

## **Orthodontic & contact sports**

Find out about how to protect your teeth and brace if you play contact sports. Always remember to ask your orthodontist or dentist if you have any questions or concerns.

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### **What is a contact sport?**

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A contact sport is one which involves significant physical contact between opponents and therefore could potentially damage teeth.

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### **What are the risks to teeth?**

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The risk of tooth damage is increased in fast, physical sports or if moving objects are involved (such as bats and balls). Studies have shown that between 13% and 39% of all dental injuries are sports related. Approximately 25% of children in the UK will injure or lose a front tooth at some stage. Contact sports are increasingly popular which has resulted in a rise of traumatic dental injuries.

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### **Should you use a mouthguard?**

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All dentists are lobbying for the mandatory use of mouthguards for all school children or club players participating in contact sports. Some dental insurance plans will not pay out if damage occurs during contact sports (including training sessions) if a mouthguard was not worn to lessen the risk. The British Orthodontic Society (BOS) advises orthodontic patients to wear a mouth guard over their fixed brace. In the UK, it is recommended that a mouthguard should be part of the sports kit. The Rugby Football Association's website comments that: "In the best interests of players' safety, we strongly recommend that all players wear a mouthguard during any contact rugby sessions. It has been shown that this significantly reduces the incidence of dental injuries".

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### **Why should you wear a mouthguard?**

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This may avoid cuts to the mouth from the brace, damage to the brace and may prevent dental injuries. Fortunately the brace itself gives a lot of support to the teeth so the main function of a mouthguard over a brace is to protect the brace and the mouth.

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## What are mouthguards made of?

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Mouthguards are pliable and made from impact absorbing materials such as polyethylene vinyl acetate (pEVA). This is an odourless, tasteless, non-toxic polymer which offers resistance to abrasion and is durable enough to last at least a whole season of sports competition and training.

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## What types of mouthguard are there?

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*New mouthguards are designed to fit comfortably in the mouth and are not bulky, allowing easy speech, swallowing and breathing. The BOS advises that conventional mouthguards do not work with braces because the teeth are shifting, which means they become ill-fitting very quickly. Fortunately there are several different types of 'ortho-guard' mouthguards specially designed to fit over fixed braces and the BOS recommends that this is the best type to use with a fixed brace.*

Your orthodontist will be able to advise on an appropriate mouthguard or advise the patient where to obtain the most suitable one to suit their needs:

### 1. Ortho-guard

Some companies are now making special off the shelf 'ortho-guard' mouthguards for patients with braces which feature a channel or trough to accommodate the brace and allow for tooth movement. 'Boil and bite' mouthguards can be shaped to fit by softening in boiling water and then sucked to mould to the contours of the mouth. This means that as the teeth move, the mouthguard can be remoulded to adapt to the new shape of the mouth.

### 2. Custom-made mouthguards.

Due to the movement of teeth during orthodontic treatment, a tailor-made mouthguard would need to be changed frequently and may not be a viable option for the orthodontic patient (unless the fixed appliance has been fully fitted before the mouthguard is made). The custom-made mouthguard supplier should make the guard so it allows the teeth to move during treatment and must instruct the user about how to modify the mouthguard if it becomes too tight. If a great deal of tooth movement takes place, patients may require a new mouthguard.

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## What should you consider when choosing a mouthguard?

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- It should be comfortable, well-fitting and not prone to dislodging on impact.
- It should provide adequate thickness of material (4mm) over vulnerable areas to reduce impact forces.

- When biting lightly on the mouthguard, large areas of its biting surface should be in contact with the teeth in the opposing jaw to reduce the risk of jaw fracture.
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### **How do I look after my mouthguard?**

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It is important to look after the mouthguard to ensure its longevity and continued effectiveness. It should be rinsed with cold water or a mouth rinse before and after each use and/or cleaned with a toothbrush. Occasionally the mouthguard should be washed more thoroughly in cool, soapy water and rinsed thoroughly. It should be placed in a firm, perforated container to store or transport it. This permits air circulation and helps to prevent damage. The mouthguard should be protected from high temperatures - such as hot water, hot surfaces, or direct sunlight - to minimise distorting its shape.

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### **What should I check before using my mouthguard?**

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It is important to look after the mouthguard to ensure its longevity and continued effectiveness. It should be rinsed with cold water or a mouth rinse before and after each use and/or cleaned with a toothbrush. Occasionally the mouthguard should be washed more thoroughly in cool, soapy water and rinsed thoroughly. It should be placed in a firm, perforated container to store or transport it. This permits air circulation and helps to prevent damage. The mouthguard should be protected from high temperatures - such as hot water, hot surfaces, or direct sunlight - to minimise distorting its shape.

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### **How often will I need to replace my mouthguard?**

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No mouthguard lasts forever and with use, the biting surface may flatten, wear or become thin over the biting edges of the front teeth, allowing the player to bite through the plastic during use. Once damaged, the mouthguard may fail in its 'duty' to protect. The mouthguard should also be inspected regularly to check its fit; this is particularly important for children who are still growing and for those who wear orthodontic braces.