

# Incidence and mechanism of burn injury

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The incidence of burn injury varies greatly among countries and cultures. In the UK (with its population of 67 million), each year around 175 000 people visit accident and emergency departments with burns; of these, about 13 000 need to be admitted. About 1000 have severe burns requiring fluid resuscitation, and half of the victims are under 16 years of age. The mechanism of burn injury varies according to age, with the extremes of age being particularly vulnerable. The majority of burns in children are scalds caused by accidents with kettles, pans, hot drinks and bath water. It is important in this age group to screen for non-accidental injury as this may become a safeguarding issue. Delay in presentation, inconsistent history from care givers or an unexpected burn pattern/ depth should trigger a concern and further investigation; alerting senior staff is essential. Among adolescent patients, burns are usually caused by experimentation with matches and flammable liquids. In adults flame burns are more frequent, and scald burns and contact burns (such as a fall against a radiator and an inability to extract) become more common with age. Often a burn injury in the elderly is the trigger point at which increasing frailty and inability to self-care are recognised. Again, non-accidental injuries should be screened for in this vulnerable age group. The majority of electrical and chemical injuries occur in adults and are frequently associated with occupation. Cold and radiation are rarer thermal injuries. Associated conditions in adults, such as mental disease (attempted suicide or assault), epilepsy and alcohol or drug abuse, are underlying factors in as many as 80% of patients with burns admitted to hospital in some populations. Summary box 46.1 Screening for non-accidental burn injury

To understand: The pathophysiology of burn injury and the systemic effects • Methods for calculating the rate and quantity of fluids required • Principal techniques for treating burns and the patient • The pathophysiology of electrical and chemical burns • Delay in presentation, perceived lack of concern by the care giver Inconsistency with the history of the burn and the burn pattern/depth Other unexplained injuries such as bruises/fractures Frequent hospital attendances

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