Minor Burn and Blister Management

Burns are a frequent presentation in the community, and careful assessment and management is required to ensure the patient is suitable for discharge, conveyance or referral to a specialist burns centre via TRIPS. Ensure adequate first aid with a minimum of 20 minutes of tepid running water, up to 3 hours post injury.

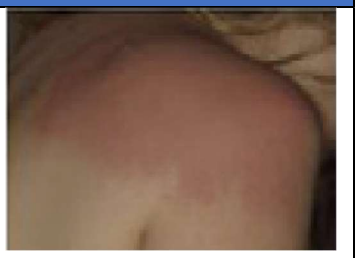
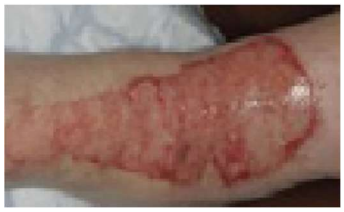
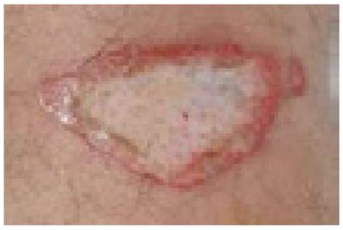
This guideline focusses on the assessment and management of burn blisters. To achieve this, blisters should be de-roofed, to enable assessment of depth, cleansing and dressing. De-roofing is a clinical procedure which allows removal of dead tissue and burn blister fluid.

Deroofing should only be performed by an APP who is confident and competent in this procedure and should be undertaken on the same day as the acute injury, as this reduced the risk of re-adherence of the blister to the wound bed.

Blisters from other causes (such as infection) should not be de-roofed.

Assessment

- Full history of the injury.
- Detailed Past Medical History. Conditions that may impair wound healing include diabetes, immunosuppressants or vascular disease. Note social history/occupation/hand dominance if relevant.
- Obtain tetanus immunisation history.
- Look, feel, move assessment.
- TBSA - Total Body Surface Area (not including erythema alone)
    - Use rule of 9s
    - Palm of hand – 1%, Arm — 9%, Head — 9%, Neck — 1%, Leg — 18%, Anterior trunk — 18%, Posterior trunk — 18%
    - Alternatively, use Mersey Burns app.
- Depth - The depth of burn injury (see table)
- Site - Anatomical site of the burn injury
- Mechanism - The aetiology of the burn injury
- Other - Factors or Parameters that may impact on the severity/complexity of burn injury
- Assess for vascular, nerve and bone damage.
- Assess functional impact of burn, including joints above and below.
- Assess for signs of localised infection: hot, painful, tender, swollen wound.
- Assess for systemic infection: fever, malaise, rigors, lymphadenopathy.
- Potential for impaired wound healing
- Assess for SAFEGUARDING concerns (especially in Children)

Depth of burn	Layers of skin affected	Clinical findings	
Superficial epidermal: red and painful, but not blistered.	The epidermis is affected, but the dermis is intact.	Skin is red and painful, but not blistered. Capillary refill*: blanches then rapidly refills	
Partial-thickness — superficial dermal: pale pink and painful with blistering.	The epidermis and upper layers of dermis are involved.	The skin is pale pink and painful with blistering. Capillary refill*: blanches but regains its colour slowly.	
Partial-thickness — deep dermal: dry or moist, blotchy and red, and may be painful or painless. There may be blisters	The epidermis, upper and deeper layers of dermis are involved.	The skin appears dry or moist, blotchy and cherry red, and may be painful or painless. There may be blisters. Capillary refill*: does not blanch.	
Full-thickness: dry and white, brown, or black in colour, with no blisters and no pain. It may be described as leathery or waxy.	The burn extends through all the layers of skin to subcutaneous tissues.	The skin is dry and white, brown, or black in colour, with no blisters. It may be described as leathery or waxy. It is painless. Capillary refill*: does not blanch.	

***Assess capillary refill by pressing with a sterile cotton bud**

Fig 1: Burn Depth Assessment. Photo Credits: LSEBN Burns Depth Assessment.pdf (mysurgerywebsite.co.uk)

Management

- **Do they have an individualised treatment plan, and can it be safely followed?**
- **Any life-threatening features, consider rapid transport to hospital +/- priority call.**
- **Sheets of cling film should be used to cover burn (except chemical), not wrapped around, if conveying to ED / UTC.**

Ensure adequate burn first aid has been applied – minimum of 20 mins cooling with tepid or lukewarm running water, (1 hour if chemical) up to 3 hours post injury. Remove jewellery close to the burn site.

The suggested minimum threshold for referral into specialised burn care services can be summarised as:

- All burns ≥2% TBSA in children or ≥3% in adults
- All full thickness burns
- All circumferential burns

- Any burn not healed in 2 weeks
- Any burn with suspicion of non-accidental injury should be referred to a Burn Unit/Centre for expert assessment within 24 hours

In addition, the following factors should prompt a discussion with a specialised burn service and consideration given to referral, unless conveying to UTC/ED:

- All burns to hands, feet, face, perineum or genitalia
- Any chemical, electrical or extensive friction burn
- Any cold injury
- Any unwell/febrile child with a burn
- Any concerns regarding burn injuries and co-morbidities that may affect treatment or healing

If the above criteria/threshold is not met, then continue with local care and dressings as required

- If burn wound changes in appearance / signs of infection or there are concerns regarding healing, then discuss with a specialised burn service
- If there is any suspicion of Toxic shock syndrome (TSS) then refer early

De-Roofing

A blister over a burn means the severity cannot be assessed. Blisters less than a size of the patient fingernail should not be de-roofed. If not confident in this procedure, a small window can be cut in the blister to be able to

- Administer analgesia and allow time to be effective, as deroofing procedure may transiently increase pain
- Aseptic technique is of utmost importance
- Clean the wound with water or saline
- Remove all non-viable tissue from the wound bed using either mechanical debridement with moist gauze or sharp dissection with scissors and forceps
- Snip the blister, drain the fluid and cut away the dead or devitalised tissue carefully up to (but not including) the margin of sensate tissue
- Do not perform blister needle aspiration as bacteria may be introduced into the space and increase risk of infection
- Send images of cleaned burn wounds to the local Burn Service via TRIPS if required.

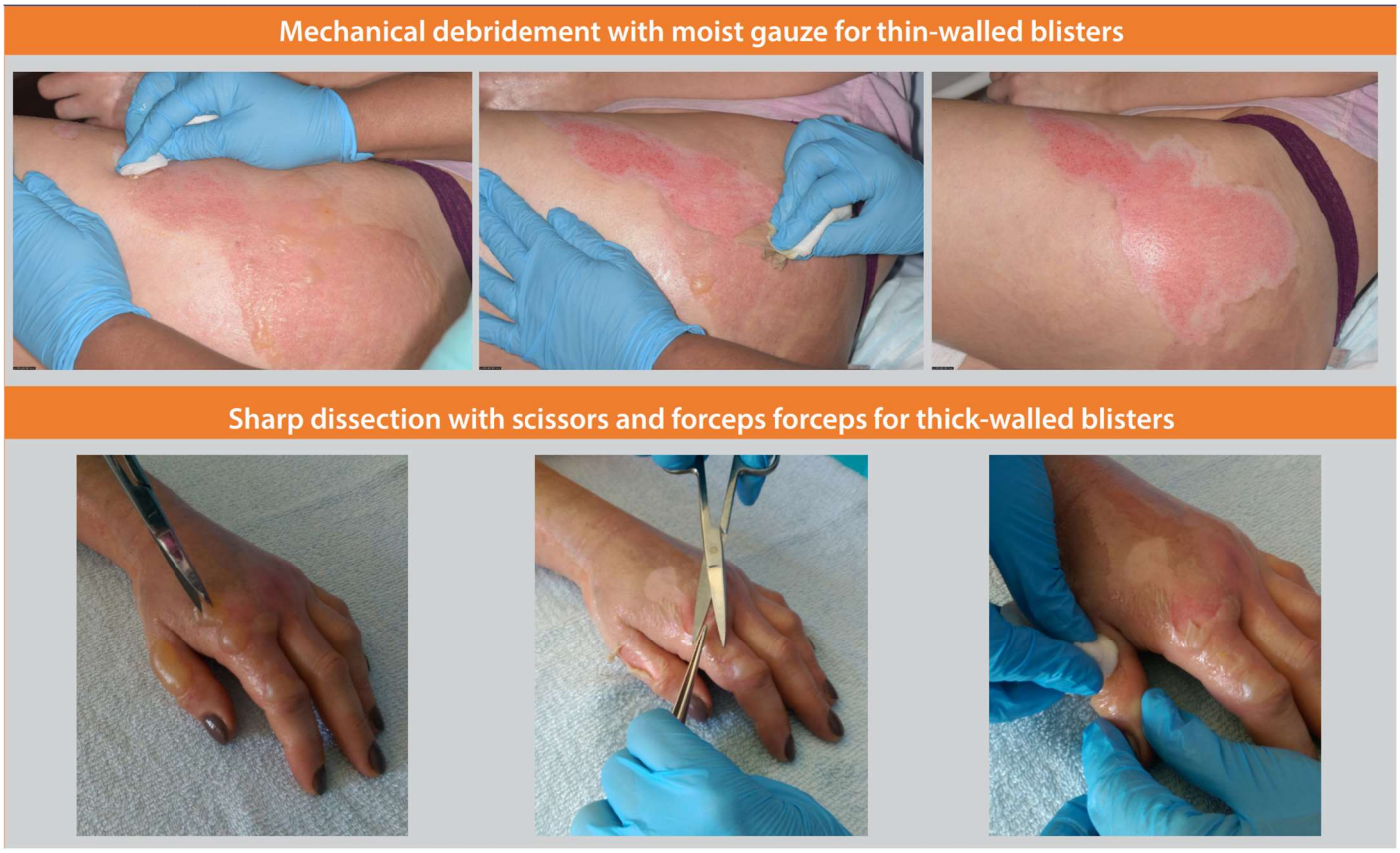


Fig 2: Credit: BBA-Burn-Blister-Deroofing-Guideline-20.6.18.pdf (britishburnassociation.org)

If there is no requirement for admission:

- Dress the wound using a non-adherent primary dressing (Mepitel or Atrauman) plus an absorbent secondary layer (Melolin or gauze) and secured with a lightweight conforming bandage.
- Ensure individual fingers and toes are dressed separately.
- Review required 48 hours initial presentation, usually by the Practice or District Nursing team.

CAUTIONS	RED FLAGS
• Medical conditions impairing wound healing such as immune suppression or diabetes. • Burns to hands and feet and face - discuss with Burns service. • Unable to manage wound in community. • Burns in flexures (particularly neck or axillae) • Significant burn – if the APP feels specialist input is required then discuss with local burns service or convey to ED / UTC. • Children, especially under 5s – Consider Safeguarding • Pregnancy.	**Convey to ED or discuss with Burns centre as a minimum:** • Burns >3% TBSA (Adults) • All Burns >2% TBSA (Children) • Burns to perineum or genitalia. • Full Thickness Burns • Circumferential Burns • Suspicion of Toxic Shock Syndrome (TSS) • Systemic Symptoms • Vascular, nerve or bone damage • Any chemical, electrical or extensive friction burn. • Any cold injury • Any unwell/febrile child with a burn.

TREATMENT PLAN FOR DISCHARGE AND/OR REFERRAL

- If in doubt, discuss burn with local burn service via TRIPS.
- Provide guidance and advice on self-management and safety netting
- Take simple analgesia, such as paracetamol or ibuprofen, if the wound is painful or likely to become painful.
- Ensure hydration is maintained to aid healing.
- Keep the wound clean and dry.
- If wound has been dressed and the patient non conveyed, advise to keep dressing clean and dry, until next follow up appointment.
- Refer for follow-up: 48 hours for first dressing change.
- Ensure patient understands excess exudate may be a normal finding in the first 72 hours after injury.
- Useful patient advice Burns and scalds - Treatment - NHS (www.nhs.uk)

SEEKING ADVICE AND REFERRAL

- Patient should seek medical attention if they develop signs or symptoms of infection, including increasing pain, redness, or swelling spreading from the laceration; fever; or general malaise.
- Joint decision-making options and referral available via Urgent Care Hubs.
- If concerned, refer.

References

1. National-Burn-Care-Referral-Guidance-2012.pdf (britishburnassociation.org)
2. BBA-Burn-Blister-Deroofing-Guideline-20.6.18.pdf (britishburnassociation.org)
3. Burns and scalds - Treatment - NHS (www.nhs.uk)
4. Scenario: Managing non-complex burns | Management | Burns and scalds | CKS | NICE
5. LSEBN Burns Depth Assessment.pdf (mysurgerywebsite.co.uk)