Reducing the incidence of burn injuries to Indigenous Australian children

Roy M Kimble1,2, Bronwyn R Griffin2

Burns are a specific health burden, but understanding the detail is vital to finding solutions

It is undisputed that Aboriginal and Torres Strait Islander (Indigenous Australian) children are over-represented in statistics for injury and death caused by trauma. The incidence of each of the major mechanisms of fatal trauma in Australian children — drowning and low speed vehicle run-overs — is higher among Indigenous children.1,2 The incidence of injury is also higher among Indigenous children than for other Australians. It is consequently not surprising that the duration of stay will also be longer.

The region of the body affected by a burn is very much related to the mechanism of injury. For example, hot beverage scalds usually affect the face, neck and torso, whereas burns by hot embers and ash from campfires and burn-offs typically affect feet and ankles. Indigenous children have different patterns of burn injury types to other Australian children because of cultural and socio-economic differences. The higher proportion of foot and ankle burns in the report by Möller and colleagues is possibly explained by a higher incidence of campfire burns to Indigenous children.

The estimated TBSA burned is probably the greatest source of inaccuracy when documenting a burn injury.3 Areas of superficial burn (erythema only) are often erroneously included, leading to grossly overestimating the extent of the burn. Burn depth can also progress with time, but the TBSA is often not re-calculated, so that the initial estimate is the only value documented by hospital coders. Overestimation of burn extent would probably occur more frequently in non-tertiary facilities. Lund and Browder charts have traditionally been employed for calculating TBSA, but they are cumbersome to use and should therefore be replaced by mobile phone apps that accurately estimate TBSA by digitally shading on the screen the areas affected. The New South Wales Institute of Trauma has developed an app for this purpose that is free, quick and easy to use; the age and weight of the child are entered, and the degree of fluid resuscitation required (using the Parkland formula) is also calculated.4

People from populations with darker skin colour are reported to re-epithelialise burn injuries up to 25% more quickly than those from populations with lighter skin.5 However, darker skin has a higher propensity for hypertrophic scarring, explaining why the Indigenous children in this study had fewer operations for skin...

1 Pegg Leditschke Children’s Burns Centre, Lady Cilento Children’s Hospital, Brisbane, QLD. 2 Centre for Children’s Burns and Trauma, University of Queensland, Brisbane, QLD.

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grafting, but significantly greater requirements for management by allied health professionals.

Preventing burns must be part of any intervention to reduce the burden of burn injuries in Indigenous children, alongside optimal first aid. Campaigns to prevent burn injuries will only be successful if they are targeted at specific populations that are at greater risk, and it is important they include collaboration between injury prevention advocates, Indigenous leaders, and health care workers.

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