A child presented to the emergency department with circular burns to both hands. History revealed participation in a game testing ability to withstand discomfort associated with close proximity discharge of aerosol canister. Examination revealed two circular partial thickness burns (0.5–1% TBSA) (figure 1).

The recreational practice of ‘frosting’ (‘having a frosty’) involves the discharging of pressurised aerosol contents onto body surfaces. Reinforcement mechanisms include recreational substance abuse (inhalational euphoria), ‘curiosity’ or simply a misguided peer endurance test. Isolated cases have been reported, however, prevalence is likely under-reported.

Resultant frostbite depends on duration of exposure and absolute temperature reached; tissue destruction results from direct cell trauma (intracellular freezing), cell toxicity (hypertonic osmosis, inflammatory cytokine release) and cell hypoxia (vasoconstriction). Unlike heat thermal burns, such cold injuries do not induce protein (dermal collagen) fragmentation, thereby reduced likelihood of scar formation.

Management consisted of simple non-absorbent dressings, daily review and avoidance of UV exposure to reduce subsequent hyperpigmentation. A case for social review was activated to ensure suitable support mechanisms. This case serves to lower suspicion thresholds when such patterns of injury present, particularly in the teenage population, when younger patients exhibit less obvious or consistent with mechanism. All cases merit consideration for psychosocial input.

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Figure 1 Aerosol induced partial thickness burns (combined <1% TBSA).

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