

## CLINICAL TIPS

## Continuous Wrap-around Tie

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## Abstract

Continuous ties are used in clinical practice to prevent spaces from opening up. A new way of tying an arch wire presented here, called a continuous wrap - around tie not only meets the objective of maintaining adjacent teeth in contact, but also prevents the relapse of rotation corrections, corrects minor rotations and saves time in ligating and removing an arch wire.

## Keywords

Continuous wrap - around tie, arch consolidation.

Continuous ties are used in clinical practice to prevent spaces from opening up. A continuous tie may be given to consolidate a full dental arch or a segment of teeth. Usually a twisted tie or a figure-of-eight tie is given. It takes more clinical time to give a twisted tie as compared to a figure-of-eight tie. But the disadvantage of a figure-of-eight tie is that the arch wire may not remain fully seated in the arch wire slot of the bracket, and the tooth may rotate, particularly if it was rotated to start with.

A new way of tying an arch wire presented here, called continuous wrap -around tie not only meets the objective of maintaining adjacent teeth in contact, it also prevents relapse of rotation corrections, corrects minor rotations and saves time in ligating and removing an arch wire. The continuous wrap-around tie can be given around twin edgewise brackets as well as around single brackets.

The continuous wrap around tie is preferably given with 0.010" ligature wire, as it is strong enough and not very stiff. About 12 cm of ligature wire is needed for a full tie. A loop is made at one end by holding about 10 mm of ligature wire at the round tip of a bird beak pliers and twisting upon itself (Fig. 1A & B). This loop is then engaged to the hook on a molar tube (Fig. 2). The ligature wire is then passed occlusal to the adjacent premolar. Care has to be taken to place the free end of the ligature wire under the tie wing of the premolar bracket to prevent injury to the buccal mucosa. The ligature wire is tied around the bracket under the tie wings and over the arch wire. Enough stretch is maintained to prevent laxity and to push the arch wire fully into the slot. Then, the ligature wire is taken

gingival to the bracket on the adjacent tooth and wrapped around (Fig. 3). Subsequently, the arch wire can be tied to all the brackets in the arch in a similar fashion (Fig. 4). The strand can then be passed distal to the molar tube maintaining the stretch and brought mesial up to the canine bracket. It is passed over the premolar and the canine brackets incisally and gingivally alternately. The ligature wire is cut about 5 mm mesial to the canine bracket (Fig. 5). The end of the tie is wrapped around the arch wire between the canine and the lateral incisor (Fig. 6). The end has to be kept lingual to the arch wire to prevent injury to the soft tissues of the lip.

It is preferable to wrap the end of the ligature wire mesial to the canine bracket, as it is easier. The continuous wrap-around tie can be terminated between any two teeth. Care has to be taken that the end does not become loose and injure the soft tissues.

Removing a well-fitting rectangular wire from the molar tubes is quite difficult particularly when the distal ends have been cinched to consolidate the arch. With a continuous wrap-around tie there is no need to cinch the arch wire, hence removal of the arch wire is easier.

A partial continuous wrap-around tie can be given from any bracket by forming a regular edgewise tie at the end of a ligature wire, instead of a loop (Fig. 7). After tying one bracket in the usual manner (Fig. 8), the ligature wire can be wrapped around the other brackets on as many teeth as required (Fig. 9).

The tie is removed by cutting the ligature wire where the free end has been tied or by opening up the free

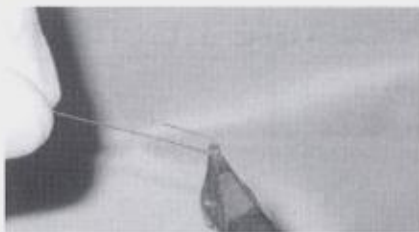


Fig. 1A: Loop formation



Fig. 1B: Loop ready for engaging a hook

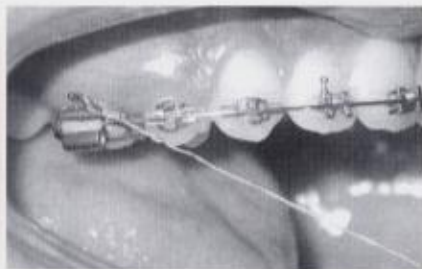


Fig. 2: Loop engaged to a hook



Fig. 3: Tie given around brackets



Fig. 4: Tie continued



Fig. 5: End cut mesial to cuspid



Fig. 6: End wrapped around the arch wire



Fig. 7: Tie for a bracket wire

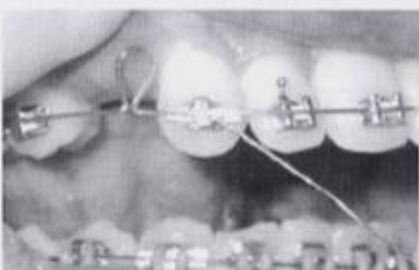


Fig. 8: Tie started on a cuspid bracket



Fig. 9: Tie ended at the other cuspid

end. Then the whole ligature tie can simply be unwound from the brackets and molar tube and the loop can be disengaged from the hook of the molar tube where the tie started. Considerable time is saved in removing an arch wire tied with continuous wrap-around tie as compared to individual ties.

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