

CMScript

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Member of a medical scheme? Know your guaranteed benefits!

Focus on Burns

A burn is a physical injury to the skin or other tissue in the body caused by heat, radiation, electricity, chemicals, or friction. Burn injuries may result in lifelong physical and psychological scarring, causing pain and influencing mental health, quality of life, ability to return to work and death. Burns are common worldwide, accounting for an estimated 180 000 deaths annually. Almost 90% of burns occur in low- and middle-income countries. In South Africa, burns are a significant public health concern affecting both rural and urban populations. There is no specific data on burn occurrences in the country.



Types of burns

Burns can range from minor to severe and are classified based on their severity:

- **Superficial or first-degree burns** - affect only the epidermis (outer layer of the skin). They cause pain, redness, and swelling, but heal within a few days without scarring.
- **Partial thickness or second-degree burns** - affect both the epidermis and the dermis (middle layer of the skin). These burns cause blistering, severe pain, redness, and swelling. Healing may take several weeks, and scarring may occur.
- **Full thickness or third-degree burns** - are the most severe and involve damage to all layers of the skin, that is the epidermis, dermis, and hypodermis (bottom or fatty layer of the skin). They are often not painful due to nerve destruction.
- **Fourth-degree burns** - involve injury to deeper tissues, such as muscle or bone. They are often blackened and may lead to loss of the burned part.

How is the extent of burns determined?

The extent of burns is expressed as the percentage of total body surface area (%TBSA) involved. The following methods are available to estimate the percentage of TBSA% burned:

- **Rule of nines** - the head and neck represent 9%, each arm is 9%, the anterior chest and abdomen are 18%, the posterior chest and back are 18%, each leg is 18%, and the perineum is 1%. For children, the head is 18%, and the legs are 13.5% each.
- **Lund and Browder Chart** - is considered more relevant for children, where each arm is 10%, the anterior trunk and posterior trunk are each 13%, and the percentage calculated for the head and legs varies based on the patient's age.

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What are the risk factors for burns?

The common risk factors associated with burns are:

- **Age** - children and the elderly are particularly vulnerable to burns. Improper supervision and maltreatment of children, and impaired cognition, decreased mobility and sensory impairment in the elderly pose a risk for burns.
- **Occupations** - such as cooking, firefighting, and industrial work that involve exposure to heat, chemicals, or electrical hazards.
- **Home environment** - overcrowded living conditions, poor housing infrastructure, and the use of open flames.
- **Scalding hazards** - hot liquids, such as boiling water, coffee, or cooking oil, can cause scald burns if spilled or improperly handled.
- **Alcohol and substance abuse** - can impair judgment and coordination, resulting in burns from accidents involving fire, hot surfaces, or flammable substances.
- **Sun exposure** - prolonged exposure to ultraviolet (UV) rays from the sun increases the risk of sunburns.
- **Electrical hazards** - poor electrical wiring, overloaded circuits, and faulty appliances pose a risk of electrical burns from shocks or fires.
- **Natural disasters** - natural disasters such as wildfires, earthquakes, or floods can increase the risk of burns due to exposure to heat, flames, or hazardous materials.
- **Fire safety knowledge** - lack of awareness or education about fire safety practices, such as proper use of matches and lighters, safe cooking practices, and emergency evacuation procedures.

How to prevent burns?

Preventing and reducing the risk of burns requires a variety of measures, such as:

- **Fire safety education** - teaching about the dangers of fire and fire practices such as proper use of matches and lighters, safe handling of flammable materials, and knowing how to respond in the event of a fire.
- **Safe cooking practices** - keep pot handles turned inward to prevent accidental spills, and never leave cooking food unattended. Supervise children and keep them away from hot surfaces and appliances.
- **Proper handling of hot liquids and objects** - be careful when handling hot liquids.
- **Childproofing** - take measures to prevent young children from accessing hazardous items such as lighters, matches, and hot surfaces.
- **Safe handling of chemicals** - follow safety guidelines when handling household chemicals. Store chemicals out of the reach of children and use appropriate protective equipment, such as gloves and goggles, when necessary.
- **Electrical safety** - avoid overloading electrical outlets, replace damaged cords or appliances quickly, and keep electrical devices away from water sources.
- **Sun safety** - wear a sunscreen, protective clothing, and sunglasses, and seek shade during peak sunlight hours, especially in hot climates or during outdoor activities.
- **Smoke alarms and fire extinguishers** - if possible, install smoke alarms, and test them regularly to ensure they are functioning properly. Keep fire extinguishers in accessible locations and know how to use them effectively in a fire emergency.

How to treat burns?

The immediate care for a patient with a burn injury depends on the cause and location of the injury, as well as the available resources. First aid training helps you learn basic first aid skills, including how to treat minor burns, and having a well stock first aid kit readily available in your home car, and workplace is important. The following serve as a guide:

- 1. The first step is to stop the exposure** and move the person into a safe area, which might include getting the individual out of a trapped situation.
- 2. Assess the severity** - determine if it is a minor burn (first-degree) or a more serious burn (second-degree or third-degree). Determining the cause of a burn injury is crucial for proper classification and treatment.
- 3. Extinguish the fire** - if the individual's clothing is on fire, instruct them to stop immediately, drop to the ground, and roll back and forth. If the person is unable to stop, drop, and roll on their own, wrap them in a blanket and gently roll them on the ground to put out the fire. Water or fire extinguisher may be used if available.
- 4. Cool the burn** - for minor burns, immediately cool the burned area under cool (not cold) running water for about 10 minutes to stop the burning process. This helps to reduce pain and swelling.
- 5. Remove tight clothing or jewellery** - if the burn is on an area where clothing or jewellery may be restricting circulation, gently remove them.
- 6. Cover the burn** - use a sterile gauze or clean cloth to loosely cover the burn. Avoid using adhesive dressing which can stick to the skin and cause further damage.
- 7. Pain relief** - over-the-counter pain medication can help alleviate pain and reduce inflammation.
- 8. Do not break blisters** - if blisters form, do not pop them as this can increase the risk of infection. Rather leave the blisters intact and let them heal naturally.
- 9. Ointments** - avoid using topical creams or ointments without medical advice. Home remedies such as butter, lemon, toothpaste, hydrogen peroxide ointments or onions must not be used as they can cause further damage.
- 10. Seek medical attention** - second-degree or third-degree burns, or burns covering a large area require immediate medical attention. Also, seek medical help if the burn is from chemicals or electricity or if signs of infection, such as increased pain, redness, swelling, or pus develop.
- 11. Rehabilitation** - severe burns may require rehabilitation to help individuals recover and regain function, mobility, and independence. Rehabilitation addresses the physical, psychological, and social aspects of recovery.

What is covered PMB level of care?

“Burns, greater than 10% of body surface, or more than 5% involving head, neck, hands, perineum” are included in the Prescribed Minimum Benefits (PMBs) under Diagnosis and Treatment and Pair (DTP code) 900J. Treatment component specified for this DTP is “Debridement; free skin graft; medical management”.

The diagnosis, treatment, and care costs in relation to these burns must be paid in line with the PMB regulations. The medical schemes must pay for in and out-of-hospital costs in full if the services were obtained from a designated service provider (DSP).

In case of an emergency, healthcare services must be paid in full even if a non-DSP was used. The healthcare practitioner must assist the member in completing the forms to register for PMB benefits which must be funded by the medical scheme from the risk benefit. Funding of PMB claims from the Medical Savings Account (MSA) contravenes the Medical Schemes Act.

References

- Jeschke, M.G., van Baar, M.E., Choudhry, M.A., Chung, K.K., Gibran, N.S. & Logsetty, S. 2020. Burn injury. *Nature Reviews Disease Primers*, 6(11): 1-25.
- Smolle, C., Cambiaso-Daniel, J., Forbes, A.A., Wurzer, P., Hundeshagen, G., Branski, L.K., Huss, F., Kamolz, L. 2017. *Recent trends in burn epidemiology worldwide: A systematic review*. *Burns*, 43(2): 249–257.
- Timothy J., Schaefer, T.J. & Szymanski, K.D. 2023. Burn evaluation and management. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK430741/> [Accessed 14 May 2024].
- Warby, R. and Maani, C.V. 2023. *Burn classification*. Available from: <https://pubmed.ncbi.nlm.nih.gov/30969595/> [Accessed 14 May 2024].
- World Health Organization. 2023. *Burns*. Available from: <https://www.who.int/news-room/fact-sheets/detail/burns> [Accessed 14 May 2024].

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