The Alfred pre-hospital fluid formula for major burns.

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Abstract
BACKGROUND: The Alfred pre-hospital fluid isotonic crystalloid resuscitation formula for major burns (body weight (kg)×%TBSA burnt=mls in the first 2 h) was adopted by Ambulance Victoria in 2007 for the early and consistent correction of fluid deficit in major burns patients. The aim of this study was to evaluate the associated change in pre-hospital fluid administration.

METHODS: A retrospective explicit chart review of patient records was conducted of all patients with major burns presenting to The Alfred Emergency & Trauma Centre over a 10 year period. Patient demographics, fluid resuscitation and outcomes in the period before the introduction of the new formula were compared to those in the post-introduction period.

RESULTS: There were 126 patients with major burns (≥20% total body surface area burnt) included in the study. The median fluid volume administration pre-hospital after introduction of The Alfred formula was 0.35 (0.22-0.44) mL/kg/%TBSA burnt, which was significantly higher than 0.14 (0.04-0.26) mL/kg/%TBSA administered in the prior period (p=0.013). There was no significant change in physiological endpoints associated with the increased volume. At 24 h, the volume of fluid administered in patients when The Alfred formula was used was 4.9±1.6 mL/kg/%TBSA, which was not significantly higher than the volume administered before 2007 of 4.8±2.2 mL/%TBSA/kg (p=0.802).

DISCUSSION: The Alfred pre-hospital fluid formula has resulted in patients receiving significantly more fluids early, although still below volumes suggested by the Parkland formula. There were no adverse effects of this increased volume detected over the study period. The Alfred pre-hospital fluid formula appears to be safe and more effective in delivering fluid volumes predicted by the current 'gold standard'.

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