

compromised spatial setting has stimulated research and driven the development of special instruments. Be it the mouth gag with tongue blade,<sup>[1]</sup> the 5/8 circle 25 mm needle or the specialised mucoperiosteal elevator, there have been attempts to make the surgery less difficult. In such a setting, the operative field is deep and introitus, small. This may potentially lead to decrease in visibility, increase in tissue handling, inadvertent bleeding and consequently, probable complications.

The ideal instrument for such a condition should be light, easily manoeuvrable, should have a long lever arm to reach the depth easily, should have a short effort arm to magnify the motion at the business end, and should not require a large arc of rotation.

Of note is the needle holder, specially designed by Dr. C. V. Mehendale, Honorary Plastic Surgeon at Seth GS Medical College and KEM Hospital, Mumbai (1966–1986),<sup>[2,3]</sup> for cleft palate surgery almost 40 years back. Available as a straight and a curved piece [Figure 1 inset], the needle holder has two spring-held lever arms with a very short effort arm, which provides definite mechanical advantage. The spring tension at one end holds the grasping ends apart until pressure is applied [Figure 1]. This allows one to quickly and easily grasp the small curved needle actively and leave it passively, which adds to manoeuvrability. It is around 20 cm in length and sits comfortably in the first web space of the surgeon.

The instrument epitomises ergonomics of design. When closed to hold the needle, the instrument becomes more or less cylindrical, and requires less space and arc of rotation [Figure 2]. The instrument is held like a pencil, and the movement is by screwdriver action using the thumb, index and middle finger. Visibility is also increased as the arc of motion is very small. Being devoid of a catch, the pressure transmitted to the tip is small and inadvertent bending and damage to the needle or the thread is avoided. The absence of lock mechanism is advantageous in that it avoids the fiddling motion while the needle is still in the tissue.

This instrument may need some time getting used to and in tougher tissues (as seen in revision surgeries), the stress on the thenar muscles may be high. Needless to say, any instrument will become a great tool with experience and acquisition of the skill, and Mehendale's needle holder definitely proves to be an asset while performing cleft palate surgery.

## Revisiting Mehendale's needle holder for cleft palate surgery: A gift from the bygone era

Sir,  
Cleft palate surgery is a difficult situation. The predicament of having to work so precisely in such a



Figure 1: Mehendale's needle holder (inset: Straight and curved tips)

A few authors have made use of mechanical advantage of offset jaws which confer a 'circular' motion to the needle and also ensure good visibility while working in deep areas.<sup>[4,5]</sup> The Gillies needle holder is a hybrid needle holder and scissors with an asymmetric handle design similar to Kocher scissors. The Olsen-Hegar needle holder is a variant of this combination instrument with straight handles.<sup>[6]</sup> Foo and Kay suggested adding elastic band to the Gillies holder for ease of manoeuvrability.<sup>[7]</sup> Endo *et al.* described a needle holder with one side of the finger ring elliptical and with a wavy margin for buried sutures.<sup>[8]</sup>

In the last 40 years, Mehendale's needle holder has become sine qua non for all cleft palate surgeries in our department and has gone a long way in reducing complications, and making these surgeries simpler and less time consuming.

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There are no conflicts of interest.

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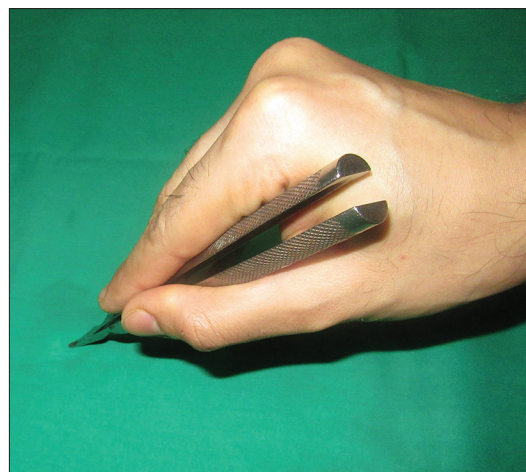


Figure 2: Way of holding the needle holder

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