors, followed by the maxillary laterals, then the lower central and the least is the lower laterals.

Why are the maxillary centrals the most prone to trauma?
-Because they are in the front of the oral cavity

-Eruption is before the laterals

-The upper teeth are implanted in a ridged non-movable maxilla while the lower teeth are inside a movable mandible. If impact would occur in the mandibular teeth, the movement of the lower jaw will absorb some of the shock decreasing the amount of trauma to the mandibular teeth.

-The upper lip does not completely cover the upper incisors while in the lower lip it covers the mandibular teeth completely giving them more protection.

Males are more prone to trauma than females. Boys are more energetic and adventurous so injury will be more likely. Girls on the other hand are more mature and less likely to engage in such activities. Also in a big portion of our culture females have more restrictions by their parents in what activities they can do.

Examination (to reach a correct diagnosis)
Clinical examination, history and radiographs all give us the diagnosis and ultimately gives us the correct treatment.

Again history and filling all the patient’s information is very important

the doctor was explaining how in one of his cases he had to remove the tooth rotate it 180 so that the buccal was lingual to ease the endo treatment and access cavity.

Three important questions in trauma:

-When? If there was pulp exposure a week ago we would go for pulpotomy if the exposure was recent we may go for pulp capping.
Also for avulsed teeth if the tooth wasn’t re implanted in the first 30 mins the prognosis will be lower.

-Where? We need to know the location of the injury as to see if we need to administer antibiotics, tetanus vaccine, and also for legal indications (if the patient was hit by a car for example). \*\* The “real” story of the injury, for example a child is hit by a car if the story was prolonged and money was involved the story may change while at the beginning the parents will be very emotional and are willing to tell the truth.

-How? How was the injury caused; by a bicycle? a hit to the face/jaw? a car?
This gives us of the direction of the blow

\*Medical history must be checked always

Subjective complaint: like if a person has headache and vomiting and bleeding from the nose this could be a sign of concussion. Check the occlusion, if some parts are occluding and other teeth are not this could be a sign of fracture.

Clinical examination:

Before clinical examination we should try to clean the face as much as we can. If for example he fell on the street and there is dirt and stone still attached. We also se if there are any remnants of the teeth stuck in soft tissue.

This helps in identifying the source of bleeding, gives better view for our treatment and decreases the amount of drama that’s in the surrounding.

Sometimes we have to skip our systemic examination to preform life saving measures first. For example if you are presented with a respiratory distress case or a concussion or severe bleeding. We should contact a physician to consult in these cases.

In the clinical examination we start by checking the lips. In a lot of cases the patient comes with parts of the incisors still stuck in the lip. So we palpate the lip to find hard structures then we take an x-ray for the lip and see the radiopaque structures there.

Then we look at the soft tissue (mucosa, tongue…)
Then we look at the teeth (intrusion, extrusion , luxation, subluxation, mobility)
Extrusion cases must be dealt with immediately, at any given moment it may fall out and get aspirated so we must splint it as soon as possible (stop the bleeding🡪acid etch neighboring teeth🡪 splint the extruded tooth with composite) then we complete our clinical examination
Then we check the jaw for fractures
Also we should check for extra oral lacerations.

Sensibility testing (electric pulp test and cold test) hot test are no more used.

Ethyl chloride is mainly used [there is also carbon dioxide (-78 degrees) and dichloro(-220)]. Testing is done away from the cervical margin because if done near the cervical margin a crack will form from the intensity of the cold, also it may give us a false reading as the practitioner may mistakenly place the clod test on the gum causing pain to the patient. So we do it at the middle or incisal thirds.

If the tooth is in a state of shock this may give us a false reading, also in erupting teeth you will get a negative reading when testing the pulp because there is still no communication between the odontoplastic process and the nerve ending

During pulp testing if you start with low power then gradually increase the tooth will accommodate to this increase and will not give a response but if you suddenly increase the power the response or lack of it will be the true indicator. (I think the doctor was talking about the electric pulp test here)

\*If he tooth was crowned we cant test it.

Now, when a child comes with trauma to the clinic and you do your pulp test and there was no response; do NOT conclude that pulpal degeneration has occurred, for many reasons:
1) Tooth ybe in a state of shock

2) The child doesn’t really understand what’s going on and you cant rely on his response
3) Re-innervation may spontaneously occur after a week/month or even years
\*As long as there are no signs and symptoms/discoloration/cyst/sinus we just observe.

So first you do the pulp test then after a week you repeat it, even then if there was no response we wait a little bit more and recheck. Sometime calcification forms and this is good we just leave it as it is.

Sometimes the opposite happens. First the test gives a positive reading then at the next visit it’s negative. Its safe to assume that pulpal necrosis has occurred.

We should always take x-rays in trauma cases. Occlusal x-ray is recommended then a mesial or distal radiograph of the traumatized tooth. We should take an x-ray after 1 month then 3 months then 6 months until we reach the 2 year mark.

Trauma cases should have a follow up of 2 years. Many things can happen like resorption, calcification, ankylosis, necrosis, and cyst.

Classification of trauma:

Class 1 🡪 fractured enamel
Class 2 🡪enamel and dentine
Class 3 🡪pulp exposure
Class 4 🡪discoloration (degeneration of pulp)
Class 5 🡪avulsed/ nocked out
Class 6 🡪fracture root
Class 7 🡪displacement (lateral extrusion)