

Kris ‘o’mit Technique: The Bull’s Eye for Implant Placement

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Abstract

Mini implants have gained a widespread popularity among Orthodontists since its inception into the field of Dentistry. The most sought after problem in Orthodontic tooth movement, the anchorage, could be easily gained from the use of mini implants. The location of placing the implant and the technique of placement plays a role in determining the success of the implant. Many techniques has been proposed earlier, but most of them depended on the clinical judgement of the Orthodontist. A must more accurate method of locating the exact location of placement and a guide for estimating the adequate length of implant to reach the thickest bone is put forward in this article, which might be helpful for clinicians in placing both the inter radicular and extra radicular implants. this can be considered a universal template as it negates the drawbacks of faulty implant placement and enhances the stability of implants, thereby bringing out the desirable tooth movements.

Keyword: Tooth, Orthodontists, Miniscrew, Infrazygomatic

Introduction

There has been many innovations and advancements in the field of Orthodontics, which has led to its evolution as a speciality. The prime concern for an Orthodontist is to

achieve the desired tooth movement without altering the balanced occlusion that might be already present. It is not always possible to achieve the desired tooth movement alone due to the compensatory movement of the dental segments to the forces that have been applied to achieve the tooth movement.

Anchorage requirements have always been the major factor in treatment planning for an Orthodontist. Many a times, while retracting the anterior segment with the help of the posterior segment, there will be a reactionary movement of the posterior teeth. The loss of anchorage can happen in all the three planes of space, be it transverse, vertical or sagittal. In the current scenario, the invent of Orthodontic miniscrews have become an unmatched tool in the armamentarium of the clinician¹.

The proper insertion site is the major requisite for the success of the mini implant. The stability of mini implants is of utmost importance when it comes to anchorage purposes². This can be achieved by proper identification of insertion site, correct angulation, selection of the ideal length of Miniscrew and reaching the cortical bone, which is denser, in the case of Infrazygomatic implants. There are reports suggesting overall failure rates of microimplants to be 13.5%³, while that of Bone screws are found to be less with Buccal Shelf Screws with a

failure rate of 7.2%⁴ and Infra Zygomatic Crest implants having 7%⁵.

The present article describes a universal template-KRIS'O'MIT (**K**now the **R**ight **I**nsertion **S**ite **O**f **M**ini-**I**mplants with **T**emplate) for placement of the mini implants, which will aid in its stability and thus reduce the failure rates.

Template design

1. KRIS'O'MIT base is made using Canker sore Patches (Fig 1-1) used for covering aphthous ulcers. They are available as circular patches which adheres to the oral mucosa.
2. 2mm length of Gutta Percha sticks are cut off (Fig 1-2) to provide a radiopaque medium to transfer the soft tissue insertion site landmark onto a radiograph.
3. An indentation 0.2mm larger than the diameter of the miniscrew to be placed is made at the center of the template base with the help of a surgical bur for placing the Gutta Percha Point (Fig 1-3).
4. Then the oral mucosa is dried and the template assembly (Fig 1-4) is held onto the oral mucosa at the supposed insertion site for 30 seconds.
5. The template assembly can be secured with the help of a tape placed over it so as to allow the proper seating of the Gutta Percha point (Fig 1-5).
6. CBCT is taken to detect the soft tissue landmark on the radiograph, represented by the Gutta Percha point (Fig 1-6).
7. The position, length and depth of penetration is then evaluated from the site and it gives a proper idea regarding the length of mini screw to be used, angulation of mini screw & the proper insertion site.
8. The surface tape is removed, and the Gutta Percha point is retrieved from the base. If there are no alterations to be made in the insertion site, the implant is inserted through the indentation on the base with the pre-determined angulation for providing maximum stability. Corrections if required are made accordingly.

Advantages

1. There is no need of any anaesthetic agent as the oral patch itself possess a soothing effect of menthol which provides adequate surface anesthesia and the patch resorbs by itself.
2. Avoids multiple injuries due to improper mini-screw placement.

3. No saliva contamination of the screw thereby maintains the sterile environment.
4. No additional armamentarium required.
5. CBCT allows for assessment of various sites with a single radiograph when multiple implants are planned to be placed.
6. The soft tissue landmark can be accurately transferred to the radiograph and three-dimensional measurements can be evaluated.
7. It is a universal implant, can be used in the placement of IZC, Buccal Shelf implants, Inter-radicular implants, Palatal implants to avoid any accidental tooth contacts.

Ethics approval and consent to participate

Ethical clearance from the Institutional Committee and consent of the patient to participate in the present study is obtained.

Availability of data and materials

Data and materials will be made available once the preliminary approval of publishing is obtained.

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Legends Figure

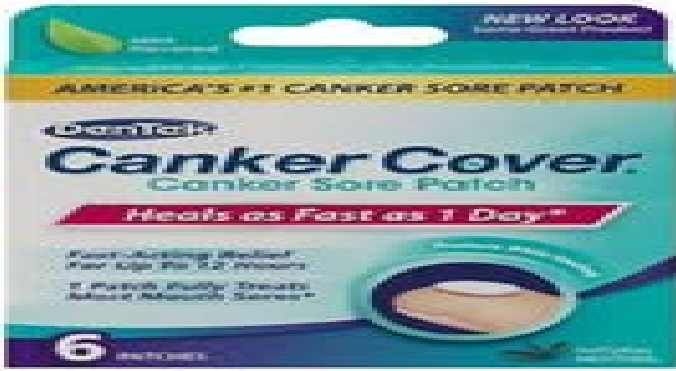


Figure 1

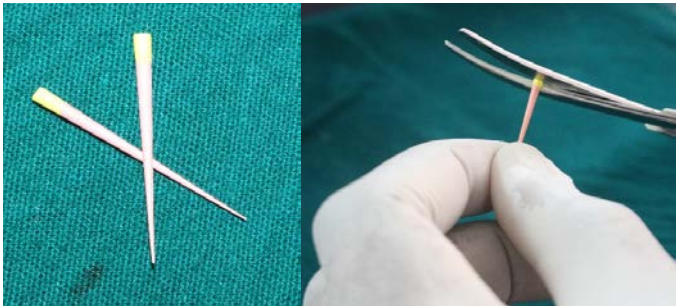


Figure 2

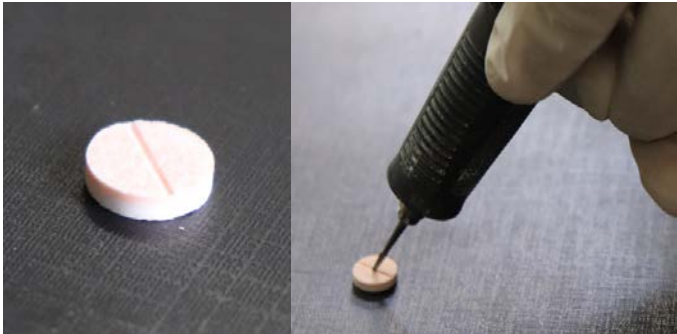


Figure 3

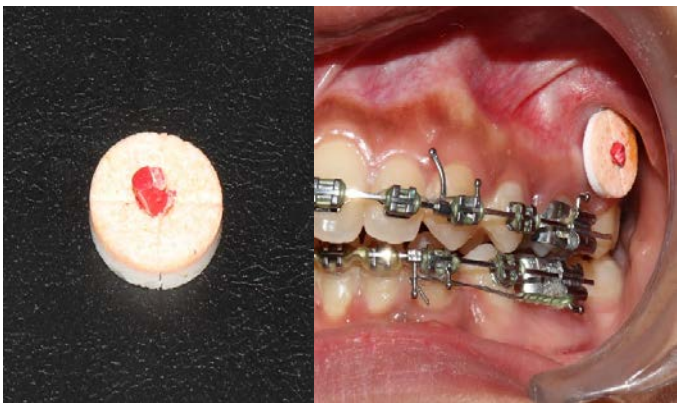


Figure 4

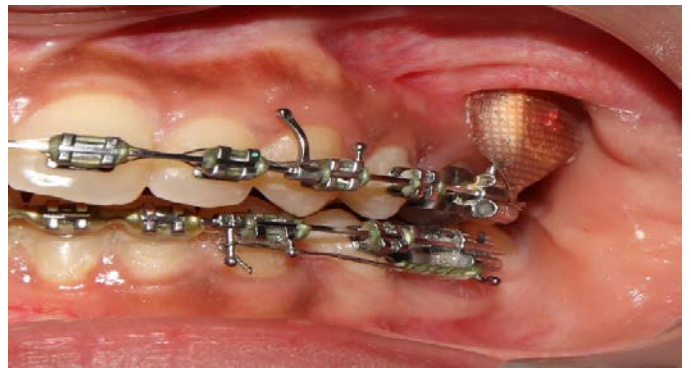


Figure 5

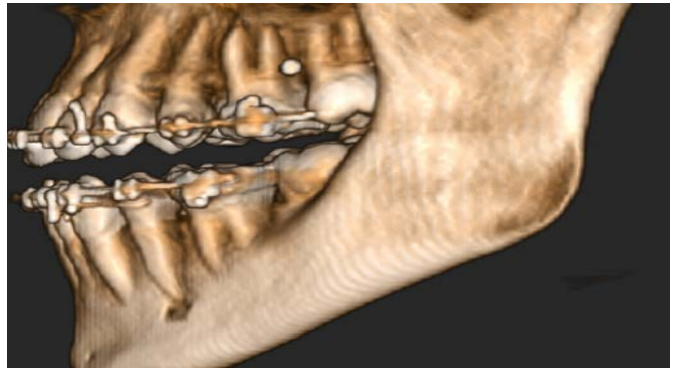


Figure 6