Public Health Association AUSTRALIA

Hot Tap Water Temperature and Scalds

Policy Position Statement

Key messages:

Each year in Australia around 5,500 people are hospitalised due to thermal causes, such as a burn or a scald. Scalds resulting from contact with hot drinks, foods, fats, cooking oils and hot water comprise around 37% of all burn injury-related hospitalisations in Australia. Hot tap water scalds have been shown to be particularly amenable to prevention by reducing the temperature of water delivery from hot taps through use of tempering or hot water mixing valves.

Key policy positions:

1. Ongoing policy and legislative commitment to heated water temperature regulations.
2. Uniform interpretation, application and implementation of the Plumbing Code in all states and territories.
3. State and Territory governments to provide rebates for the installation of tempering valves for those with the least resources to reduce risk of scalds whilst addressing requirements for prevention of legionella bacteria.
4. Collaborative efforts between health authorities, local governments and industry groups to deliver education that highlights the potential danger of hot water and the benefit to be gained by use of hot water mixing valves to reduce heated water temperature to 50°C at the point of delivery in bathrooms.

Audience: Federal, State and Territory Governments, policymakers and program managers,PHAA members, media.

Responsibility: PHAA's Injury Prevention Special Interest Group (SIG).

Date adopted: September 2025

Contacts: Richard Franklin richard.franklin@jcu.edu.au & Rachel Meade rmeade@injurymatters.org.au, Co-Convenors, IP SIG

Citation: Hot Tap Water Temperature and Scalds: Policy Position Statement [Internet]. Canberra: Public Health Association of Australia; 2012 [updated Sep 2025]. Available from: URL

Hot Tap Water Temperature and Scalds

Policy Position Statement

PHAA affirms the following principles:

1. Decreasing the temperature of hot tap water delivered to bathing areas is an effective preventive measure. Lowering temperatures to 50°C at the point of delivery using tempering valves significantly reduces the risk of hot tap water scalds.
2. Although regulations are in place, further safety gains can be made. Expanding the scope of existing regulations beyond new homes, or homes that have alterations made to hot water services, to include all heated water systems is recommended.
3. Providing rebates for the installation of tempering valves could increase the uptake of this installation.
4. Regulation should be implemented to ensure rental properties meet the minimum requirements at the time of lease similar to current regulations for smoke alarm detectors.
5. Hot water scalds-specific data should be extracted from larger aggregate data sets to enable specific analysis and targeted prevention efforts.

PHAA notes the following evidence:

6. Burns and scalds are devastating injuries which may result in lifelong physical impairment and ongoing psychological consequences.[1]
7. A total of 5,544 people in Australia were hospitalised in 2021–22 due to thermal causes, with common precipitants being hot substances, hot fluids, hot drinks, and hot appliances. In combination with smoke-related injuries, thermal causes are responsible for 1.0% of injury hospitalisations and 0.9% of injury deaths. [2,3] Scalds resulting from contact with hot drinks, foods, fats, cooking oils and hot water comprise between 37% of all burn injury-related hospitalisations in Australia.[3]
8. Although hot water-induced scalds account for a smaller proportion of scald-related admissions, they carry disproportionately severe outcomes.[4,5] Moreover, these scalds convey a higher risk of subsequent surgery, intensive care admission, and overall mortality than other scalds.[4,5] In younger populations from 0-4 years, hot tap water scalds account for 6.5% of burns-related admissions and 8.6% of all burns, respectively.[6]
9. At-risk demographics for hot tap water scalds include those between 1-4 years old (24.6%) and those over 65 (30.2%), due to impaired sensorimotor abilities and impaired skin integrity.[7]
10. A quarter of all tap water scalds occurred in adults between the agesof 18 and 64 during the period between January 2007 and December 2018, highlighting the risk of hot tap water to all age groups.[7]
11. Around 90% of hot tap water scalds requiring admission to the hospital occur in the home, with over 92% sustained in the bathroom and 85% of these occurring due to hot water immersion.[7]
12. More than half of the hot tap water scalds occurred due to the tap water being accidentally heated to unsafe temperatures.[7]
13. Higher water temperatures result in a shorter duration until a full thickness scald. At 68°C, a full

thickness scald occurs in less than one second, and at 50°C, five minutes of exposure is sufficient to cause a full thickness scald.[8]

14. The risk of hot tap water scalds is significantly reduced by implementing tempering valves, thereby regulating temperature control.[9,10]
15. Heated water must be stored at a minimum temperature of 60°C to inhibit the growth of Legionella bacteria.[8,11] Hot water tempering valves blend hot and cold water together, ensuring the stored hot water can be delivered at lower temperatures (maximum 50°C) which can reduce the risk of severe hot water scalds.[8,12.]
16. The Plumbing Code of Australia (PCA)[13] delineates the requirements for water storage and the use of tempering valves. The PCA is given legal effect by enabling legislation in each State and Territory, though States and Territories can adopt local variations to the Code.
17. Lower socioeconomic communities are disproportionately affected by hot tap water scalds,[14] with limited resourcing for implementing tempering valves. These populations would benefit from subsidised tempering valve insertion to ensure equitable access.

PHAA seeks the following actions:

18. Governments should make policy and legislative changes to increase the scope of the heated water temperature regulations to include all domestic residences.
19. Governments should ensure uniform interpretation, application and implementation of the Plumbing Code of Australia in all States and Territories.
20. State and territory governments should provide rebates for the installation of tempering valves for those with the least resources.
21. Health authorities, local governments, and industry groups should collaborate to educate the public on the dangers of hot water and the benefits of reducing water delivery temperature to 50°C with tempering valves.
22. Greater investment in research to evaluate high-quality community-based interventions that aim to reduce the incidence and morbidity of burns and scalds in children.[15]

PHAA resolves to:

23. Advocate for the above steps to be taken based on the principles in this position statement.

First adopted 2012, revised 2016, 2023 and 2025

References

1. Van Baar ME, Essink-Bot ML, Oen IMMH, Dokter J, Boxma H, van Beeck EF. Functional outcome after burns: a review. Burns. 2006;32(1):1-9. doi: 10.1016/j.burns.2005.08.007
2. Australian Institute of Health and Welfare. Injury in Australia [Internet]. Canberra: Australian Institute of Health and Welfare, 2024 [cited 2025 May. 8]. Available from: https://www.aihw.gov.au/reports/injury/injury-in-australia
3. Australian Institute of Health and Welfare. Thermal causes [Internet]. Canberra: Australian Institute of Health and Welfare, 2023 [cited 2025 May. 8]. Available from: https://www.aihw.gov.au/reports/injury/thermal-causes
4. Boufous, S. & Finch, C. Epidemiology of scalds in vulnerable groups in New South Wales, Australia, 1998/1999 to 2002/2003. J Burn Care Rehabil. 2005;26(4):320-326. doi:

10.1097/01.bcr.0000170501.03520.ac.

5. Hong R, Perkins M, Gabbe BJ, Tracy LM. Comparing Peak Burn Injury Times and Characteristics in Australia and New Zealand. International Journal of Environmental Research and Public Health. 2022 Aug 4;19(15):9578.
6. AIHW. Injury in Australia: injury hospitalisation by external cause, Australia, 2020-21. Australian Institute of Health and Welfare. Updated November 15, 2024. https://www.aihw.gov.au/reports/injury/injury-in-australia/data
7. Singer Y, Tracy LM, Menezes H, et al. "The home, the bathroom, the taps, and hot water": the contextual characteristics of tap water scalds in Australia and New Zealand. Burns. 2022;48(4):1004- 1012. doi: 10.1016/j.burns.2021.08.022
8. VBA. Hot water safety. Victorian Building Authority. https://www.vba.vic.gov.au/consumers/guides/hot-water-safety.
9. Shields WC, Omaki E, Zhu J, McDonald EM, Gielen AC. Some like it hot: results of a community intervention trial aimed at improving safety behaviours to prevent hot water scald burns. J Epidemiol Res. 2012;2(2):74-80. doi:5430/jer. v2n2p74
10. Erdmann TC, Feldman KW, Rivara FP, Heimbach DM, Wall HA. Tap water burn prevention: the effect of legislation. Pediatrics. 1991;88(3):572-577.
11. Australian Government and States and Territories of Australia. Plumbing Code Development Research Report: Warm Water Systems. Australia Boarding Codes Board; 2015:25–26. https://www.abcb.gov.au/sites/default/files/resources/2020//Report-Warm-Water.pdf
12. Standards Australia. 3500.4:2021 Plumbing and drainage, Part 4: Heated water services. Standards Australia; 2021. https://www.standards.org.au/standards-catalogue/sa- snz/waterandwasteservices/ws-014/as-slash-nzs--3500-dot-4-colon-2021
13. Commonwealth of Australia and the States and Territories. Volume Three: Plumbing Code of Australia 2019. Australian Building Codes Board;2019. https://ncc.abcb.gov.au/system/files/ncc/NCC_2019_Volume_Three.pdf
14. Harvey LA, Poulos RG, Finch CF, Olivier J, Harvey JG. Hospitalised hot tap water scald patients following the introduction of regulations in NSW, Australia: Who have we missed? Burns. 2010;36(6):912-919. doi:10.1016/j.burns.2009.10.008
15. Turner, C., Spinks, A., McClure, R. J., & Nixon, J. (2004). Community-based interventions for the prevention of burns and scalds in children. *Cochrane Database of Systematic Reviews*. https://doi.org/10.1002/14651858.CD004335.pub2