

# Upper Incisor Protrusion

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Many patients present for treatment because they are unhappy about the protrusion of the upper incisor teeth. Orthodontists term this type of bite a Class II division I incisor malocclusion.

### How common is upper incisor protrusion?

Upper incisor protrusion is extremely common within Caucasian populations (15-20%).

### What causes upper incisor protrusion?

The majority of cases of upper incisor protrusion are paradoxically due to retrusion of the lower jaw. When the lower jaw is retrusive, the lower incisor teeth and the lower lip are also relatively set back giving the impression that the upper teeth are sticking forwards. This is particularly the case when the lower lip fails to cover the upper incisors. Sometimes the lower lip catches behind the upper incisors pushing them forwards even further. This is termed a *lip trap*.

In other cases, upper incisor protrusion may be caused by a digit sucking habit. Here the presence of a digit (thumb or finger) pushing forwards on the upper incisors results in their protrusion relative to the lower incisor teeth.

### What problems can upper incisor protrusion create?

As well as having cosmetic concerns, upper incisor protrusion also increases the chance of damaging the upper incisor teeth following any form of traumatic injury to the face. In fact the risk of trauma parallels the severity of upper incisor protrusion.

### How can upper incisor protrusion be treated in children

There are several ways of treating upper incisor protrusion depending on the cause. The first step is always to stop a digit sucking habit if this is contributory. Following this there are many options:

**1. Functional appliances.** These are removable appliances which work by artificially posturing the lower jaw forwards. This causes the upper incisors to move back, the lower incisors to move forwards and it may also encourage a small degree of forwards growth of the lower jaw. Functional appliances normally take 12 months to work if they are worn well (24/7). Following treatment, a fixed appliance is often used to fine tune the result as a functional appliance will not improve tooth alignment within each jaw. Headgear can be used

with fixed appliances in order to retrain growth of the upper jaw.

**2. Fixed appliances.** Fixed appliances can be used to move the upper incisors back, the lower incisors forwards or a combination of these movements. The lower incisors must be moved forwards with care as they are often prone to moving back when fixed appliances are removed. Headgear can be used with fixed appliances to help the upper incisors be pushed back.

**3. Await further growth.** In patients with severe lower jaw retrusion it may be necessary to await further growth and consider jaw lengthening surgery when full growth has been achieved.

### How can upper incisor protrusion be treated in adults

There are really only two ways of treating upper incisor protrusion in adults:

**1. Fixed appliances.** As with children, fixed appliances can be used to retract the upper incisors, advance the lower incisors or a combination of these movements.

**2. Surgical repositioning of the jaw bones (orthognathic surgery).** Orthognathic surgery (see article) is often considered in severe cases where there are functional problems or high aesthetic concerns.