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# Self-inflicted Burns: 10 year review and comparison to national guidelines



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#### ABSTRACT

Introduction: There is an increasing trend of self-inflicted burns noted in the literature, often seen in patients with complex psychosocial backgrounds. These patients are challenging to manage as the recovery from the acute burn may be compounded by difficult rehabilitation and suboptimal coping strategies.

We aimed to review patients presenting to our burns unit with self-inflicted burns, the management strategies and examine the complexities surrounding their management. We assessed patient outcomes with a particular interest in psychosocial support given.

Methods: A retrospective review of all patients presenting with self-inflicted burns over a 10 year period (2005–2014 inclusive) was conducted. Patients were identified through IBID database coded as either 'self-inflicted' or 'suicidal.' We reviewed patient and burn demographics, the clinical management, psychosocial management and patient outcomes such as wound healing, re-admission rates, and survival.

Results: We identified 118 self-inflicted burns in total. 50/118 (42%) were admitted. 64 (54%) were male and the total body surface burn area ranged from <0.5% to 99% with a median of 14%. 60/118 (51%) had TBSA <10% and 58/118 (49%) had TBSA >10%. 24 (48%) underwent admission to the Burn Intensive Care Unit (BITU). All patients admitted to BITU had TBSA >10%. Of those admitted to BITU 6 were palliative, 18 had full resuscitation and surgical management. Of those 18 patients who had active treatment, 10/18 (56%) died. Mean total length of stay was 31 days, range 1–130 days. 9% of patients sustained injuries whilst being a current inpatient at a psychiatric institution. Of all patients reviewed, 16% (n = 19) had a previous history of deliberate self-harm through burns. Of those patients admitted, 98% of were reviewed by the mental health team during their admission with time to psychological review varying depending on fitness for assessment. The overall mean length of stay for all admitted patients who were actively treated but who subsequently died was 53 days. 84% of admitted patients were managed surgically.

Conclusion: Self-inflicted burns patients would benefit from a more complex pathway of treatment as their management aims to achieve not only physical health but also psychological health. They would benefit from enhanced care to manage the acute burn but also psychiatric support to ensure patients do not re-offend.

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#### 1. Introduction

Self-inflicted burns account for a total of 4% of burn admissions worldwide with admission rates ranging from 0.37% to 14% [1–3]. They are relatively uncommon in Europe and North America, but have been reported to be higher in Asia (9–32%) and Africa (22%) [4]. This difference is often attributed to culture, race and religious beliefs. Several studies have found previous diagnosis of psychiatric disorder as a significant predictor of self-inflicted burns [5,6]. In a detailed review, Geller et al. found that mood affective disorders accounted for the most frequent psychiatric diagnoses in self-inflicted burns patients [5–7].

Self-inflicted burns are often associated with a larger surface area, increased burn depth, subsequent increased length of stay in hospital and a higher morbidity and mortality [8-11]. Titscher et al. categorised patients presenting with selfinflicted burns into 3 distinct groups based on the trigger for the injury; (1) Typical: patients with known past psychiatric history who planned to commit suicide or have a history of past attempts, (2) Delerious: patients who commit suicide in response to a delusion often triggered by a psychotic episode or substance abuse and (3) Reactive: patients who burned themselves as a form of escape from an overwhelmingly negative event that occurred in their lives [12]. Other studies have further simplified self-inflicted burns into two groups; self-mutilators and suicide attempters. Self-mutilators are noted to be typically younger patients who suffered smaller burns whereas suicide attempters were largely older patients suffering from affective disorders who sustained larger burns associated with a high mortality [13,14].

Management of the physical burn may be complicated by the presence of a pre-existing psychiatric illness. Patients with psychiatric illness may have poor compliance with medications, clinical procedures and rehabilitation. The patient's general physical health may also be impaired by a psychiatric illness as it has been shown that a variety of psychotropic medications impairs tissue healing and regeneration [15,16].

Few guidelines exist for the assessment of self-harm patients with regards to their psychological well-being at the time of presentation. This aspect of their management is often neglected as the burn takes priority. The National Institute for Health and Clinical Excellence (NICE) have developed a guideline (GC16) which outlines the short-term physical and psychological management of patients presenting to hospital with self-inflicted injuries and in addition to strategies for secondary prevention (Table 1) [17]. Although the guidelines are not specific to burns, they set out some key generic recommendations

applicable to any acts of self-harm. The guidelines state that; "emergency staff at triage should urgently establish a patients likely physical risk and emotional and mental state" with particular attention to the use of the Australian Mental Health Triage Scale. The guidelines also stress that "all patients should be offered a preliminary psychosocial assessment at triage" and more importantly that this assessment should "not be delayed until after medical treatment is complete unless life saving treatment is needed" or that the patient is "unconscious/ incapable of being assessed" [17].

We therefore aimed to review patient and burn demographics, the management and outcomes of self-inflicted burns presenting to our unit with a focus on the psychological management of these patients in conjunction with NICE Clinical Guideline 16.

Table summarizing NICE clinical guidance (Table 1).

Special consideration is given to children stating all children/young people should be admitted overnight under the care of the paediatricians to be assessed fully the following day before discharge of further treatment and care is initiated.

Any act of self-harm in those patients over 65 years of age should also be deemed as suicidal intent.

#### 2. Materials and methods

A 10-year retrospective review was carried out of all self-inflicted burns presenting to a large regional burns unit in the North East of England between 1st January 2005 and 31st December 2014 inclusive. The patients were identified using the International Burn Injury Database (IBID) coded as 'self-inflicted' or 'suicide' or 'self-harm'. Medical records were then reviewed for information relating to patient demographics, injury demographics, need for admission/Intensive Care Unit stay and the surgical management of those patients with general anaesthetic procedures. Particular attention was given to data collection on previous acts of self-harm, present or previous psychiatric diagnoses and at what time point during admission the patients received input from the psychology team to audit compliance with the recommendation NICE guidance.

#### 3. Results

### 3.1. Patient demographics

Our search identified 118 self-inflicted burns, which accounted for approximately 1.16% of total burn referrals over the ten-year

Table 1 – charting the guidelines suggested for the psychosocial assessment of patients at different points during their hospital stay.

Time point during patient pathway

Assessment by ambulance personnel

Assessment in the emergency department

Guideline(s)

Take into account: Physical health, mental state and safeguarding issues

- 1. All patients should be offered a preliminary psychosocial assessment at triage
- 2. Consideration to introduce Australian Mental health Triage Scale
- 3 Psychosocial assessment should not be delayed until after medical treatment except when: (a) patient is unconscious, (b) incapable to assessment (intoxicated), (c) receives life-saving treatment

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