



## Regional variations in Burns First Aid Treatment: Predictors of receiving Gold Standard First Aid



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### Introduction

- Early intervention with Burns First Aid has shown to **improve clinical outcomes and lower mortality rates**.
- In mid-2016, the Burns Registry of Australia and New Zealand (BRANZ) updated its First Aid clinical quality indicator to follow the Australian and New Zealand Burn Association (ANZBA) Gold Standard guidelines of applying **20 minutes of cool running water within 3 hours of the burn injury**.

**Aim:** Describe the variation in Burns First Aid practice and patient characteristics to explain regional differences in treatment.

### Methods

**Participants:** All patients who sustained a burn and were admitted to hospital between 1<sup>st</sup> July 2016 – 30<sup>th</sup> June 2018 were extracted from the BRANZ.

**Socioeconomic status:** The **Index of Relative Socioeconomic Advantage and Disadvantage (IRSAD)** was applied to the postcode of the patient's residential address to obtain three categories of socioeconomic disadvantage: 1 (most disadvantaged), 2, and 3 (least disadvantaged).

**Remoteness:** The **Accessibility/Remoteness Index of Australia (ARIA)** was applied and used to classify the patient's postcode of injury into one of five categories: Major City, Inner Regional, Outer Regional, Remote, or Very Remote.



Patients living in Very Remote Australia had a **2.4 fold greater risk of receiving no first aid compared to receiving Gold Standard First Aid**

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### Results

- 5,925 patients remained for analyses:
  - **64% (n=3,780) received Gold Standard First Aid**
  - 17% (n=1,029) received Non-Gold Standard First Aid
  - 19% (n=1,116) received No First Aid
- **Region of Injury:**
  - The proportion of patients receiving Gold Standard First Aid **decreased as remoteness increased**.
  - Patients living in Very Remote Australia had a **2.4 fold greater risk** (95% CI: 1.16-4.88,  $p=0.018$ ) of receiving No First Aid compared to receiving Gold Standard First Aid (relative to patients in Major Cities of Australia).
  - Patients living in Outer Regional Australia had a **30% decreased risk** (95% CI: 0.49-0.98,  $p=0.037$ ) of receiving No First Aid compared to receiving Gold Standard First Aid (relative to patients in Major Cities of Australia).
- **Socioeconomic Status:**
  - The proportion of patients receiving Gold Standard First Aid **decreased as socioeconomic disadvantage increased**.

### Conclusions

This study provides contemporary data about Burn First Aid Treatment. Regions of injury for patients which were outside of Major Cities had greater prevalence of No First Aid or Non-Gold Standard First Aid Treatment. **This may be explained by lower health literacy and barriers in accessing a water source.**