

## A NEW TECHNIQUE FOR INSERTION OF OPEN COIL SPRING

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### ABSTRACT

Open coil springs are most commonly used to open spaces for blocked out teeth. Placement of open coil spring is not only cumbersome and time consuming but often requires assistance. A simple technique to insert open coil spring is described which does not require any additional armamentarium and reduces the chairside time.

**KEYWORDS:** Open coil spring; ligature wire; molar distalisation

### INTRODUCTION

Open coil spring is activated by compression and exerts a pushing force in both directions away from the centre.<sup>[1,2]</sup> Various applications of these springs in routine orthodontic practice include opening of spaces for blocked out teeth, maintaining the spaces, molar uprighting, one by one molar distalisation and en masse distalisation of molars. Several methods have been advocated to insert the spring.<sup>[3,4]</sup> The technique described here facilitates easier and faster way to engage the archwire with open coil spring.<sup>[3]</sup>

### PROCEDURE

1. Take arch wire of required size.
2. Insert open coil spring of a determined length into the arch wire. Pass a ligature wire in between the archwire and open coil spring by using Mathieu forceps and twist it.
3. Ligature wire helps to hold the spring in a constricted position (Fig. 1).
4. Insert archwire into buccal tubes and slide the open coil spring along the archwire to the appropriate interbracket area.
5. Now cut and remove the ligature wire to release the open coil spring (Fig. 2).

### DISCUSSION

Open coil springs can be easily placed using the method described here without requiring additional armamentarium such as wire tucker or "O" device.<sup>[4]</sup> Whenever open coil springs are

used for molar uprighting or distalisation, inserting them by conventional method requires greater effort due to lack of accessibility in molar area. The technique demonstrated here is extremely helpful to place open coil spring in between two molar tubes (Fig. 3). Our method is considered superior compared to other methods due to ease of application and reduced chairside time.

### CONFLICT OF INTEREST & SOURCE OF FUNDING

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### BIBLIOGRAPHY

1. Chaconas SJ, Cuputto AA, Harvey K. Orthodontic force characteristics of open coil springs. *Am J Orthod Dentofacial Orthop* 1984;85(4):494-7.
2. Manhartsberger C, Seidenbush W. Force delivery of NiTi coil springs. *Am J Orthod Dentofacial Orthop* 1996;109(1):8-21.
3. Singla L, Singla D. An efficient method of open coil spring insertion. *J Ind Orthod Soc* 2011;45(4):265-6.
4. Shankar C, Chakravorty PB, Revankar S, Shankar C, Chakravorty PB, Revankar S. 'O' device: For easy placement of open coil spring. *APOS Trends in Orthodontics* 2014;4(6):178-9.

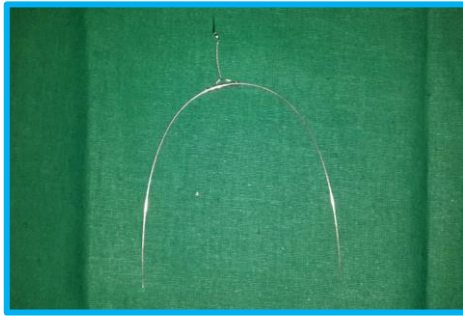


Fig. 1: Constricted open coil spring with a twisted ligature wire



Fig. 2: Cutting the ligature wire



Fig. 3: Inserting arch wire and constricted open coil spring in between molar tubes