

## Brief Report

# Splinting the penis for split skin grafting: Use of longitudinally split plastic syringe

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### ABSTRACT

We describe a new method of splinting the penile shaft following split skin grafting for avulsion injuries of the penis. A 10 ml syringe is split longitudinally and one half is applied either dorsally or ventrally after placing absorbent dressing on the grafted area. This is then held in place with either tape or bandage.

### KEY WORDS

Penile shaft, skin grafting, immobilisation

### INTRODUCTION

Defects following degloving injuries of the penis are often resurfaced by split skin grafting as it provides the best functional and aesthetic results. We have been utilizing a simple technique for immobilization of the penile skin graft—use of a longitudinally split plastic syringe. After the graft is placed on the penis, it is fixed with sutures to the adjacent skin of the base of the penis and in the region of the corona glandis. One or two distal sutures on the ventral aspect of the penis are left long. A nonstick dressing, such as Tulle gras, followed by absorbent cotton within sterile gauze i.e., gamgee, is then applied to the graft.

A sterile 10 ml syringe is cut longitudinally, the length of which depends on the length of the shaft [Figure 1]. One half of the syringe is applied to the penis on the dorsal or ventral surface. The tails of the sutures left long are used to stretch the penis to the proper length and are folded over the distal end of the syringe splint and fixed in position with adhesive tape [Figure 2]. A

firm dressing with sterile gauze or adhesive tape may then be applied around the penis and the syringe splint together to provide the necessary compression. There is no requirement to further secure the splint. Figure 3 shows complete take of the graft on Day 6.

Among the factors key to the survival of a skin graft are immobilization of the graft and adequate fixation.<sup>[1]</sup> However, in an anatomically mobile organ as in the penis, this is a challenging task. A variety of methods have been described for immobilization and bolstering the graft to the wound.<sup>[2]</sup> Simple exposed grafting may be associated with shearing from bed clothes. Housinger *et al.* advocated placing the penis in traction with a weighted Foley catheter in order to immobilize the penis.<sup>[3]</sup> The traditional tie over bolster technique described by Schramm and Myers<sup>[4]</sup> is very useful for fixation but is time-consuming and difficult to apply over cylindrical structures like the penis. Many types of stents have been used varying from the simple cotton balls, resin molds and foam pads, to complex stents like metal, plastic and dental liner.<sup>[5]</sup> Foam pads<sup>[6]</sup>



Figure 1: Longitudinally split syringe



Figure 2: Syringe splint over the dressed shaft

are a good alternative but expensive, form bulky dressings and are not reusable. Another drawback of these materials is that they have to make a cylindrical structure from a sheet form and therefore the probable consequences of inadequate moulding or gap formation.

Several advantages inherent to the method described using a syringe splint includes rapid and efficient surgical application, ease of postoperative care and its use in clean or contaminated wounds. It is also inexpensive and reusable after change of dressings. At the same time, as the syringe is split longitudinally and only one half is



Figure 3: Complete take of the graft on day 6

being used, this would ensure that constriction and vascular occlusion does not result. Anchoring the graft sutures to the splint would maintain the penile length. Elevation of the penis would reduce edema and pressure. The base of the splint would have the remnant of the finger grip of the syringe and is not a sharp rim of plastic as seen with the technique suggested by Ferguson *et al*,<sup>[7]</sup> thus minimizing pain and discomfort. The exposed glans may be monitored for vascular compromise or accessed for catheter care. The transparent plastic in the splint syringe permits inspection of the dressing for excessive soakage of the dressing due to bleeding or discharge.

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