

# An improvised two in one syringe suction drain for surgeries of extremities

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## ABSTRACT

Use of an improvised two in one syringe suction drain is being presented for a case with two adjacent non-communicating surgical wounds following release of Duputryn's contracture primarily involving the longitudinal band of the palmar fascia of the hand, in line with the middle and ring finger. Instead of using two separate closed suction drainage system we modified our method by using a 3 way cannula which could accept 2 draining tubes to be connected to one 50cc syringe with negative suction pressure.

## KEY WORDS

Improvise Syringe Suction Drain, Threeway cannula

## INTRODUCTION

The role of closed suction drainage is well accepted and time tested. The need of preventing post operative haematoma, post-operative pain, wound dehiscence and infection by using appropriate suction drainage cannot be over emphasized. Commercially available suction drainage is widely used for larger wounds and suture lines. But for smaller wounds in the distal extremities and face, the bulky commercial drains are cumbersome and impractical. Syringe suction drains have been used by some authors using locally available resources in the operation theatre.<sup>1,2,3</sup> We have been using the method recently described by Selcuk Akin in our department to drain smaller wounds in the extremities with desired results.

## METHODS

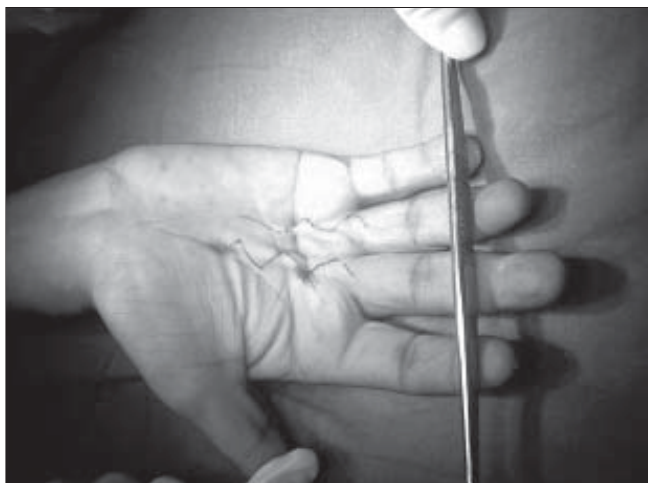
The method demands a butterfly cannula or infant feeding tube with lateral fenestrations, 20/50 cc syringe [plastic, disposable], sterile piston of 10cc syringe. All these materials are readily available in any operation theatre.

The butterfly cannula or infant feeding tube with multiple

fenestrations is inserted into the wound through a separate stab wound before air tight closure. The end of the tube is connected to the 20/50cc syringe. After the dressing and bandage negative pressure is created in the 20/50cc syringe and this pressure is maintained by placing the sterile 10cc piston as a stopper between the end of the piston of 20/50cc syringe and the end of the body of the 20/50cc syringe. The two pistons are secured with a plaster and the whole apparatus is strapped to the dressing or splint. The negative pressure can be recreated easily first turning the knob of the threeway cannula in such a way that both the draining tubes are isolated from the exterior and then disconnecting the 20/50cc syringe. After discarding the collected serum the same syringe may be continued to be used as a negative suction drain.

Recently we had an opportunity to use suction drainage for two adjacent but non-communicating wounds following release of Dupuytren's contracture primarily involving the longitudinal band of the palmar fascia of the hand, in line with the middle and ring finger.

The bands were so superficial to skin that it was decided unsafe to release them with one incision, as it would involve



**Figure 1:** Two separate incisions marked prior to release

considerable undermining of the skin flaps. Hence the two longitudinal bands were released with two separate zigzag incisions [Figure 1]. The release was complete and satisfactory leaving two wounds post operatively, to be drained by two separate suction drainage apparatus.

Instead of using two separate closed suction drainage system we modified our method by using a 3 way cannula which could accept 2 draining tubes to be connected to one 50cc syringe with negative suction pressure [Figure 2]. The levers of 3 way cannula are secured tightly with adhesive plaster.

The drain did serve the purpose and was maintained for 48 hrs. It was easier to handle one syringe apparatus than two, both for the patient and for the nursing staff.

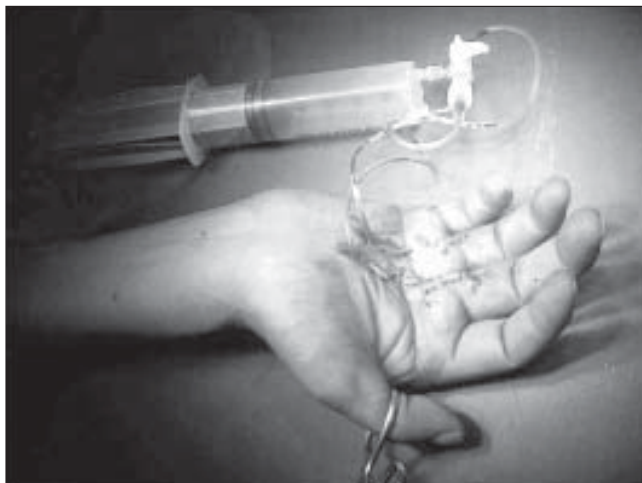
## DISCUSSION

We would like to highlight two points through this case report.

1. The use of 20/50cc syringe as a closed suction drainage apparatus is simple, inexpensive and readily available,
2. The same method can be modified for draining 2 adjacent, non communicating wounds with the help of three way cannula needing only one syringe.

With the case with which it could be managed, we recommend this method of using 3 way cannula to drain by negative suction in case of two adjacent wounds with only one syringe [Figure 3].

Some of the clinical examples where two adjacent wounds



**Figure 2:** Two infant feeding tubes with multiple lateral fenestrations placed in the wound and connected to the triple way



**Figure 3:** Equipment for the modified syringe suction drainage system: two infant feeding tubes, three-way cannula, 20/50 cc syringe, and two 10 cc pistons

need closed suction drainage (as described above) are Dupuytren's Contracture, Tendon transfers, concomitant bone harvesting from upper end of ulna and lower end of radius etc. However we do not recommend this method if one of the wounds is infected or potentially infected, for the fear of theoretical possibility of contaminating the non infected wound.

## REFERENCES

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