

decisions regarding the severity of injury and the need for transfer for specialized care.*

The extent of tissue destruction is determined by the intensity of the heat source, the duration of contact or exposure, the conductivity of the tissue involved, and the rate at which the heat energy is dissipated by the skin. A brief exposure to high-intensity heat from a flame can produce burn injuries similar to those induced by long exposure to less intense heat in hot water.

When burns are categorized according to the patient's age and type of injury, the following patterns become apparent: (1) hot-water scalds are most frequent in toddlers, (2) flame-related burns are more common in older children, (3) children playing with matches or lighters account for 1 in 10 house fires, and (4) nonaccidental burns indicate maltreatment.

Nonaccidental injury due to maltreatment most commonly occurs in children 3 years old and younger. With nonaccidental injury, scald burns are the most common followed by contact burns. Thirty percent of children suffering recurrent burn injury are eventually fatally injured ([Trobez-Arceneaux and Trobez-Sims, 2012](#)). Child abuse should be suspected if the burn distribution on the body is inconsistent with the reported incident or with the child's developmental level, and there was a delay in seeking treatment.

Characteristics of Burn Injury

The physiologic responses, treatment modalities, prognosis, and disposition of the injured child are all directly related to the *amount of tissue destroyed*. Therefore the severity of the burn injury is assessed on the basis of the percentage of **total body surface area (TBSA)** burned and depth of the burn. Among children in the school-age group or younger age groups, a burn that is 10% TBSA can be life threatening if not treated correctly. Other important factors in determining the seriousness of the injury are the child's age and general health, the causative agent, the location of the wounds, the presence of respiratory involvement, and any associated injury or condition.

Type of Injury

The majority of burns result from contact with thermal agents, such