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Case report

Rehabilitation of a bilateral upper limb amputee in a resource restricted burn service

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ARTICLE INFO

Article history:

Received 3 July 2015

Received in revised form

6 January 2016

Accepted 22 January 2016

Keywords:

Rehabilitation

Upper limb amputations

"For centuries people with disabilities have been . . . isolated, incarcerated, observed, written about, operated upon, instructed, regulated, institutionalised and controlled to a degree unequal to the experienced by any other minority group". Lennard J Davies 1997. The Disability Studies Reader

1. Introduction

Residual physical impairment following burns impact negatively on the quality of life of burn survivors by limiting their activities of daily living and the prospects of employment. The early involvement of a multidisciplinary team can significantly alter a patient's functional outcome. The concept is well established in

burns units in the developed world with treatment goals and strategies directed towards rehabilitation, reconstruction and reintegration of the burned patient back into society.

In contrast, in the developing world, burn care is variable in terms of organization, clinical management, facilities, staffing, workload and outcomes. It is often only emergency driven and struggles with crippling fiscal restraints [1]. The need for the rehabilitation of a predominantly manual work force is immense and generally outweighs the supply of adequately trained therapists. Frequently only the most severe or crippling deformities will be corrected in an attempt to regain a resemblance of functional independence.

We describe the rehabilitation process of an adult patient under these circumstances where essential bodily functions were restored utilizing an innovative and goal directed process

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<http://dx.doi.org/10.1016/j.burns.2016.01.027>

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towards independent ability in the activities of daily living as well as family reintegration.

2. The patient

A 24-year-old man sustained a high voltage electrical burn of both upper limbs that resulted in full thickness necrosis of both hands and forearms. Salvage was impossible and resulted in bilateral below elbow amputations. Subsequently the amputation level was revised to above elbow amputations preserving as much of limb length as possible. His home circumstances were precarious. He was literate and right-handed and was living alone, in a very disabling environment with no access to basic amenities.

Occupational therapy was introduced with core and assistance exercises of the shoulders and upper arm musculature immediately following the final amputations. The benefits of exercising were gradually established despite considerable discomfort and pain. His endurance gradually improved. Other exercises included the use of pincer grip with his stumps and mouth touching. As a result of this aggressive management regimen the muscle strength of both stumps on discharge was 5/5 on the Oxford Scale [2].

Rehabilitation concentrated on the restoration of primary and essential bodily functions, including body hygiene, feeding, clothing, stump care, communication, participating in hobbies, and psychological needs. The target aims, although individually described, were attended to simultaneously.

2.1. Feeding

The first function to be established was independent feeding. This was accomplished with the aid of a universal Velcro cuff attached to his stumps, into which was placed dense cylindrical foam that can hold different utensils for example a spoon (Fig. 1). Initially the universal cuff had to be applied by a nurse. A plate guard (Fig. 2) at first supported his efforts to eat but as his versatility improved and he mastered the technique, it was discarded. The cuff was modified to enable him to apply it without assistance and after 2 weeks he was able to feed himself unaided.

2.2. Oral hygiene

Teeth brushing was achieved with a toothbrush placed in the universal cuff. In order to apply toothpaste, he was given a flip-cap toothpaste tube which was held between his legs and been opened using his teeth, a cumbersome procedure but restored physical independence for him.

2.3. Personal hygiene

A long-handled brush, fitted into the universal cuff, was used to wash his trunk and lower limbs (Fig. 3). Sponges were attached to the long handle of the brush to provide a larger surface area with which to wash and to dry his body. For face washing, a piece of splinting material was moulded in a curved shape and was covered with a facecloth (Fig. 4) with a pouch in front to hold a bar of soap. Foot-mitts (Fig. 5) were sewn for washing the lower



Fig. 1 – Universal cuff with spoon.



Fig. 2 – Plate guard.

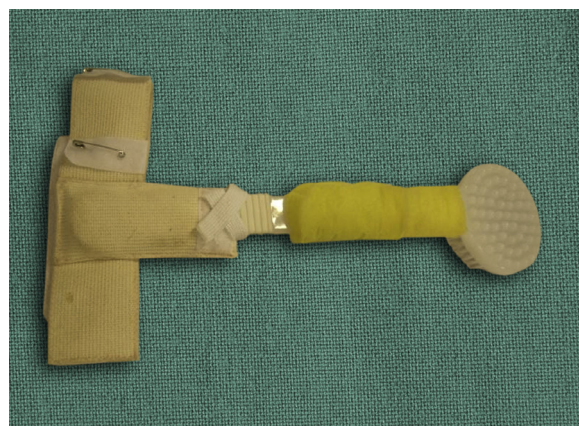


Fig. 3 – Washing brush.

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