Hidden dangers: Tap water scalds in Australia & New Zealand





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For Noelene & Bob





Outline

Overview of the Burn Registry of Australia and New Zealand

Incidence and characteristics of people burnt from hot tap water

The Plumbers Code of Australia: hot water temperature regulations

What next?



Burn care in Australia & New Zealand

24.6 million Australians4.8 million New Zealanders17 designated burn centres3600 acute admissions annually





Burn Registry of Australia & New Zealand

Clinical Quality Registry

Epidemiological, treatment, quality of care & outcome data

All acute burns admitted to all 17 Burn Centers:

- more than 24 hrs
- less than 24 hrs but has surgery
- · less than 24 hr but patient dies

Collaborators:

Monash University Dept of Epi. & Prev. Medicine

ANZBA

Australian & NZ Burn Centers







What Is BRANZ?

What Is A Clinical Registry?

Zealand (BRANZ) is a clinical quality registry

The Burns Registry of Australia and New The primary purpose of a clinical registry is to • Monitor burn injury incidence monitor patient outcomes and report on the . Monitor burn injury causation capturing epidemiological, quality of care, quality of the care provided for a specific . Identify objective and verifiable data on and outcome data for adult and paediatric medical disease or condition, or for an area burn patients across Australian and New or specialisation of health service provision.

treatment, outcomes and quality of care To encourage higher standards of

What Does BRANZ Do?



Process



Admissions between July 1 2009 – June 31 2018



Data from 17 BRANZ sites

n=670



Number of adult vs paediatric cases by year





Size of burn characteristics



Defining burn size



Number of male vs female cases by age group



Fall and scald in an elderly male





Activity at the time of injury



Injury intent



Fall in shower & scald



Did the patients require surgery?



Did the patient require intensive care admission?



Survival at hospital discharge





Patient characteristics according to survival status

Patient Characteristics	Survived (n =645)	Died (n =25)	P - value
Age, median (IQR) years	14.0 (1.0, 63.0)	75.0 (59.5, 87.0)	<0.001
Male n (%)	359 (55.7%)	9 (36.0%)	<0.001
% TBSA Burns, median (IQR) %	5.0 (2.0, 10.0)	15.05 (10.0, 31.5)	<0.001
% TBSA Deep burns	0.0 (0.0, 3.0)	10.5 (2.3, 31.9)	<0.001
Inhalation Injury, N (%)	1 (4.0%)	1 (0.2%)	<0.001
ICU admission	20 (20.0%)	72 (11.2%)	<0.001



Survival status by age group



Survival status by %TBSA burn group



MONASH University







Hospital length of stay by %TBSA Burn group



Estimated healthcare costs



Table 4 – Calculation o	of cost.				
Total cost			\$2,449,1	12.52	
Mean cost per % burn		\$6,263.71			
Mean cost per hospital day			\$3,677.35		
		Mean %TBSA			
Cost per group	0-9.9%	3.1	\$19,417.52		
(Based on mean %TBSA per group)	10–19.9%	13.2	\$82,681.04		
	20-29.9%	22.6	\$141,55	9.96	
	30%+	39.3	\$246,16	4.00	
Total % burn for 670 patients: 5754.2%			\$36,042640.10 (AUD)		
MONASH University				\$40	04747.80 annually (AUD)

Summary..

High risk groups are the extremes of age

Majority of incidents occurred at home whilst bathing

Current regulation effective to reduce injury in school and aged residential settings

Mortality higher in tap scald group VS rest of the burn population (3% vs 1.5%)

lower physiological reserve to cope with stress of injury

Significant personal and healthcare costs



Plumbers Code of Australia

Part B2 Plumbing Regulations 2008

60C storage temperature to minimise water borne disease

45C temperature bathroom water delivery for schools, nursing homes etc

50C temperature bathroom water delivery for other buildings

Tempering and thermostatic mixing valves

Laundry & kitchen temperature is optional

State based legislation



How can we protect our most vulnerable?



Change legislation so that all living premises have tempering valves installed?

The blind men and the elephant



Other stakeholder groups



Its not just Australia and New Zealand



Alone we can do so little; together we can do so much.

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