Simple design for an aeroplane plaster of Paris splint in the immobilisation of axillary skin grafts

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BACKGROUND

The aeroplane splint is a well known method for maintaining abduction at the axilla. It is often used as an adjunct to achieve graft immobilisation following axillary contracture release or hidradenitis surgery.¹ We describe a simple and inexpensive design.

TECHNIQUE

Following axillary grafting and dressing, wool (Gamgee® [Robinson Healthcare, Worksop, UK] or Velband® [BSN medical, Hull, UK]) is applied to the arm, axilla and torso (Fig 1). The splint is designed in three parts, using plaster of Paris. First, an axillary L-shaped section

Figure 2 Application of splint to axilla and torso

Figure 3 Zimmer frame shaped, enrolled in plaster of Paris and secured to each part

Figure 4 Application of crepe bandage to secure the completed splint

Figure 1 Application of wool to arm and torso

is applied (Fig 2A), angled to 90° or less. Next, a costal section is contoured around the lateral chest wall (Fig 2B). Finally, an approximately 30cm long Zimmer splint (Fig 3A) is fashioned into a supportive strut (Fig 3B). This is strengthened by rolling it in several layers of plaster of Paris to form a relatively thick bar of plaster (Fig 3C). The bar is positioned between the arm and chest wall, and fused to the splint using small, multilayered rectangles of plaster (Figs 3D–3F). The completed splint is dressed with crepe bandage (Fig 4).

DISCUSSION

The current published literature only describes innovative new splint designs aimed at improving compliance in managing axillary contractures following burns.^{2–4} However, such innovative techniques or materials are not widely available for application in the operating theatre

in the immediate postoperative period, which is the most critical time period for any graft. By revisiting the aeroplane splint and introducing this simple design, we hope to enable readers to apply it in their practice.

References

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