

Available online at www.sciencedirect.com

ScienceDirect

journal homepage: www.elsevier.com/locate/burns

Increasing the utility of the Functional Assessment for Burns Score: Not just for major burns



Sarah T. Smailes^{a,b,*}, Kayleen Engelsman^c, Louise Rodgers^d, Clara Upson^e

^a St Andrew's Centre for Plastic Surgery and Burns, Chelmsford, Essex CM1 7ET, United Kingdom

^b St Andrew's Anglia Ruskin Research Unit (STAAR) Post Graduate Medical Institute, Anglia Ruskin University, Essex, United Kingdom

^c Chelsea and Westminster Hospital, 369, Fulham Road, London SW10 9NH, United Kingdom

^d Queen Victoria Hospital, Holtye Road, East Grinstead, W Sussex RH19 3DZ, United Kingdom

^e Stoke Mandeville Hospital, Mandeville Road, Aylesbury, Buckinghamshire HP21 8AL, United Kingdom

ARTICLE INFO

Article history:

Received 2 July 2015

Received in revised form

23 September 2015

Accepted 24 September 2015

Keywords:

Functional Assessment for Burns

Physical function outcome score

Discharge Outcome

Minor and moderate burns

ABSTRACT

The Functional Assessment for Burns (FAB) score is established as an objective measure of physical function that predicts discharge outcome in adult patients with major burn. However, its validity in patients with minor and moderate burn is unknown. This is a multi-centre evaluation of the predictive validity of the FAB score for discharge outcome in adult inpatients with minor and moderate burns. FAB assessments were undertaken within 48 h of admission to (FAB 1), and within 48 h of discharge (FAB 2) from burn wards in 115 patients. Median age was 45 years and median burn size 4%. There were significant improvements in the patients' FAB scores ($p < 0.0001$), 98 patients were discharged home (no social care) and 17 patients discharged to further inpatient rehabilitation or home with social care. FAB 1 score (≤ 14) is strongly associated with discharge to inpatient rehabilitation or home with social care ($p = 0.0001$) and as such can be used to facilitate early discharge planning. FAB 2 (≤ 30) independently predicts discharge outcome to inpatient rehabilitation or home with social care ($p < 0.0001$), increasing its utility to patients with minor and moderate burns.

© 2015 Elsevier Ltd and ISBI. All rights reserved.

1. Introduction

The need to develop “user friendly”, valid outcome measures that score physical function in burn patients has never been greater. This is because more patients survive their injuries and therefore burn multidisciplinary teams need to physically and psychologically rehabilitate these patients and measure their progress. In addition, accurate physical function scoring

in the early stages post burn enables early discharge plans to be made, a process that can be lengthy in its duration [1].

In recent years investigators have applied physical function outcome measures that were developed in other patient populations to burn patients at various stages of their recovery e.g. Functional Independence Measure (FIM), Chelsea Critical Care Physical Assessment (CPAx) [2,3]. However, the specific nature of burns and resultant scars can present as confounding variables to a physical function scoring system developed in

* Corresponding author at: Broomfield Hospital, Court Road, Chelmsford. Essex CM1 7ET, United Kingdom. Tel.: +44 1245 516037; fax: +44 1245 516007.

E-mail address: sarah.smailes@meht.nhs.uk (S.T. Smailes).

<http://dx.doi.org/10.1016/j.burns.2015.09.020>

0305-4179/© 2015 Elsevier Ltd and ISBI. All rights reserved.

other patient groups. This is because the oedema, pain, and tightness related to burn wounds and scars are not experienced by patients without burn, but these symptoms have profound effects on their physical functional ability.

The Functional Assessment for Burns (FAB) score was developed to measure physical functional recovery and independence of adult burn inpatients. The FAB score is an easy to use, objective measure of burn patients' ability to complete basic, self-caring functional tasks. Physiotherapists and Occupational Therapists undertake the FAB assessment on patients within 48 h of admission (FAB 1) to the burn ward and within 48 h of discharge (FAB 2). Previous work identified FAB 2 as an independent predictor of discharge outcome, and FAB 1 as a useful early indicator of likely discharge outcome in a population of adult patients with major burn after ICU discharge and as such can be used to guide discharge plans [4].

The majority of burns admitted to UK burn services are minor [5]. Therefore, there is a need to extend the utility of the FAB score to this group, as well as those with moderate sized burn, thus extending its utility to all burn patients. For the current study we evaluate the predictive validity of the FAB score for discharge outcome in adults with minor and moderate burn admitted to burn wards of four UK burn services over a 3 month period.

The aims of this study are:

1. To measure the progress in the patients' FAB scores between admission and discharge from the burn ward.
2. To evaluate the predictive validity of the FAB score for discharge outcome in adult patients with minor and moderate burn.

2. Materials and methods

This is a retrospective review of the case notes of 115 consecutive patients with minor and moderate burns [6], admitted to the burn wards of 4 different burn services over a 3 month period (July–October 2012). Patients were excluded if they did not receive the full course of treatment at each particular burn service or if they died.

All patients received the usual care at each particular burn service. This included use of the Parkland formula regime for patients receiving fluid resuscitation. Patients with full thickness burn wounds underwent early wound excision and autografting. Newly autografted limbs were immobilised for 48 h in most cases. Smoke inhalation injury was diagnosed by fibre-optic bronchoscopy. Appropriate antibiotics were prescribed for clinical infection and antibiotics were used prophylactically for patients undergoing wound excision. No specific physical function measures were used to guide decisions regarding discharge outcome of patients.

Physical rehabilitation commenced on the patients' first admission day and continued throughout their stay on the burn ward. The teams of Physiotherapists (PT) and Occupational therapists (OT) carried out active and passive mobilisation and functional exercises 5 days per week at each burn service. Standard contracture prevention techniques were employed including joint positioning and splintage 7 days per week by PT, OT and nursing staff. Other therapies available to patients

throughout their inpatient stay included psychotherapy and counselling, dietetics and speech and language therapy.

FAB scores were measured prospectively, during each patient's episode of care and as part of normal daily therapy practice, for all patients aged ≥ 15 years within 48 h of admission to (FAB 1), and within 48 h of discharge from the burn ward (FAB 2). The FAB score is an objective measure of the patients' ability to perform the following key activities of daily living; washing, toileting, feeding, dressing, transfers, walking and stair climbing. The Physiotherapist or Occupational Therapist undertakes the FAB assessment; each patient is scored on their ability to independently complete 100% of each activity or on the minimum amount of assistance necessary to complete the activity [4]. The minimum FAB score is 7 and the maximum is 35. The score for each activity is as follows:

1. Fully dependent, unable to complete any part of the activity, needs full assistance – 1 point
2. Completes activity with physical assistance – 2 points
3. Completes activity with supervision/verbal prompting/ requires set up of activity – 3 points
4. Independently completes activity with an assisting device/ aid (e.g. adapted cutlery, walking stick, wheelchair, stair lift) – 4 points
5. Independently completes activity without devices/aids – 5 points
6. Unable to assess – 1 point

We collected the following demographic and injury variables; patient age, %Total Body Surface Area burn (%TBSA), %full thickness burn, smoke inhalation injury, past medical history (number of patients undergoing medical treatment for cardiopulmonary disease, neurological disorder and psychiatric conditions). We also collected FAB scores (FAB 1 and FAB 2), length of stay on the burn ward (LOS) and discharge outcome. Discharge outcome is classified as home (no social care) versus inpatient rehabilitation or home with social care. Social care includes assistance with patients' daily personal care, and this may also include moisturisation of scars, but does not include therapy, housekeeping tasks or wound management. Data was stored on a secure centralised spread sheet.

2.1. Statistical analysis

Data were entered onto the Medcalc statistical program which was used for all analyses. An independent samples t test was used to compare Means and a Mann Whitney Rank Sum test was employed to compare Medians as appropriate. For categorical variables, a Chi Square test or Fishers Exact test was used if $n < 5$. A Paired Wilcoxon Test was used to compare patients' FAB 1 and FAB 2 scores.

Statistical associations between injury and demographic variables and patients' discharge outcome were tested for using Spearman's Rank Correlation Coefficient. Multiple Logistic Regression Analysis was used to evaluate the effects of variables on patients' discharge outcome. Receiver operating characteristic (ROC) curve analysis was employed to identify cut off values for FAB 1 and FAB 2 with the greatest accuracy for prediction of discharge outcome. Statistical significance was defined as ≤ 0.05 .

Download English Version:

<https://daneshyari.com/en/article/3104184>

Download Persian Version:

<https://daneshyari.com/article/3104184>

[Daneshyari.com](https://daneshyari.com)