# Treating the anterior cross-bite tooth

*Guest article by Mark Knapp*

**A single tooth** anterior cross-bite is usually more an aesthetic problem than a functional one.

Young adults are often embarrassed about smiles which, in a dull light or in photographs, appear to be missing a front tooth. As patients, they are often reluctant to enquire about treatment options suspected to be unpleasant, drawn out and expensive.

Usually, the tooth in question is an upper lateral incisor, palatally placed, crowded and over erupted. Occasionally, the situation will be bilateral.

No one particular treatment is perfect; all have advantages and disadvantages, benefits and risks. Full band orthodontics will address the underlying malocclusion but the treatment takes time and many laypeople perceive it as costly and unsightly. Extraction, alveolar augmentation and implantion can produce a fine looking result but likewise can be seen as complicated and daunting.

Enamel trimming and direct composite bonding is often a viable, simple alternative.

There are a number of challenges in this type of procedure but the most obvious one is the occlusion. Overlapping incisal edges can be reduced to make space for bonding and allow full jaw movements. But the patient must be warned that recontouring enamel always carries a very small risk of sensitivity and even pulp damage. Good post-operative home care is essential.


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## PROCEDURE

The following is a typical example. Figure 1 shows a lateral incisor that was palatally placed, over erupted and crowded, with the adjacent canine having drifted mesially. The gums displayed marginal gingivitis due to the manual difficulty of cleaning the area. The importance of effective brushing and flossing, both before and after treatment, was emphasised at the outset.

Two appointments would be needed.

At the first, the labial gingiva was cauterised using trichloracetic acid (TCA) and a gingivoplasty performed to raise the gum margin approximately 2mm. Because of the concavity of the tissue above the tooth it was necessary to significantly 'crown lengthen' and take the gum line higher than that of the corresponding left side lateral.

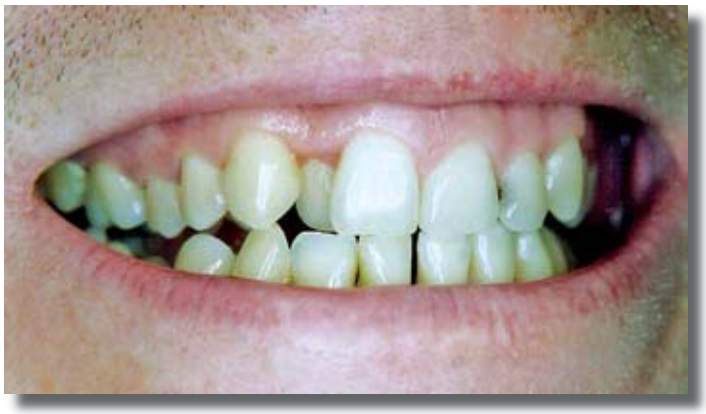

*Fig 1. The lateral incisor is palatally placed and crowded. From a distance it appears to be missing.*

*Fig 2. The completed direct composite facing.*

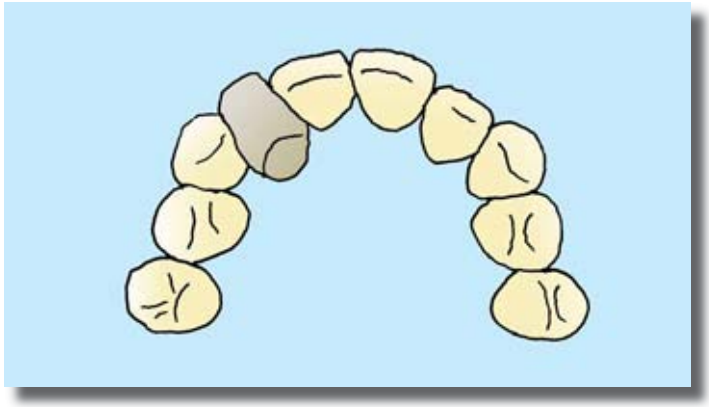

*Fig 3. A similar case, with a lateral incisor palatally placed and grossly crowded. In this instance the composite bonding has slightly overlayed the tooth's incisal edge.*

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At the same visit the 12's incisal edge and those of the opposing 42 and 43 were slowly trimmed *half way,* with a fine grit diamond bur. Fluoride varnish was applied and the patient instructed in the use of Recaldent Tooth Mousse™ and topical fluoride gel.

Two weeks later the incisal trimming was completed to eliminate the overlap and shape the edge of the lateral into a vertically harmonious position. The mesial wall of the canine was also trimmed slightly to provide a flatter surface to juxtapose the bonding against.

The gums were then cauterised with TCA and two short strands of narrow gingival retraction cord, impregnated with Visine [Pfizer Australia], placed under the proximal gingiva.

To effectively move the tooth forward, the facing would have to be 4 to 5mm thick. The buildup was commenced at the cervical, with the incremental placement of flowable microfill composite. Usually the ideal cervical margin for a direct facing is feather-edged but in this case the required contour extended at a right angle. (If the lipline had been particularly high the best margin would have resembled that of a pontic resting over mucosa).

Plastic strips were then placed between the teeth and, to support them in position for the correct proximal contour, small plugs of flowable composite were cured at the mesial and distal margins.

The facing was then completed in the normal fashion, the only difference being that the initial curing of the bulky 'body' segment was initiated from the palatal, through the tooth, in order to minimize shrinkage stress.

## RESULT

Figure 2 shows the finished facing, positioned slightly labially of the arch. Because of the space loss between the central and canine, improving the appearance effectively involved correcting a great deal of palatal crowding with a subtle degree of labial crowding.

Moreover, while the tooth appears reasonably normal, close examination shows it to be slightly narrower than the corresponding lateral on the left.

The general public do not analyse teeth but people do seem to intuitively understand what falls within the parameters of normality. Lack of symmetry in centrals looks irregular, but small variations in the widths of lateral incisors are not unusual and visually acceptable.