



## Case Report

# Use of urine collection as an alternative of custom-made Plastic bag for limited access dressing (LAD)

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### ABSTRACT

To evaluate the use of urine collection bag as an alternate of custom-made Plastic bag for Limited Access Dressing (LAD). Moist wound dressings maintains the moist and warm environment suitable for growth of granulation tissues, control wound infection, increased epithelization and reduces pain. One of the recent advances in wound care management is limited access dressing (LAD). It combines the principle of moist wound healing and a negative pressure wound therapy and accures the benefit of both principles.

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## 1. Introduction

The management of wound is one of the most commonly encountered scenarios in practice at all levels of health care. The options available for wound management are diverse, varying from simple open racing to the more complex negative pressure wound therapies. Each method has its own merits and demerits.

One of the recent advances in wound care management is limited access dressing(LAD). It combines the principle of moist wound healing and a negative pressure wound therapy and accures the benefit of both principles. The highlight of LAD is the access it allows for wound wash which is not present in negative wound therapy.

The standard procedure of LAD involves placement of a transparent polythene wound cover to which negative pressure is applied through tubing connected to your suction machine.<sup>1-4</sup> sterilized polyurethane sheet is used to provide air tight compartment. one LAD tube is attached to your suction drain bottle and through other tube intermittent suction (about -30 mmhg) is applied for 30 minutes every 4 hours.

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The possible concerns to be addressed in LAD are its requirement for specialized sealing machine to customize the bag and tubes. Sterilization of the assembly and different types of dressing technique for different areas to be covered. We present use of urine collection bag as an alternative of custom made plastic bag for limited access dressing for use in adult, upper extremity and pediatric limb wounds.

## 2. Materials and Methods

A Retrospective single institutional study was carried out from March 2011 to February 2013 involving 36 patients attending the trauma ward and OPD of the plastic surgery department of tertiary level teaching and research institute. All patients underwent initial debridement and bone fixation or tendon repair depending on initial presentation and there are is were treated with LAD using urine collection bag.<sup>5,6</sup>

The procedure involves the use of collection bag as the sterile barrier for providing negative pressure within which the moist wound environment can be maintained. The limb is introduced into the bag after opening the lower part of the bag. The opened end is then sealed over the forearm or leg using a dispute tapes. The outflow nozzle of urine collection back can be connected to vacuum device and the inflow

tubing of the bag is used as the wash port. A non-return valve has been provided inflow tubing off urine bag which prevents backflow thus offering added protection. Thus, the negative pressure is maintained and the wound lavage can be continued. This simplifies the process of application of the LAD system making it less labour intensive and economical.<sup>7,8</sup>

### 3. Results

The wound due to scald burns healed completely (Figure 3). LAD is found feasible as adjuvant modality of wound healing in scald burns.



**Fig. 1:** Burn-wound



**Fig. 2:** LAD dressing



**Fig. 3:** Healed wound

### 4. Discussion

Negative pressure dressing and moist own dressings or two commonly used techniques for acute and chronic owned management with certain merits and demerits in both techniques. The use of sub atmospheric pressure for an extended period to promote debridement and healing of wound was first described by fleischmann et al in 1993. They reported that the treatment resulted in efficient cleaning and conditioning of the wound, with market proliferation of graduation tissues and reduced the cost and hospital stay. Have aware the major disadvantages are the initial cost, requirement of special suction machine and lack of visibility of own bed during treatment.

Moist wound dressings maintains the moist and warm environment suitable for growth of granulation tissues, control wound infection , increased epithelization and reduces pain. Hover, your most environment may lead to bacterial, proliferation and owned infection. LAD prescribed by kuma p, combine the most own dressing with the negative pressure. LED reduces the disadvantages of both negative pressure and moisturizing. It is cost effective and uses low intermittent negative pressure that can be delivered even by ordinary suction machine.

The major advantage of LAD over the other form of negative pressure wound therapy is the access it allows for wound wash and the possibility of monitoring the wound during treatment period through the transparent wound cover. It also permits to continue physiotherapy during the treatment period, thus reducing the joint stiffness associated with prolonged limb immobilization.

The widespread acceptance of LAD is limited, mainly due to non-availability of ready-made sterile LED bags and need for customizing the bags and tubes which are sealed using specialized sealing machine. We found the commercially available urine collection bag alternative for custom made LAD bag for treatment of pediatric limb wounds and adult hand wounds.

Urine bag or available readily in all hospitals as please realized individual pack for single use. It is made from 0.125 mm wall thickness, clinical grade soft PVC understand sprint for owned visualization. It also has a king free soft transparent PVC long tubing with connector I.D 6.5 mm x O.D 7.5mm with a non-return valve, through the which wound wash can be given. Top outlet with cover will allow for connection to suction machine or wall suction

Machine or wall suction. Urine collection bag,acts as the sterile barrier for providing negative pressure within which a moist wound environment can be maintained. The wound isolation and safe disposal of infected materials

Also helps to reduce hospital acquired infections and minimizes multidrug resistant bacterial infection.

## 5. Conclusion

Use of urine collection Bag as a transparent polythene wound cover for LAD is a simple and efficient method for treating pediatric limb and adult hand wounds.

## 6. Source of Funding

None.

## 7. Conflict of Interest

None.

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