Outpatient Burn Management

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KEYWORDS

• Burn • Outpatient care • Pain • Burn dressings • Pruritus • Burn wound infection

KEY POINTS

- Over 90% of all burn patients may be treated entirely as outpatients.
- Outpatient management must consider clinical factors such as location, size, and depth of burn.
- Patient factors to be considered include comorbidities, ability to care for the wound, social/economic support, and transportation.
- Thin walled blisters should be aspirated or debrided, while thick blisters may be aspirated and left in place.
- Use of silver-impregnated dressings decreases the need for clinic visits, decreasing pain and overall cost.
- Early pruritus is treated with lotions and antihistamines, while gabapentin or pregabalin is useful in chronic pruritus.

INTRODUCTION

Most burn injuries are managed in the outpatient setting. Of the 450,000 burn injuries reported by the American Burn Association for 2012, only 40,000 injuries required hospitalization. The remaining 91% of patients received immediate and follow-up care from emergency rooms, primary care physicians, and outpatient burn or plastic surgery clinics.[1]

Because of limitations in outpatient epidemiologic studies and the National Burn Repository focus on inpatient data, demographics of the outpatient burn population are not accurately depicted.[2,3] Contrary to inpatient data, available studies suggest that the outpatient population is younger, with burns more often caused by scald

Funding Sources: None.
Conflict of Interest: None.
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Surg Clin N Am 94 (2014) 879–892
http://dx.doi.org/10.1016/j.suc.2014.05.009 **surgical.theclinics.com**
0039-6109/14/$ – see front matter

and contact injury than flames.[4,5] The average total body surface area (TBSA) is 3%, with inpatient admission being required in 3% to 33% of patients for pain control, wound care, or surgical excision. Work-related injuries have also been also found to be treated predominantly in the outpatient setting.

Historically, outpatient management was recommended in the absence of thermal complications, completion of fluid resuscitation, adequate pain control, and family and patient education with demonstration of wound care and exercise therapy. Minor burns under 15% TBSA in adults and 10% in children were well suited to receive ambulatory treatment. However, with increasing focus on medical cost containment, the outpatient care setting also serves as an extension to inpatient care in attempts to decrease cost and inpatient length of stay. Thus, select moderate-to-major burns are being managed successfully in the ambulatory care setting.[6–9]

INITIAL EVALUATION AND SELECTION OF PATIENTS

The success of outpatient management is contingent upon the selection of appropriate patients (**Box 1**). Most burns are small and can be appropriately managed in the outpatient setting. Depending upon the extent of involvement, burns involving critical areas such as the face, hands, genitals or feet can also be managed in the clinic setting. The criteria for outpatient management vary based on the burn center's experience and resources and include burns less than 15% TBSA not requiring full resuscitation or operative procedures.

Comorbidities, including cardiac disease, chronic obstructive pulmonary disease (COPD), chronic kidney disease, dementia or psychological impairment, diabetes mellitus, and/or infirmity, may complicate initial outpatient care. It may be necessary to admit these patients initially until a more in-depth assessment of their overall medical condition and home support system can be completed. Nevertheless, if the medical conditions are controlled, and the patient's home support is acceptable or can be arranged, patients with comorbidities are excellent candidates for outpatient management.

Children are also excellent candidates for outpatient care.[4] One must ascertain the comfort of the family with outpatient care. Most parents clearly prefer outpatient care because of the decrease in family disruption. The child also often experiences less psychological stress in the home environment. However, dressing changes in children may require multiple caregivers, and the injured child who cannot return for dressing care may require admission.

Nonthermal injuries can also be treated on an outpatient basis. Low-voltage household current (110–220 V) electrical injuries usually result in minor tissue damage. However, they may be associated with a syncopal event because of the concurrent arrhythmia. Patients without syncope and with normal screening electrocardiogram (ECG) may be treated as outpatients without concern for subsequent cardiac complication.

Box 1
Factors to consider for outpatient management

- Size, depth, and location of burn
- Patient's age, comorbidities, and functional state
- Concern for abuse or neglect
- Home support including assistance in wound care and transportation