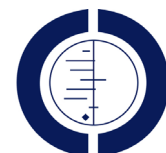




The  
Global  
Evidence  
Mapping  
Initiative

PUTTING  
RESEARCH INTO  
CONTEXT

# BURNS BLISTERS MANAGEMENT



AUSTRALASIAN  
COCHRANE CENTRE

## EVIDENCE SUMMARY

### In the early management of minor burn injury what is the best way to manage burn blisters?

Results from a single trial suggest that blisters should be left intact to reduce the risk of infection. If the anatomical position of the blister necessitates intervention for functional purposes, aspiration may be associated with less pain than blister de-roofing.



## Inclusion/exclusion criteria

### Studies

Systematic reviews, evidence-based clinical practice guidelines, health technology assessments and primary studies.

### Participants

**Included:** People of any age sustaining a minor burn injury due to heat.

**Excluded:** Burns due to chemicals and radiation.

### Phase of care

**Included:** Pre-hospital care setting (i.e. initial medical care given by a paramedic or other person before the patient reaches the hospital) OR medical care given in an emergency department (ED) OR primary care.

**Excluded:** Any care given outside of the ED in a hospital setting (i.e. following admission to a hospital ward or discharge).

### Intervention

**Intervention:** Aspirating (puncturing and drainage) the blister; or de-roofing or removal of the blister (epidermal debridement).

**Comparison:** Leaving the blister intact.

### Outcomes

Severity of pain, incidence of infection.

## Results

### Included studies

- One study met the inclusion criteria, a controlled study of 202 people with partial thickness burns.

### Findings

- Infection (i.e. bacterial colonisation) rate was significantly lower in the group with intact blisters, compared with those undergoing aspiration or de-roofing of blisters.
- Aspiration of blister fluid significantly reduced pain in 37% of participants, compared with 0% in the de-roofed group.
- The results must be interpreted with caution as the study was neither randomised nor blinded, which can introduce bias into the study.



### Authors' conclusions

#### Table

Aspiration or de-roofing of blisters versus leaving blisters intact: effects on infection and pain

Author, Date, Country	Patient Group	Study Type	Outcomes	Key Results	Study Weakness
Swain 1987, United Kingdom	202 patients with partial thickness burns. Burn blisters were either left intact, aspirated or de-roofed	Controlled clinical trial	Incidence of infection (any bacterial colonisation)  Pain reduction	14% in intact group, 70% in the aspirated group and 76% in the de-roofed group (p<0.05)  37% vs. 0% (aspiration group vs. de-roofed group)	Not randomised and not blinded.

#### What the evidence tells us

There is little evidence evaluating the effectiveness of blister management. The evidence identified indicates that where possible, blisters should be left intact to reduce the risk of infection and be loosely covered with an occlusive, sterile dressing. If the anatomical position of the blister necessitates intervention for functional purposes, aspiration may be less painful than de-roofing.

#### Implications for practice

Specialist clinicians treating burns have established protocols for dealing with blisters, which are based on personal experience rather than 'evidence', which as outlined, is lacking. Debate regarding blister management, centres around the non-ruptured blister. As the burn wound acutely evolves, wound review, especially in the early stages, is required. Most blisters if not aspirated will rupture, and at this point basic wound management principles dictate that all non-adherent devitalized tissue is debrided.

#### Implications for research

Further large, well-designed studies are required to confirm and extend current evidence on the best approach for managing burn blisters.

#### Search for evidence

A systematic search for evidence was conducted on 22nd February 2009 in the following databases: Cochrane, Medline and Embase.

#### Included study

Swain AH, Azadian BS, Wakeley CJ, Shakespeare PG. Management of blisters in minor burns. *British Medical Journal* 1987;295(6591):181.