

The role of paediatric, maternal, and child health nurses in burns prevention and first aid education

For referencing Forster EM, Griffin B. The role of paediatric, maternal, and child health nurses in burns prevention and first aid education. *Journal of Children and Young People's Health*. 2024;5(2):2-3.

DOI <https://doi.org/10.33235/jcyp.5.2.2-3>

Burn injuries among children remain a significant public health concern in Australia and New Zealand, with young children being particularly vulnerable.¹ Between 2009 and 2021, children under 15 years of age accounted for approximately 30% of hospital admissions for burns. More recently, in 2022–2023, the median age for paediatric burn patients was just three years old.¹ The most common causes of burns in this population were scalds (52%), followed by contact burns (20%) and flame burns (11%).¹ Notably, the majority of these injuries occurred in the home environment, often during routine activities such as being near a caregiver preparing food or drink (30.4%), playing (26.6%), and engaging in leisure activities (13.6%).¹ Beyond the pain of the initial injury, painful dressing changes, and permanent scarring, there are lifelong psychosocial sequelae that must be considered, underscoring the importance of prevention and early intervention to protect this vulnerable population.^{2–4}

The critical role of prevention

Given the high incidence of burns among young children and the preventable nature of many of these injuries, paediatric, maternal and child health nurses play a pivotal role in prevention efforts. Nurses are well-positioned to educate parents and caregivers about burn risks in the home and strategies to mitigate them. Simple interventions, such as ensuring hot liquids and foods are placed out of children's reach, using stove guards, and supervising children during meal preparation, can significantly reduce burn risks. Public health campaigns and anticipatory guidance provided during routine maternal and child health visits can further reinforce key safety messages.

Elizabeth M Forster

RN BN MN GC Higher Ed GC PosPsych PhD FACCYPN
Associate Professor, School of Nursing and Midwifery,
Griffith University, Brisbane, QLD 4101 Australia
<https://orcid.org/0000-0002-1613-0024>

Bronwyn Griffin

RN PhD FACCYPN
Professor Deputy Head of School Research (Acting)
School of Nursing and Midwifery Griffith University,
Brisbane, QLD 4101 Australia, Honorary Research Fellow,
Queensland Children's Hospital Chair, Australia and New
Zealand Burns Association Research Committee
<https://orcid.org/0000-0002-6182-9125>

Effective first aid and early treatment

Despite the longstanding use of cold water as a first-aid treatment for burns international guidelines on optimal treatment duration have varied. Recent research highlights that the application of cool running water (CRW) for 20 minutes leads to significantly better outcomes, reducing burn wound depth, the need for hospital admission, skin grafting, and infection rates.^{5,6} However, timely administration of appropriate first aid remains a challenge due to various barriers, including lack of awareness among caregivers.^{7,8}

Paediatric, maternal, and child health nurses can play a crucial role in ensuring parents and caregivers are equipped with accurate and practical first-aid knowledge. Providing clear, evidence-based guidance during home visits, child health checks, and parenting groups can increase the likelihood of timely and effective burn first aid. Encouraging parents to act quickly by applying CRW for 20 minutes and seeking medical attention early can significantly improve outcomes for children. Additionally, early medical treatment, including analgesia,² debridement,⁹ and specialised dressings,^{10–13} is time-critical and often requires skilled burns clinicians to attend. Prompt referral to burn specialists can further improve healing outcomes and reduce long-term complications.³

Engaging parents and caregivers

Parental education on burn prevention and first aid should be a routine component of child health care. Nurses can engage parents by incorporating burn safety discussions into regular health visits, using visual aids and practical demonstrations to reinforce key messages. Community workshops, social media campaigns, and printed resources can further enhance awareness and knowledge. By proactively addressing burn prevention and first aid education, paediatric, maternal, and child health nurses can help reduce the incidence and severity of paediatric burns, ultimately improving child health outcomes.

Conclusion

Burn injuries in young children are often preventable, and timely, appropriate first aid can significantly impact recovery and long-term outcomes. Paediatric, maternal, and child health nurses are uniquely positioned to lead burn prevention and first aid education efforts, ensuring parents and caregivers are well-informed and prepared. By integrating burn safety

into routine health visits and community outreach, nurses can help protect children from unnecessary injury and promote best practices in burn management.

References

1. Burns Registry of Australia and New Zealand. *Annual Report 2022/23*. School of Public Health and Preventive Medicine, Monash University. Melbourne, Australia. 2024. https://www.monash.edu/__data/assets/pdf_file/0011/3678563/BRANZ-14th-Annual-Report-Jul-22-Jun-23-Public.pdf
2. Holbert MD, Kimble RM, Jones LV, Ahmed SH, Griffin BR. Risk factors associated with higher pain levels among pediatric burn patients: a retrospective cohort study. *Reg Anesth Pain Med*. 2021;46(3):222–227.
3. Storey K, Kimble RM, Holbert MD. The management of burn pain in a pediatric burns-specialist hospital. *Paediatr Drugs*. 2021;23(1):1–10.
4. Wickens N, van Rensburg EJ, de Gouveia Belinelo P, Milroy H, Martin L, Wood F, et al. “It’s a big trauma for the family”: A qualitative insight into the psychological trauma of paediatric burns from the perspective of mothers. *Burns*. 2024;50(1):262–274.
5. Griffin B, Cabilan CJ, Ayoub B, Xu HG, Palmieri T, Kimble R, et al. The effect of 20 minutes of cool running water first aid within three hours of thermal burn injury on patient outcomes: A systematic review and meta-analysis. *Australas Emerg Care*. 2022;25(4):367–376.
6. Griffin BR, Frear CC, Babl F, Oakley E, Kimble RM. Cool running water first aid decreases skin grafting requirements in pediatric burns: a cohort study of two thousand four hundred ninety-five children. *Ann Emerg Med*. 2020;75(1):75–85.
7. Frear CC, Griffin B, Watt K, Kimble R. Barriers to adequate first aid for paediatric burns at the scene of the injury. *Health Promot J Austr*. 2018;29(2):160–166.
8. Holbert MD, Kimble RM, Watt K, Griffin BR. Barriers and facilitators to burn first aid practice in the prehospital setting: A qualitative investigation amongst emergency medical service clinicians. *Burns*. 2024;50(3):674–684.
9. Griffin B, Bairagi A, Jones L, Dettrick Z, Holbert M, Kimble R. Early non-excisional debridement of paediatric burns under general anaesthesia reduces time to re-epithelialisation and risk of skin graft. *Sci Rep*. 2021;11(1):23753.
10. Bairagi A, Griffin B, Banani T, McPhail SM, Kimble R, Tyack Z. A systematic review and meta-analysis of randomized trials evaluating the efficacy of autologous skin cell suspensions for re-epithelialization of acute partial thickness burn injuries and split-thickness skin graft donor sites. *Burns*. 2021;47(6):1225–1240.
11. Frear CC, Cuttle L, McPhail SM, Chatfield MD, Kimble RM, Griffin BR. Randomized clinical trial of negative pressure wound therapy as an adjunctive treatment for small-area thermal burns in children. *Br J Surg*. 2020;107(13):1741–1750.
12. Holbert MD, Duff J, Wood F, Holland AJA, Teague W, Frear C, et al. Barriers and co-designed strategies for the implementation of negative pressure wound therapy in acute pediatric burn care in Australia: a mixed method study. *J Pediatr Nurs*. 2024;77:e520–e30.
13. Holbert MD, Wood F, Holland AJA, Teague W, Kimble RM, Crellin D, et al. Implementation of negative pressure for acute pediatric burns (INPREP): A stepped-wedge cluster randomized controlled trial protocol. *PLoS One*. 2024;19(12):e0315278.