

## Original Article

# Custom-made standardised over-dressings for torso burns; economical and efficient

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### ABSTRACT

**Introduction:** Torso burns following debridement and skin grafting usually require fairly complex dressings. The dressing consists of an interface layer, an absorbent layer and a retaining layer. Although numerous inner dressings are now available from multiple manufacturers, Gamgee dressing (pad of cotton and gauze) is often used as an outer absorbent dressing. Dressing the torso is usually a challenge, and the purpose of this paper is to present a custom-made over-dressing for torso burns, which reflects the current practice at our centre. **Materials and Methods:** A U-shape cut is made at one end of the Gamgee to design the shoulder straps. This custom-made dressing is held in place by a custom-designed netted vest. **Results:** This custom-made over-dressing for the torso was found to be comfortable for patients, easily made from locally available materials, easy to apply, absorbent and not restrictive of movement. The shoulder straps prevent sliding of the Gamgee, and in a nonrestrictive way. The netted vest provides the required compression to keep the Gamgee in firm contact with the inner layers of the dressing without compromising respiration. **Conclusion:** In this report, we present our practice of a custom-made dressing that is very efficient and economical. We hope that this information will be of practical use to other centres managing burns.

### KEY WORDS

Burns; Gamgee dressing; outer dressing; torso

### INTRODUCTION

Dressings are an important inherent component of burn wound care. There are a number of specialised inner dressings that have evolved over time; however, there is still a need for an effective over-

dressing to hold the inner dressings in place. In a large burn involving the torso, either anterior, posterior or both, holding the dressings in place becomes an important issue as dressings in this area have a higher tendency to slide down or move. Torso dressings cannot be strapped too tight as this may affect respiration. Physiotherapy involving both the chest and the limbs is another important aspect of the holistic care of a burns patient, and this is again compromised if the dressings are too bulky and restrictive.<sup>[1]</sup>

In our centre, we use custom-designed economical over-dressings made of Gamgee dressing (cotton pad and gauze) and netted cotton vest, which are efficient, nonrestrictive and easy to administer and change.

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## MATERIALS AND METHODS

Gamgee dressing (Unisurge International Ltd. Farboud Innovation Park Formula Drive, Newmarket, CB8 0BF, United Kingdom), measuring 45 cm in width and 90 cm in length, is used. A U-shape cut is made at one end of the Gamgee to design the shoulder straps. The cut ends of the Gamgee can be lined with tape (op-tape; Barrier<sup>®</sup>) to avoid loose cotton fluff coming on to the wounds [Figure 1a]. This custom-made dressing is held in place by a custom-designed netted vest using Surgifix<sup>®</sup>. Two tubular sleeves of Surgifix<sup>®</sup> are utilised; the length of the sleeve used is two-thirds of the length of the torso measured from the shoulder (acromion) to the iliac crest. Three-quarters of the sleeve is slit and the inner borders of the sleeve are woven together using a ribbon. The free ends are also provided with small straps of ribbon, which help in closing the vest at the front. The uncut part of the sleeve will serve to make the sleeves of the neo-vest, and these, if necessary, can be slit variably to accommodate the arms.

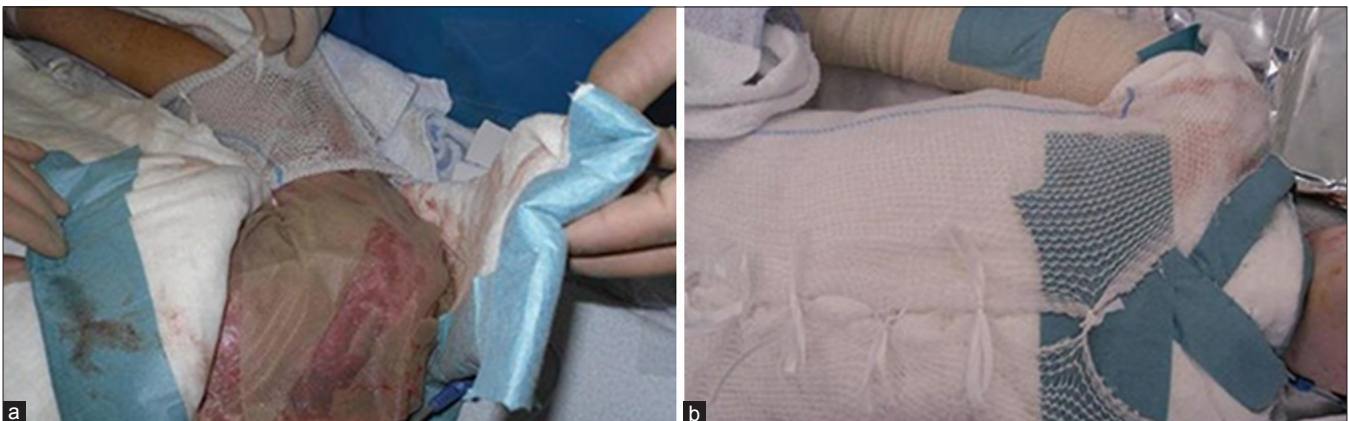
If the patient has burns on the anterior or posterior aspects of the trunk, we use the custom-made Gamgee on that side. If the patient has burns on anterior and posterior trunk, we use the custom-made Gamgee on the back and another Gamgee on the front, and then shoulder straps are anchored to the front Gamgee. Further, two Gamgee dressings are required for large patients to cover the flanks and the axillae.

The inner layers of the dressing are either applied first to the wound and then covered with the custom-made Gamgee or the inner layers are prepared on the custom-made Gamgee before application to the patient [Figure 1b].

Application of the dressing for an anaesthetised patient starts with passing one of the sleeves of the netted vest through the arm and then the patient is rolled onto the side. The Gamgee pad with the shoulder straps is placed over the back such that the straps are coming out anteriorly. The vest is then pulled over the Gamgee to



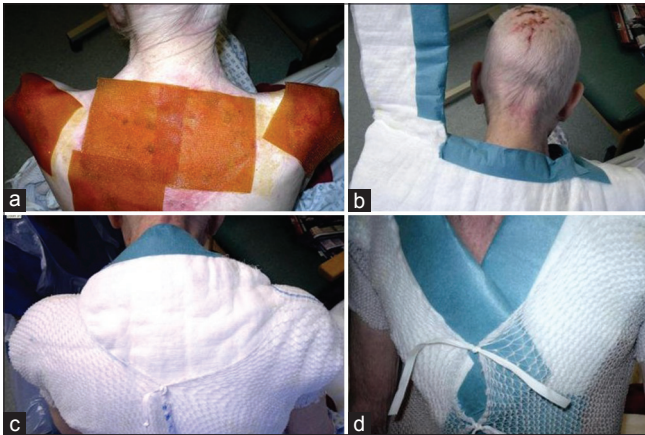
**Figure 1:** Custom-made over-dressings for torso burns. (a) A U-shape cut is made at one end of the Gamgee to design the shoulder straps and an Op-tape is used to cover the cut ends of the Gamgee dressing. A custom-designed netted vest using Surgifix<sup>®</sup>. (b) The inner layers of the dressing can be prepared over the custom-made Gamgee before application to the patient



**Figure 2:** A 15-year-old male sustained deep burns to the front of the trunk, back of the right shoulder and the right arm. (a) Shoulder strap fixation. (b) Application of the netted vest

**Table 1: Materials used in the dressing and their prices**

Dressing material	Dimension	Price in pound sterling	Equivalent price in rupee	Requirement/dressing
Dressing Gamgee (Unisurge international ltd.) for adults	90 cm×45 cm	1.70	148.5	1-4 Gamgee dressings, depending on size of body and area of burns or SSG donor site
Dressing Gamgee (Unisurge international ltd.) for children	45 cm×45 cm	1.12	96.1	1-2 Gamgee dressings, depending on area of burns or SSG donor site in children
Surgifix®	25 m	7.06	617.0	1-2 m, depending on tall of patients
Op-tape (Barrier®)	9 cm×49 cm	0.39	34.0	2-6 sheets, depending on number of Gamgee used.



**Figure 3:** An 80-year-old female sustained deep burns to the back. (a) Application of the inner dressing. (b) Application of the custom-made dressing. (c) Application of the netted vest, back. (d) Application of the netted vest, front

cover the entire torso. The patient is subsequently rolled onto the other side and the Gamgee and vest are adjusted to allow the patient to lie on them. The shoulder straps of the Gamgee from the back are secured to the Gamgee in front and then the netted vest is pulled to cover the anterior aspect and tied in the centre with the ribbon straps [Figure 2].

In the ward, when the patient is awake, the over-dressing can be applied either in a sitting or in a lying down position. The concept is similar to that described above, with straps of Gamgee placed over the shoulder and then secured to the other Gamgee or to the netted vest [Figure 3].

**RESULTS**

We found the shoulder strap of the custom-made Gamgee very useful as an outer dressing for burns on top of the shoulder and supraclavicular regions. In addition, shoulder straps prevent slipping of the Gamgee when mobilising the patient. Moreover, we found the netted vest as being very effective in fixing the Gamgee in place while mobilising the patients. The netted vest

applied enough pressure over the Gamgee to keep in contact with the inner dressing to absorb any exudate. However, this pressure did not affect movement of the chest and abdomen. The dressing does not interfere with movement and physiotherapy. The dressing is comfortable for patients, and allows the activities of daily living. It can be adapted to the body size of all patients. The time required to design and apply this dressing is about 10 min. The material of this dressing is easily available and relatively cheap [Table 1].

**DISCUSSION**

The properties of an ideal dressing include protection of wound from mechanical damage and pathogens, allow gas and fluid exchange, nonadherent, nontoxic, allow movement, absorb exudates and avoid maceration, control wound odour, sterile, easy to use, require infrequent changes, of suitable size and cost-effective.<sup>[2,3]</sup>

Dressing torso burns is complex, and is affected by several factors such as site, size and depth of burns, treatment plan and healing status of the burn wounds.

In extensive burns, when the torso is either partially or completely burnt or used as the donor site for split-thickness skin grafts (SSG), a suitable dressing is required to protect and secure the wounds and the grafts. The choice of the inner layers of the dressing depends on the nature of the wound (partial-thickness burns, full-thickness burns, SSG or skin graft donor site).

Gamgee has been used quite extensively in burns as an absorbent over-dressing. Gamgee dressings over the torso are often difficult to secure, and crepe bandage has been used to secure this to the torso. This can be in the form of circumferential bandage or figure-of-8 bandage; however, both can be restrictive and limit chest excursion and mobility. Use of crepe without the figure-

of-8 configuration results in the dressing slipping down in ambulatory patients. In our regional burn service, we currently use a custom-made Gamgee dressing with straps over the shoulder, which prevents it from sliding down, and is minimally restrictive. Also, these shoulder straps provide outer dressing for wounds on top of the shoulder area that are difficult to dress. The netted vest over the Gamgee is very expansible and keeps the Gamgee and the inner dressings in place without having a movement-restrictive effect and with enough compression to keep the Gamgee in good contact with the inner dressing for better absorption effect. There are no adherent tapes used at all on the patient's skin and, hence, these are comfortable and easy to change as required.

This custom-made standardised dressing is comfortable for patients of all ages and body size. It is also cost-effective and efficient, and our regional burn service team found it easy and quick to make from locally available and relatively cheap materials.

The dressings and the adjuncts, which have been mentioned and named in the paper, are mainly for the purpose of explaining the concept; depending on the local availability, other adjuncts or materials could be used based on the same concept.

## CONCLUSION

In this report, we present our practice of dressing torso

burns, and we find this technique to be efficient and economical. Although very fundamental, we feel our experience would be useful for other health care staff who are involved in the management and dressings of similar patients. Given the described dressings are very economical, we believe this information will be of great practical value in managing the patients economically and efficiently.

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