

Orthodontic emergencies

- In circumstances where a patient presents as an orthodontic emergency, the GDC Scope of Practice states that an orthodontic therapist "can make a patient's orthodontic appliance safe in the absence of a dentist, if trained, competent and indemnified" [Scope of Practice, GDC 2013].
- Instruction should be provided to enable the orthodontic therapist to identify damaged or distorted appliances and to carry out limited treatment to repair the appliance, relieve pain or make an appliance safe.
- A further appointment should then be booked with the supervising dentist to ensure safe and efficient progress of treatment.

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- Orthodontic emergencies, though relatively infrequent, do occur.
- It is generally felt that 90% of the problems come from 10% of our orthodontic patients.

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- When patient attends for an emergency appointment, it is important to carry out a brief history of the specific problem, noting any relevant medical conditions, before carrying out a thorough clinical examination.
- Whenever possible, as the first choice the patient should be directed to the orthodontist who is responsible for the fitting and maintenance of the appliance.

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- The main objectives for any patient who attends with an orthodontic emergency is firstly relief of any pain or discomfort.

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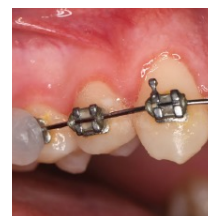
Dental pain following appliance placement or adjustment

- Some initial discomfort should always be expected following the placement or adjustment of any type of appliance.
- The patient and the parents must be given appropriate information, both verbally and in writing, as to how to deal with this initial period of discomfort.
- Over the first few days of orthodontic treatment all that is usually required is appropriate analgesia (ibuprofen or paracetamol) and plenty of reassurance and support from the parents.
- Specific instructions must be given to the patient about maximum doses of analgesics and they must be told never to exceed the doses written on the bottles.

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Appliance rubbing on lips and cheeks

- This is a very common complaint, particularly in the early stages of treatment before the patient becomes used to the appliance.
- Use of 'relief wax' is usually an effective measure to reduce discomfort caused by friction between components of the appliance and the soft tissues.
- The patient must be advised firstly to attempt to dry the area and then to soften the wax by manipulating it between finger and thumb, prior to pinching it together around the offending area.
- It may be difficult to stick the wax to the offending components and repeated attempts may be necessary.



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Demineralization of teeth

- Poor oral hygiene and appropriate diet can be the cause of the most commonly encountered conditions.
- The majority of potential problems can be avoided by ensuring that the patient receives sufficient information about minimizing sugar-containing foods and drinks, as well as specific instruction in cleaning food from the appliance once it has been fitted.
- A fluoride containing mouthrinse should always be prescribed to orthodontic patients, and every time the patient visits a dental professional encouragement should be given to use it regularly.
- Advice includes the avoidance of tough or sticky food that may dislodge appliance components, as well as a sensible dietary intake avoiding sugary or acidic food and drink, particularly between meals

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Soft tissue

- Severe gingival inflammation may be seen in orthodontic patients and every opportunity must be taken to encourage patients to achieve an exemplary standard of oral hygiene.
- Gingival infections, such as acute necrotizing ulcerative gingivitis (ANUG), may also be encountered when a patient is receiving appliance therapy, combined with other exacerbating factors, such as students sharing toothbrushes with infected people and smoking.
- ANUG is diagnosed by the characteristic 'punched out crater like lesions of the interdental papillae.



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- Ideally, all orthodontic treatment should involve an intensive course of oral hygiene instruction prior to placement of any appliances.
- The patient should be warned that, if oral hygiene is less than exemplary, it would be inadvisable to provide appliance therapy.
- If the patient is already in treatment when there is a marked downturn in gingival health, and if no marked improvement over the subsequent 2 or 3 visits, then the brace must be removed, otherwise there is a risk of severe permanent damage to the dentition.



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Excessive tooth mobility

- A slight increase in tooth mobility (0.5–1 mm) is inevitable during most active orthodontic appliance therapy.
- In most cases, the patient will merely need to be reassured that this is a normal physiological consequence of treatment.
- Occasionally, during fixed appliance treatment the teeth can become extremely mobile (>2 mm movement on gentle pressure).
- If there is an obvious local cause, such as occlusal trauma directly on to the mobile tooth, then soft diet should be recommended, and an attempt made to relieve any further trauma on the affected teeth.

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Root resorption

- If excessive tooth mobility persists, despite the relief of the suspected contributory factor, then radiographic investigation may be indicated.
- Root resorption is an inevitable consequence of all orthodontic therapy and, in most circumstances, it is clinically insignificant.
- In a very small number of cases, however, there may be excessive root resorption occurring as a result of the orthodontic intervention.
- If there is a suspicion that root resorption occurring, then the patients should be advised to contact the orthodontist immediately.
- Treatment may need to be halted temporarily, or occasionally permanently, depending on the extent of the problem



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Fixed appliances

- The pre-adjusted edgewise appliance is the most commonly used fixed appliance. The main components of a fixed appliance that can be divided into:
 - Bands and brackets;
 - Archwires;
 - Modules;
 - Lacebacks; and
 - Stainless steel protective tubing.

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Lost elastic or wire module

- Occasionally during a treatment, an elastic module or wire ligature, which are merely used to hold the archwire into the bracket, may be lost.
- It is necessary to replace this ligature or module as soon as possible, as it is the primary means of providing control of the tooth position.

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Archwire wire traumatizing soft tissues

- Protruding distal ends of archwires can lead to soft tissue trauma and to large and painful ulcers.
- One cause may be that the main archwire was not trimmed correctly at the end of the last visit, with excessive wire being left protruding from the molar tube when the patient left the surgery.
- Excessive wire protrusion may also occur as a consequence of active tooth movement, such as space closure, or alternatively by the archwire sliding round from one side of the arch to the other.
- Occasionally during treatment there may be fracture of the main archwire caused by inappropriate foods or destructive habits, such as biting the end of a pen or pencil, which hardens the wire, leading to breakage.
- This may result in one or more sharp ends protruding into the soft tissues.
- Distal end-cutters can be used to remove the offending bits of wire.



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Buccal attachments traumatizing tissues

- Occasionally, the hook from the molar tube may be prominent enough to cause trauma to the soft tissues of the cheek.
- Options to resolve this problem are: placement of wax over the hook, placement of GIC or composite over the hook (but avoiding the archwire) or bending the hook to an atraumatic position.
- Great care will need to be taken, especially with bondable tubes, to ensure that the component is not detached from the tooth as an attempt to bend it is made.



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Loose archwire/auxiliary wires

- An auxiliary wire, such as a canine laceback or long ligature, may become loose, particularly in the early stages of treatment when rapid tooth movement is occurring.
- A decision will need to be made whether the wire can just be retied or whether it should be removed. If there is any doubt then removal is preferable and the patient should be booked in with the supervising orthodontist at the earliest opportunity.
- Occasionally, an archwire may become loose, either due to loss of a number of modules or as a result of biting forces on a flexible section of the wire, causing it to be pulled out of the archwire slot or molar tube.
- Archwire deflection is particularly common if there is a large unsupported span of wire.

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Loose bracket

- Brackets may become loose as a consequence of eating hard or sticky foods, possibly a premature contact leading to traumatic occlusion or occasionally by external trauma during contact sports.
- The bracket may remain flush with the tooth surface or may get pushed along the archwire. If the loose bracket is causing soft tissue trauma or discomfort or inconvenience to the patient, then it can be removed by taking off the ligature holding it to the archwire.
- Care must be taken when doing this not to dislodge adjacent brackets

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Loose orthodontic molar band/tube

- Problems caused by a loose band include, loss of control of the tooth position, which is obviously the primary concern.
- Loose bands can easily be re-cemented with glass ionomer after removing a ligature or two anterior to the band and sliding it off the archwire, then cleaning both the band and the tooth.
- If a band is loose and posing a possible threat of ingestion or inhalation, then it is certainly best removed.
- Occasionally, this may require cutting and removal of the archwire and possibly accessory wires that were attached to the band.

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Lost or broken retainers

- Most orthodontic patients require indefinite retention to prevent long-term post-treatment changes to their occlusions.
- Therefore, the breakage or loss of a retainer must be addressed with urgency.

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Management

- Loss of a removable retainer:
Consider – an impression or intra oral scan followed by provision of a replacement retainer to be worn as recommended by the orthodontist
- Complete loss of a bonded retainer:
Consider – removal of the residual composite with a composite removing bur followed by an impression or intra-oral scan to provide a removable pressure-formed retainer. Book next available appointment with orthodontist.

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- Partial fracture of a bonded retainer.
Consider – removal of redundant residual composite with a composite-removing bur and smoothing down of potentially traumatic wire ends with an abrasive disc. This can then be followed by an impression or intra oral scan to provide a removable pressure-formed retainer
- Partial debond of a bonded retainer.
Consider – removal of redundant residual composite from the tooth and retainer wire followed by careful repair with new composite resin bonded by the practitioner's choice of system. Care must taken to ensure the retainer wire is recemented correctly, ensuring that it is passive so as not to cause any unwanted tooth movement.

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Wire syndrome

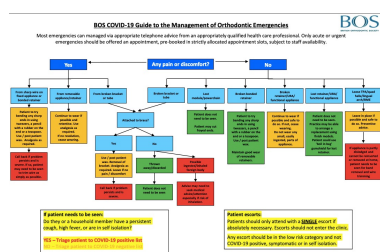


- Wire syndrome is a phenomenon that involves fixed orthodontic retainers causing unwanted tooth movement.



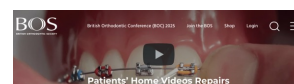
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BOS patient advice

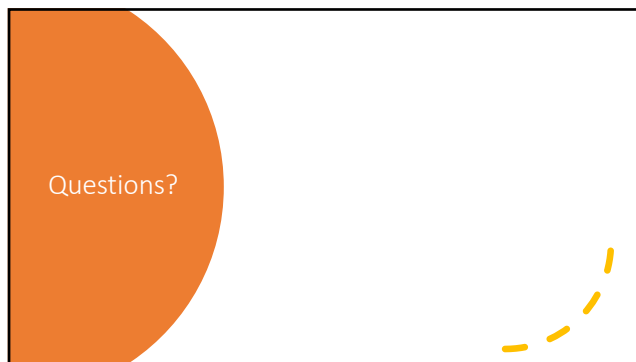


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Patients Home Videos Repairs



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