

Handling Facial Burns at an Emergency Setting

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Heat, electricity, radiation as in sunburn, friction or chemicals were the cause of admission of approximately 3200 people to Canadian hospitals in 2005-2006 because of burn injuries (statistics are present in the Canadian skin patient alliance website) [1]. Of those admitted to the emergency departments, the majority were adults aged 40-49, followed by children [1]. Additionally, males were twice as likely to be severely burned compared to females. Our present editorial will focus on facial burns because they constitute the majority of cases admitted to emergency departments.

Facial burns contribute significantly to the loss of function of facial muscles, to corneal ulceration and to distorting features depending on the degree of burn. Facial burns, like any other burn type, are classified into first, second, third and fourth degree burns depending on the severity or depth of the burn and the facial areas involved. First degree burns affect the epidermis, which is the upper layer of the skin, causing redness without blistering. Second degree burns are associated with painful blisters and involve deeper layers of the skin. Second degree burns can heal in 3 weeks. Third degree burns usually involve significant scarring and fourth degree burns are extremely deep and are associated with muscle and bone injury [2,3].

After the burn, the affected facial area usually swells due to its rich blood supply. Facial swelling normally subsides in approximately 48 to 72 hours after the burn. As such, initial management of first and second degree burns involves cooling the area with running water for 20 minutes, irrigating chemical burns with copious volumes of water and irrigating the eye with copious volumes of water or normal saline. It is essential to avoid hypothermia of the burnt areas by avoiding any ice applications. Additionally, gel burn products are not recommended as a first aid measure [2,4,5]. Blisters should be covered with gauze and secured with adhesive tape to protect the blisters from rupture and consequent infection [2,4,5]. For burns involving cartilaginous areas such as ears and nose burns, it is important to cleanse the affected areas with saline 2 to 3 times per day. It is also beneficial to apply an antibacterial burn ointment as a prophylaxis against infection and to prevent the gauze from adhering to and damaging the affected area [4]. Triple antibiotic creams such as Neosporin can be used for deep facial burns. Mouth and lip burns are severely painful and lubricating them with any appropriate lubricant can make them heal quickly given their rich blood supply [4]. Immediate pain relievers should be administered such as acetaminophen, oral opiates and IV morphine if necessary. For burns that require more than 3 weeks to heal, it might be essential to excise them surgically, then graft them with skin from another area to expedite healing and minimize infection [4,6,7]. Acute management involves fluid resuscitation using the modified Parkland formula [8,9] and a urinary catheter insertion to make sure that urine output is kept at 0.5 to 1 ml/kg/hr [9].

Prognosis is good for first and second degree burns with healing achieved in few days after first degree burns and in three weeks after second degree burns without any scarring in both first and second degree burns. If infection occurred in second degree burns, treatment might take up to 9 weeks. On the contrary, third and fourth degree burns result in scarring and usually require skin excision, grafting, reconstruction and rehabilitation [2,10]. Laser treatments can be of benefit to alleviate discoloration and also to smoothen the skin burnt

areas [11]. Steroid injections can be used to decrease burning and itching in the scar tissue and is believed to minimize the scar size. It is essential to note that second and third degree facial burns affect the individual permanently and all treatments aim to improve cosmetic outcomes.

In conclusion, facial burns require immediate medical attention. While first and second degree burns have good prognosis when managed with cooling the area with copious volumes of running water and an antibiotic ointment application, third and fourth degree burns result in severe scarring and require the intervention of a plastic surgeon to improve cosmetic outcomes.

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