

A Simple Technique for Isolation In Inaccessible Areas Of Oral Cavity

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Abstract: Introduction: Isolation or maintenance of clean, visible, dry field is an absolute necessity for any dental or surgical procedure. Apart from improvement in visibility, accessibility, and appropriately directed isolation instrument should also allow operator to work simultaneously for long duration. Methods: We used readily available disposable 18 gauge needle which can be easily and snugly attached to stainless steel suction cannula. This method/ attachment provided better accessibility with minimal hindrance, i.e. because of small size it allowed suctioning and instrumentation in the limited surgical field to proceed simultaneously which was never possible before by using other methods. This method can be used in various procedures (periapical surgeries, visualization and retrieval of fractured root pieces). Conclusions: Simultaneous visibility and accessibility is key goal of this technique and which can be used to improve patient care. [Kappor A et al NJIRM 2013; 4(5) : 102-103]

Key Words: Suction, Needles, Surgical Field, Isolation.

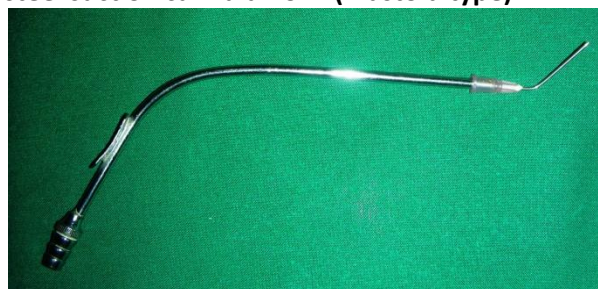
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Introduction: Isolation or maintenance of clean, visible, dry field is an absolute necessity for any dental or surgical procedure. Apart from improvement in visibility, accessibility with appropriately directed isolation technique should also allow operator to work simultaneously for long duration. Traditionally various methods and instruments are used for this purpose like various sized and shaped gauze pieces, cotton rolls, disposable plastic tubes, stainless steel suction cannulas (Frazier / Mastoid types), high volume evacuation and rubber dam¹. Various advanced vacuum systems {Isolite i2 Dryfield Illuminator System (Isolite Systems, Santa Barbara, Calif.) and the Coolex (APT, Osaka, Japan)} are also used to achieve dry field². Most these methods have drawback of their inaccessibility to certain areas like within extraction sockets, periapical areas with restricted access without hampering vision.

Methods: Here we describe a simple technique using readily available disposable 18 gauge syringe needle which can be easily and snugly attached to stainless steel suction cannula no. 3 or 4 (fig 1). Artery forceps were carefully used to break sharp tips and to bent needles near the hub. Once attached to suction cannula they can be used to provide better accessibility with minimal hindrance, i.e. because of small size they allows suctioning and instrumentation in the limited surgical field to proceed

simultaneously which was never possible before by using other methods.

Figure 1:- 18 gauge needle fitted over stainless steel suction cannula no. 4 (mastoid type).



It can be used in various procedures such as

1. To reduce hydrostatic pressure exerted by accumulated fluid after final osteotomy and irrigation of implant placement site³.
2. Visualization and retrieval of fractured root pieces (fig 2).
3. Periapical surgeries (retrograde sealing of root canals during apicectomies).
4. Orthodontic tooth exposure, splinting of teeth {especially while bonding brackets under a flap (fig 3)}.
5. Class II restorations of teeth when rubber dam is unavailable.
6. Impression making for fixed partial dentures when gingival impregnated cords are unavailable.

Figure 2:- 18 gauge needle with broken tip



Figure 3:- Maintaining clean field during bonding of orthodontic brackets following exposure of multiple impacted teeth



We have also used 18 gauge needles with tip intact, attached to stainless steel suction tip for luxation of small root tips (fig 4).

Figure 4:- 18 gauge needle with sharp tip for suctioning and luxation of root tips (wedge principle)



Care was taken during this maneuver by applying controlled forces to prevent injuries to neurovascular tissues, penetration or root displacement into maxillary sinus. For oral prophylaxis around dental implants, we replaced needle with 18 gauge iv cannula (plastic) for suctioning near implant surface to prevent scratches on implant surface.

One can use broader gauge needle but we preferred to use 18 gauge needle as they were easily available (used for aspiration of cystic cavities), having adequate internal diameter (0.84

mm)⁴ and strength. Easy removal of needle provide surgeon to evacuate larger collections without delay using same suction cannula.

Conclusions: Simultaneous visibility and accessibility is key goal of this technique and which can be used to improve patient care.

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