



Semmelweis University Faculty of Dentistry Department of Community Dentistry

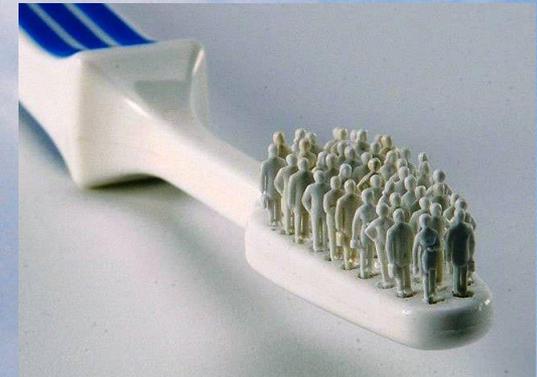
Head of Department: Dr. Peter Kivovics associate professor

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Orthodontic aspects of Emergency dentistry



Dr. Mercédesz Orsós
MsC, PhD student

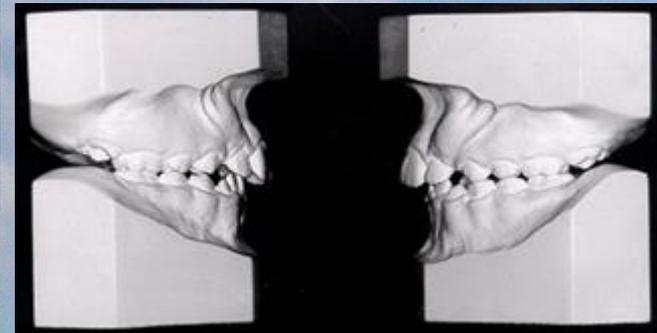
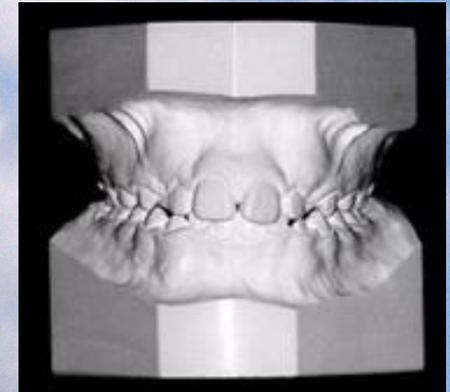
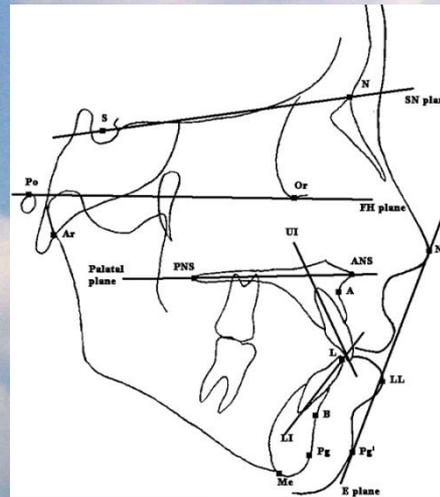
Orthodontics

- Orthodontics is the discipline, which separated the earliest from general dentistry
- Corrects teeth and jaws that are positioned improperly

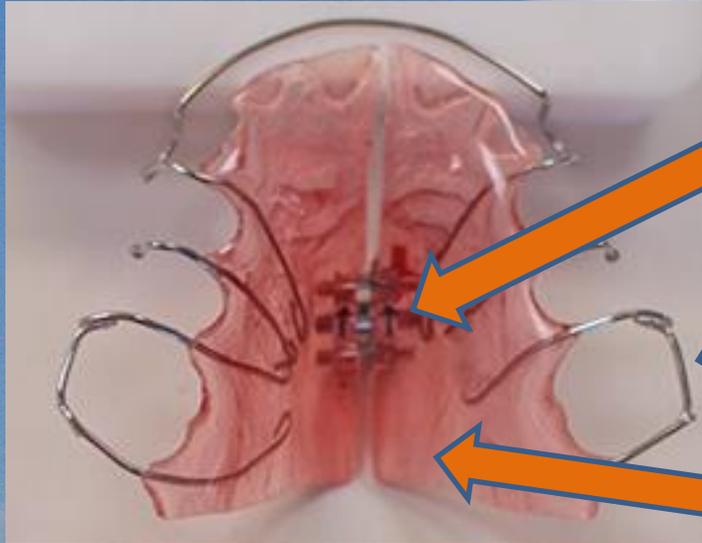


Orthodontics

- The diagnosis and the treatment are long procedures



Removable orthodontic appliances



Active component

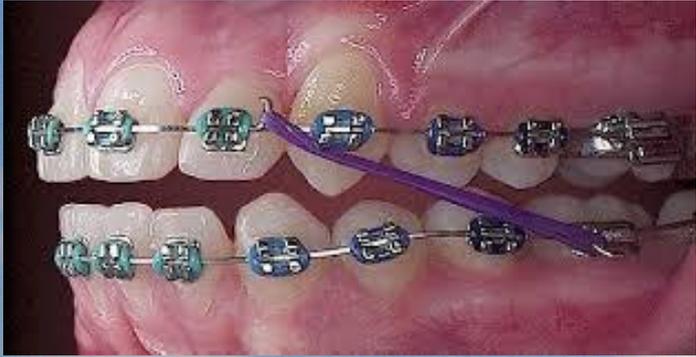
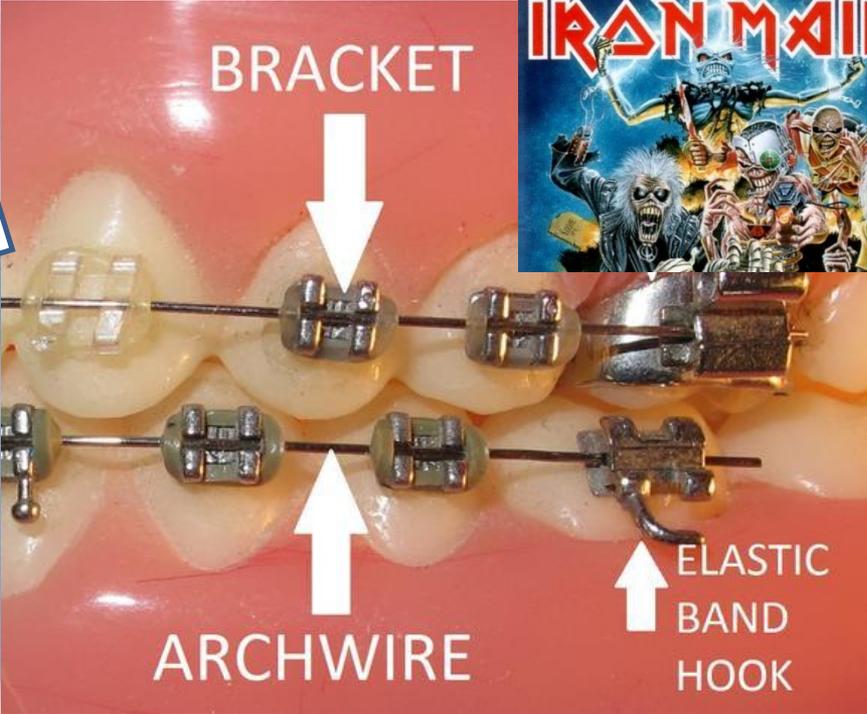
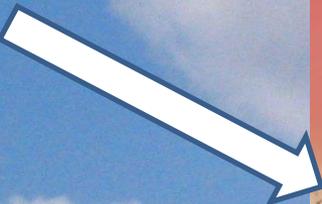
Retentive component

Acrylic base plate



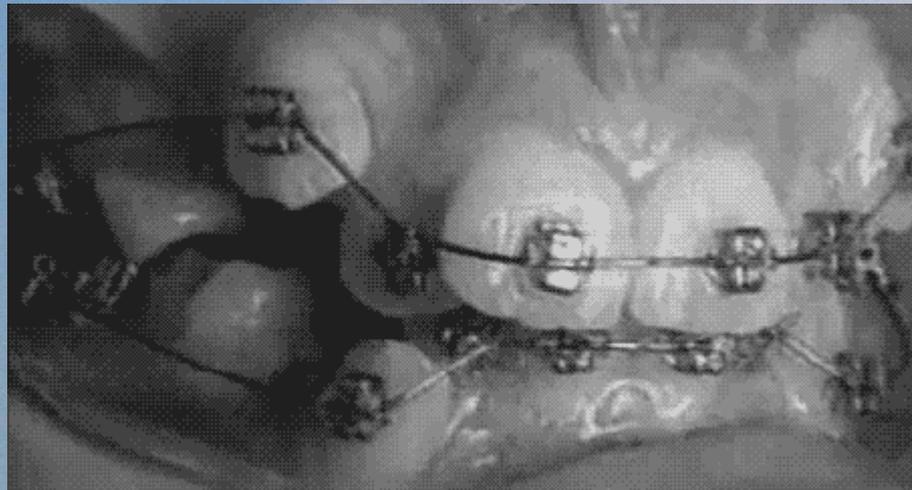
Fix orthodontic appliances

Ligature



Emergency???

- No emergency indication for orthodontic treatment
- Not a rapid process
- Injuries caused by orthodontic appliance which need emergency care



In the beginning

- After the braces are placed pain and discomfort is normal
- 3-5 days later the pain will begin to subside



Broken removable appliance

- Remove it
- Stop using it
- „Consult your doctor”



Irritation by removable appliance

- Decubitus
- Stop wearing it
- „Consult your doctor”



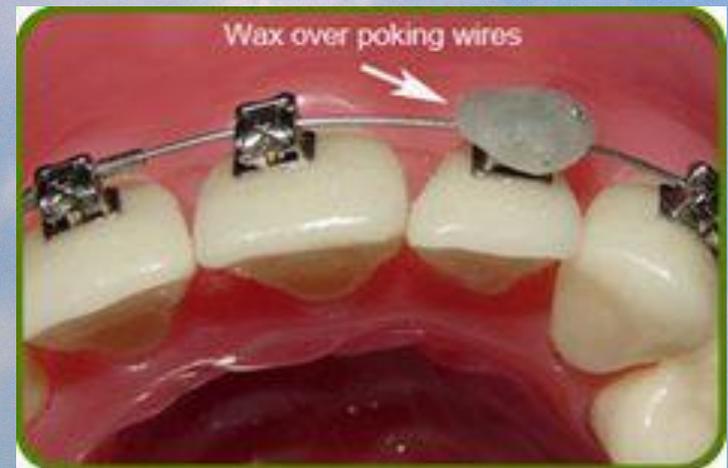
Irritation by fix appliance

- Lift the arch from the gingiva
- Bend it away
- „Consult your doctor”



Irritation by fix appliance

- Poking wires
- Mouth sores
- Injuries



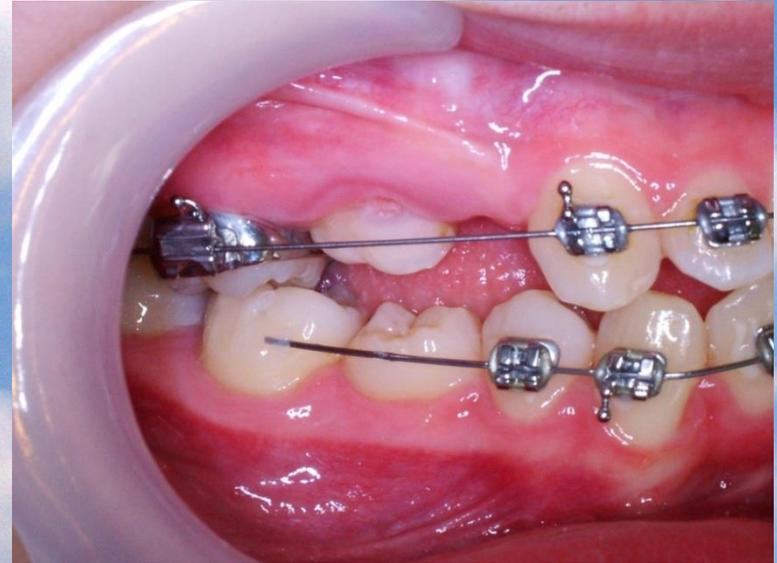
Broken molar band

- Dislocated, chewed metal band
- Remove the moving parts
- **CAVE: aspiration, swallowing**



Dislocated brackets

- Glue with flow composite
- Use wax to fix the bracket



Broken retainer



Transpalatal arch

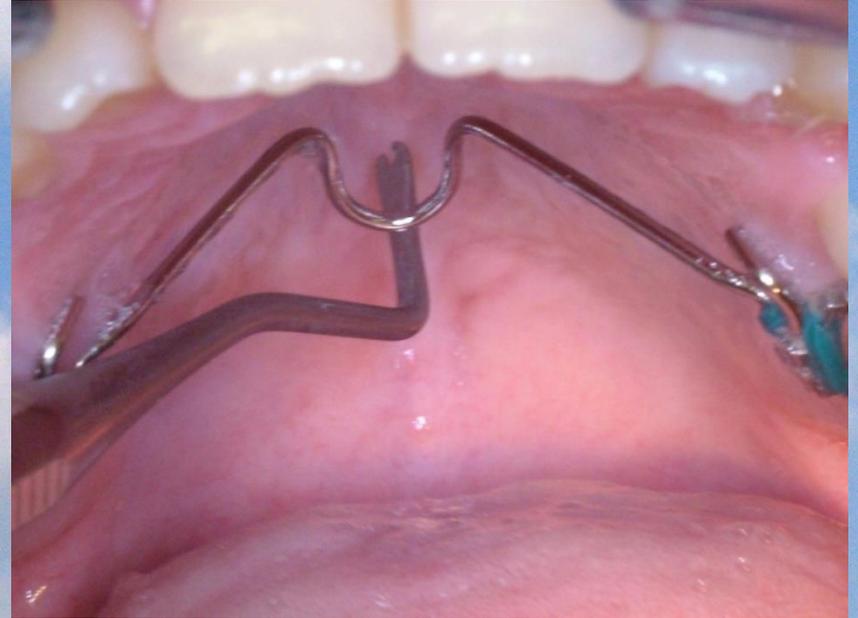


Transpalatal arch



- Remove it gently
- Surgical treatment

Transpalatal arch



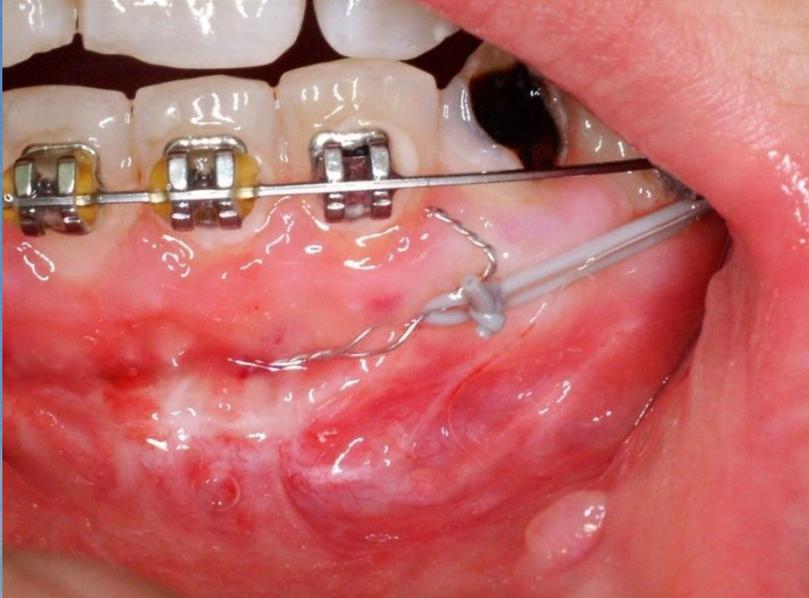
- By swallowing the force of the tongue gently intrude the molars
- Does it require treatment?

Broken Hyrax



- Retentive phase
- Fix it with composite

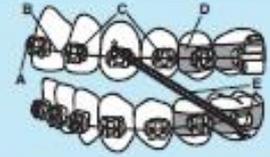
Impacted canine



- The wire leading to the impacted tooth can hurt the gingiva
- Coate in a thick silicone

- Both for patients and dentists
- Recommendation for cases needing treatment

Handling Orthodontic Emergencies

| | | | |
|--|--|---|---|
| <p>TOOLS & SUPPLIES</p> <ul style="list-style-type: none"> • Non-medicated orthodontic relief wax • Dental floss • Sterile tweezers • Small, sharp clipper • Q-tips • Salt • Interproximal brush • Toothpicks • Topical Anesthetic (such as Orajel or Ora-Gel) | <p>A. Ligature</p> <p>The archwire is held to each bracket with a ligature, which can be either a tiny elastic or a twisted wire.</p> |  | <p>E. Elastic Hooks & Rubber Bands</p> <p>Hooks (made of stainless steel) are used for the attachment of rubber bands, which help move teeth toward their positions.</p> |
| | <p>B. Archwire</p> <p>The archwire is held to all of the brackets and provides force to move teeth into proper alignment.</p> | <p>D. Metal Bend</p> <p>The bend is the curved ring of metal which wraps around the tooth.</p> | |
| | <p>C. Brackets</p> <p>Brackets are connected to the archwire, and hold the archwire in place.</p> | | |

EMERGENCY TREATMENTS

The following orthodontic emergencies and their treatments are listed in the order of the least severe to the most severe. Only the most severe emergencies may require immediate attention by an orthodontist. The majority of these are easily treated with a follow-up by the patient's orthodontist.

Mouth Sores



A metal bracket has rubbed the inside of the cheek.

see the orthodontist anytime soon, you may as well react, clip the wire.

Reduce the possibility of the patient swallowing the stripped piece of wire by using folded tissue or gauze around the area. Use a pair of sharp clippers and snip off the protruding wire. Relief wax may still be necessary to provide comfort to the irritated area.

Food Caught Between Teeth



This is not an emergency, but can be a little uncomfortable or embarrassing for the brace-wearing patient. It is easily fixed with a piece of dental floss. Try tying a small knot in the middle of the floss to help remove the food, or use an interproximal brush or toothpick to dislodge food caught between teeth and braces.

Some patients are susceptible to episodes of mouth sores. While braces do not cause them, they may be precipitated or exacerbated by an irritation from braces. One or several areas of ulceration of the cheeks, lips or tongue may appear. This is not an emergency, but may be very uncomfortable for the patient. Prompt relief may be achieved by applying a small amount of topical anesthetic (such as Orajel or Ora-Gel) directly to the ulcerated surface using a cotton swab. Instruct the patient to reapply as needed.

Loose Brackets, Wires or Bands



A loose bracket has become detached from the tooth.

If the braces have come loose in any way, the parent/guardian needs to be notified, and they should call the orthodontist to determine appropriate next steps.

Brackets are the parts of braces attached to teeth with a special adhesive. They are generally positioned in the center of each tooth. The bracket can be knocked off if the patient has eaten one of those hard or crunchy foods orthodontic patients are instructed to avoid, or if the mouth is struck while at play. (Encourage all patients, especially those with braces, to wear a protective mouth guard while playing sports.) If the bracket is off center, the adhesive may have failed. Call the parent/guardian, and recommend that they immediately notify the orthodontist, who will determine the course of action.

If the loose bracket has cracked on the wire and is sticking out and the patient cannot immediately be taken to the orthodontist, you can do a temporary fix to alleviate discomfort and prevent further damage. But take care to prevent swallowing or other injury.

To put the bracket back in place, use sterile tweezers to slide the bracket along the wire until it is centered on the tooth. Rotate the bracket back to the proper position, then slide it back to the center of the tooth.

Ligatures Come Off



A rubber band ligature has become detached from the bracket.

They rubber bands or small, fine wires, known as ligatures, hold the wire to the brackets. If a rubber ligature should come off, you may be able to put it back in place using sterile tweezers. If a wire ligature comes loose, simply remove it with sterile tweezers. If the wire ligature is sticking out into the lip but is not loose, it may be bent back down with a Q-tip or pencil eraser to minimize the irritation.

Irritation of Lips or Cheeks



A metal bracket has rubbed the inside of the cheek.

Sometimes new braces can be irritating to the mouth, especially when the patient is eating. A small amount of non-medicated relief wax makes an excellent buffer between metal and mouth. Simply pinch off a small piece and roll it into a ball the size of a small pea. Flatten the ball and place it carefully over the area of the bracket causing irritation. The patient may then eat more comfortably. Let the patient know that if the wax is accidentally ingested, it's not a problem. The wax is harmless.

Protruding Wire



A metal bracket has rubbed the inside of the cheek.

Occasionally the end of a wire will work itself out of place and irritate the patient's mouth. Use a Q-tip or pencil eraser to push the wire so that it is flat against the tooth. If the wire cannot be moved into a comfortable position, cover it with relief wax. (See Irritation of Lips or Cheeks above for instructions on applying relief wax.) The patient's parent/guardian will need to make the orthodontist aware of the problem.

In a situation where the wire is extremely bothersome and the patient will not be able to

Piece of Appliance in Swallowed

This is rare, but when it does happen, it can be fairly alarming to the patient. Encourage your patient to remain calm. If the patient is coughing excessively or having difficulty breathing, the piece could have been aspirated.

If you are able to see the piece, you may carefully attempt to remove it. But do not make the attempt if you could cause harm.

If appropriate under the circumstances, examine the patient's braces for problems that may result from the missing piece, such as looseness or irritation, and treat as specified above.

If you are unable to see the piece and believe it may have been aspirated, notify the parent/guardian and the orthodontist immediately.



Thank you for your kind attention!

Image credits: Dr. Horváth János