

## Safety Corner

### What are the different degrees of burn?

A burn is an injury to soft tissue generally caused by heat but can also be caused by chemicals, electricity, radiation, or friction. Burns can be classified by the mechanism of injury, depth, extent and associated injuries. The most common classification of burn injuries is based on the depth of injury to the skin layers:

- First-degree burns, such as sun burns, affect the outer-layer of skin (epidermis) causing pain, redness and swelling. Skin suffering First-degree burns will be red and very sensitive to touch, and will appear blanched when light pressure is applied.
- Second-degree burns occur when the epidermis has been burned through and the second layer of skin (dermis) is injured, causing blisters to develop. Second-degree burns produce severe pain and swelling, and the skin will take on an intensely reddened, splotchy appearance.
- Third-degree burns involve all layers of the skin and cause permanent tissue damage, and are sometime also known as full-thickness burns. Areas may be charred black or appear dry and white. Difficulty in inhaling and exhaling, carbon monoxide poisoning, or other toxic effects may also occur if smoke inhalation accompanies the burn.
- Fourth-degree burns extend deeply into the subcutaneous tissue, completely destroying the skin, subcutaneous fat, and underlying tendons, and sometimes involving muscle, fascia, or bone.

To aid prediction of severity and mortality, burns are assessed in terms of total body surface area (TBSA), which is the percentage of body surface affected by partial thickness or full thickness burns. Burn injuries affecting TBSA greater than 10% in children or 15% in adults are potentially life threatening because of the risk of hypovolaemic shock, and should have formal fluid resuscitation and monitoring in a burns unit.

Burns can also be classified by the severity of damage: major, moderate or minor, based on a number of factors, including TBSA burnt, the involvement of specific anatomical zones, age of the person and associated injuries, to aid in the medical decision-making process.

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