



RESEARCH ARTICLE

COMPARING OF TWO DIFFERENT DESIGNS OF MOUTH PROP IN SURGICAL REMOVAL
OF THIRD MOLAR – A CLINICAL STUDY

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ABSTRACT

Introduction: Universal moth prop: A mouth prop (also bite block) is a wedge-shaped implement used in dentistry for dentists working with children and other patients who have difficulty keeping their mouths open wide and steady during a procedure or during procedures where the patient is sedated. It has a rubber-like texture and is typically made from thermoplastic material. They come in several different sizes, from pediatric to adult, and are typically ridged as to use the back teeth to hold them in place.

Newly designed mouth prop (pillar): This design allows the assistant to have a clear view of the treatment. Since it is sleek the patient won't have a gag reflex. The height adjusting mechanism in treatment under general anesthesia, Where the patient is not in consciousness to open his mouth while changing the sizes. In between the treatment, if the patient complains the size of the prop is too huge it can be adjusted straight away, unlike the conventional ones where we have to keep changing the props until we get the right size.

Materials and Method: 20 patients are included in this study, 10 patients in each group. Randomization was done by tossing of coin. Group A universal mouth prop and Group B newly designed mouth prop "Pillar". Inclusion criteria patients need surgical removal of lower third molar. Exclusion criteria patients had restricted mouth opening. Measuring parameters are patient's comfort, operator's ease and assistant's work efficiency.

Result: The mean age group was range from 20- 28 years. Male and female ratio was 11:9. there was no patient discomfort, Operator's ease in favor of newer design, and Assistant's work efficiency also increased while using newer design.

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INTRODUCTION

Universal moth prop: A mouth prop (also bite block) is a wedge-shaped implement used in dentistry for dentists working with children and other patients who have difficulty keeping their mouths open wide and steady during a procedure or during procedures where the patient is sedated. It has a rubber-like texture and is typically made from thermoplastic material. They come in several different sizes, from pediatric to adult, and are typically ridged as to use the back teeth to hold them in place.

Disadvantages of using universal mouth prop are:

- They are bulky which causes gag reflex for the patients.
- They do not provide clear view for the assistant.
- They come in different sizes and selecting the right size is a bit difficult, they are either too big or too small.

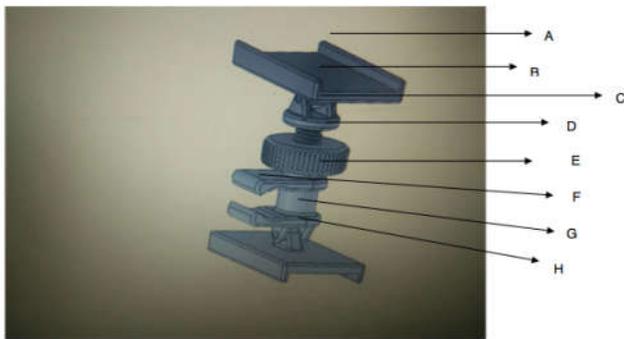
There is no in between size.

- As the angle of contact to the teeth is fixed, sometimes there is only one point of contact so the mouth prop wobbles on a single axis of contact.
- Newly designed mouth prop (pillar)

Inventor: Dr. Akash Chakravarthy

The design is sleek, and enables height adjustment to fit any size without the need of changing the mouth prop so many times. It does so by a screw mechanism. It comprises of two cylinders (C and E). A cylinder C slide into cylinder E. cylinder C has screw threads. The nut (D) used to rotate the screw has a bigger radius reducing the force required to rotate it and rests on E. E is stationary. This enables it to house a suction tip holding clamp (F). So that the patient need not hold the suction tip nor do we have to hang it on the angle of the mouth. The upper and lower member (A and H) are connected to the pillar though a movable hinge joint (B and G). This joint

allows them to be flexible about the angle of contact so that maximum surface area is in contact.



Design of pillar (mouth prop){patent pending all rights are secured}

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1	201641029299		1600	21831	FORM 1	UNIVERSAL DENTAL MOUTH PROP WITH SUCTION TIP HOLDER

TransactionID	Payment Mode	Challan Identification Number	Amount Paid	Head of A/C No
N-0000201643	Online Bank Transfer	02806342908201650334	1600.00	1475001020000001

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This design allows the assistant to have a clear view of the treatment. Since it is sleek the patient won't have a gag reflex. The height adjusting mechanism in treatment under general anesthesia, Where the patient is not in consciousness to open his mouth while changing the sizes. In between the treatment, if the patient complains the size of the prop is too huge it can be adjusted straight away, unlike the conventional ones where we have to keep changing the props until we get the right size.

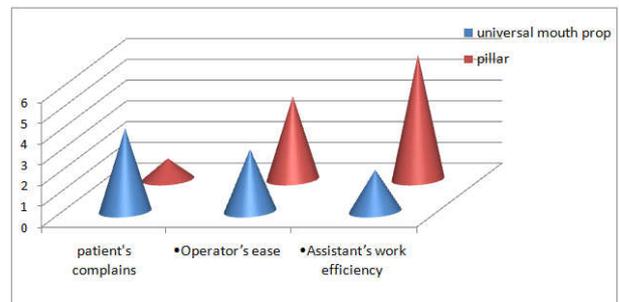
MATERIALS AND METHODS

20 patients are included in this study, 10 patients in each group. Randomization was done by tossing of coin. Group A universal mouth prop and Group B newly designed mouth prop "Pillar". Inclusion criteria patients need surgical removal of lower third molar. Exclusion criteria patients had restricted mouth opening. Measuring parameters are patient's comfort, operator's ease and assistant's work efficiency. Patient's comfort was asked in questionnaire form weather they felt any gag reflex or not and secondly any pain while keeping mouth open yes or no. Operator's ease while doing procedure also asked in questionnaire form and asked them to rate the mouth pro on a scale of 0 to 10. Assistant's work efficiency was measured by an observer surgeon and assistant's access to the operating site is better or not was asked to then as yes or no and we asked them to rate mouth prop on a scale of 0 to 10.

RESULTS

The mean age group was range from 20- 28 years. Male and female ratio was 11:9. When patient comfort we asked all gave positive response for newly designed mouth prop there was 0%

gag reflex in newer design. Operator's ease while doing procedure, they experienced some discomfort in few patient while fixing the suction tip but the height adjustment parameter gave a significant difference in favor of newer design. Assistant's work efficiency improved drastically because of its minimalistic design and there one hand was free because of not holding the suction they could able to retract the tongue. They rated the newer design higher compare to universal design.



Graph 1. Results comparing both designs of mouth prop



Using 'pillar' mouth prop in surgical removal of 38

Conclusion

Compare to universal mouth prop the newer designed mouth prop is way better because of its advantages over universal mouth prop. Minimal bulk, height adjustment screw, suction holding clamp and lastly its upper and lower member give flexible angulations and comfort to the patient are the advantages of newer designed mouth prop. Assistant's work efficiency increases and there visualization also increases to the surgical area because of minimalistic design. So at the end we want to conclude that 'Pillar' has better efficient properties compare to universal prop. Great inventions are not born out of big ideas. They are born out of identifying a problem. If one can identify a problem and offer a solution for it, even if it's a simple solution it is a great invention. Albert Einstein once said, "the sign of true intelligence is not knowledge but imagination". So keep your thinking caps on and keep innovating, because if you are not innovating, you are just imitating!

REFERENCES

Apoorva Jawa1, Ila Srinivasan 2, Comparison of Optragate and Conventional Bite Block as Mouth Opening Aids in Children, *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, e-ISSN: 2279-0853, p-ISSN: 2279-0861. Volume 15, Issue 10 Ver. V (October. 2016), PP 44-49.