

# Research Poster Awards 2023

## Physical restraint of patients in Australia and New Zealand Intensive Care Units

**Project Team Leader:** Matthew J. Maiden (Intensive Care Unit Barwon Health and Royal Adelaide Hospital, University of Adelaide)

**Project Team Members:** Allison Bone and Megan Fitzpatrick (Intensive Care Unit Barwon Health)

On behalf of The George Institute for Global Health and the Australian and New Zealand Intensive Care Society Clinical Trials Group

### INTRODUCTION

Physical restraint of patients in an intensive care unit (ICU) varies between countries. Some apply physical restraints on most ICU patients, while others report never using them<sup>1</sup>. In Australia / New Zealand (ANZ), a point prevalence study 10 years ago reported that 7% of ICU patients were physically restrained, but provided little detail about their use<sup>2</sup>.

We conducted a study to examine whether the prevalence of physical restraint has changed over a decade, and to understand how restraints are used.

### OBJECTIVES

Primary objective:

- How many patients had physical restraints applied at any time during the 24-hour study period.

Secondary objectives:

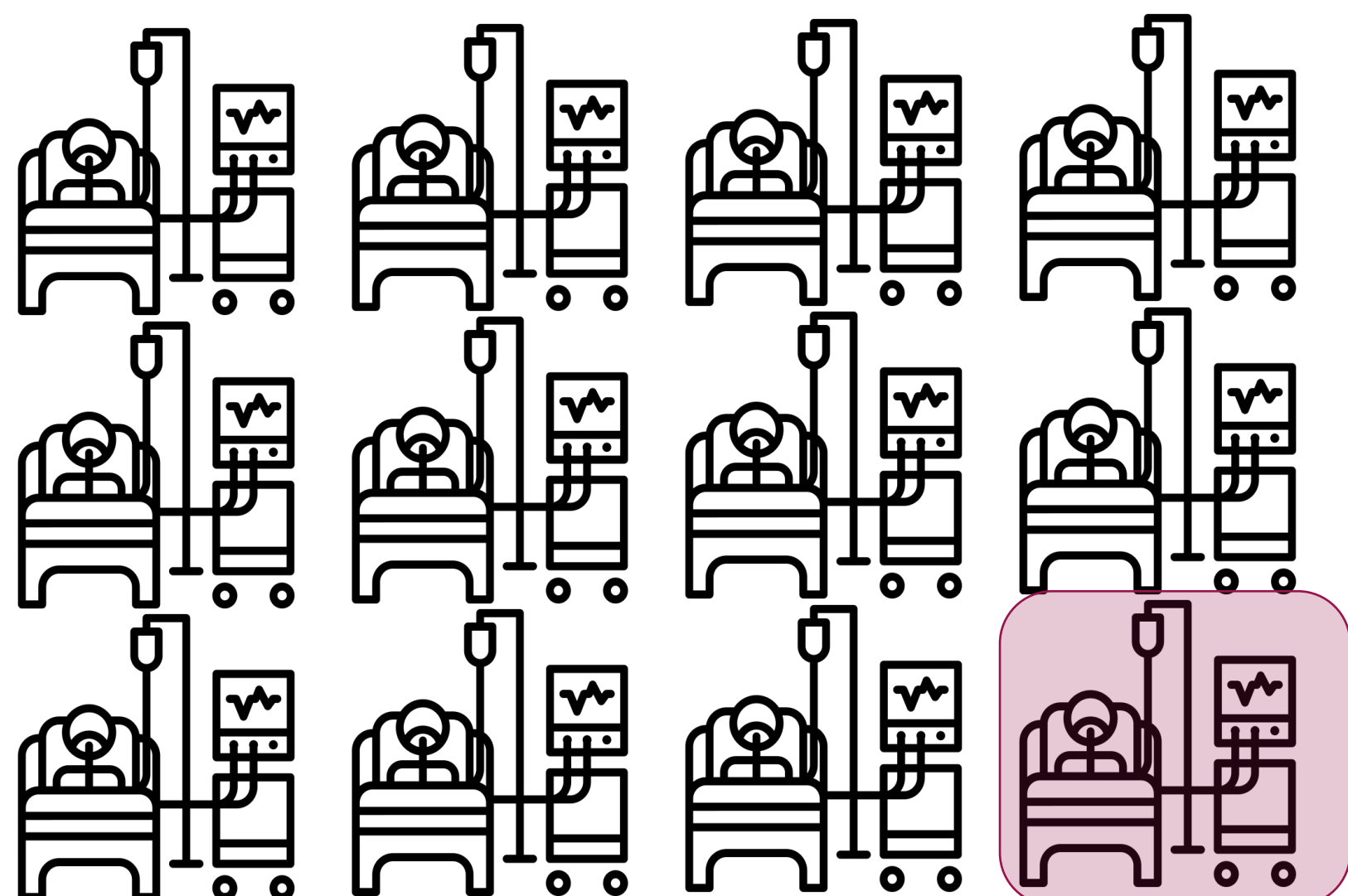
- Reason for restraint application and duration of use
- Who decided to apply the restraint
- Presence of an order for restraint
- Presence of staff training and a guideline for restraint use

### METHOD

This was a point prevalence study conducted under the auspices of the Australian and New Zealand Intensive Care Society Clinical Trials Group Point Prevalence Program<sup>3</sup>. All patients (aged  $\geq 16$  years) in participating ICUs on one of the three designated days in 2019 (June 4<sup>th</sup>, 19<sup>th</sup> or 26<sup>th</sup>) were included.

### RESULTS

44 ICUs (36 Australia and 8 New Zealand) contributed data on 627 patients of whom **48 (8%)** were physically restrained.



Characteristics of physically restrained ICU patients	N = 48
Sex, n(%)	
Male	38 (79)
Female	10 (21)
Age, years	
Median [interquartile range]	53 [35-64]
Mechanically ventilated during study day, n (%)	42 (88)
ICU admission diagnosis neurological, n (%)	24 (50)
Primary reason for physical restraint, n (%)	
Patient a risk to themselves	41 (85)
Patient a risk to others	2 (4)
Undertake a medical procedure	3 (6)
Unknown	2 (4)
Number of episodes of physical restraint, n (%)	
3 episodes	1 (2)
2 episodes	5 (10)
1 episode	38 (79)
Unknown	4 (8)
Total duration of physical restraint during study day, n (%)	
> 0-6 h	8 (17)
> 6-12 h	9 (19)
> 12-18 h	10 (21)
> 18-24 h	12 (25)
Primary decision maker to apply physical restraint, n (%)	
ICU consultant	4 (8)
ICU registrar	11 (23)
ICU nurse	30 (63)
Unknown	3 (6)
Presence of an order for use of physical restraint, n (%)	
Yes	27 (57)
No	17 (35)
Unknown	4 (8)
Unit has staff training for managing restlessness and agitation, n (%)	
Yes	31 (70)
ICU has a guideline or protocol for physical restraint use, n (%)	
Yes	36 (82)

### DISCUSSION

Approximately, one in 13 ICU patients in ANZ were physically restrained; a similar proportion to 10 years ago. This is lower than reports from other countries, however, we similarly found most physically restrained patients were mechanically ventilated, considered a risk to themselves (rather than to others) and a low proportion had a documented order<sup>4,5</sup>.

### CONCLUSION

Physical restraint may contravene patient autonomy. These data provide impetus for inter-professional shared decision-making regarding physical restraint in ICU, and the need for further research into physical restraint practice.

### REFERENCES & ACKNOWLEDGEMENTS

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1. Devlin JW, Skrobik Y, Gelinas C, Needham DM, Slooter AJC, Pandharipande PP, et al. (2018) Clinical practice guidelines for the prevention and management of pain, agitation/sedation, delirium, immobility and sleep disruption in adult patients in the ICU. Crit Care Med 46:e825-e873
2. Elliott D, Aitken LM, Bucknall TK, Seppelt IM, Webb SA, Weisbrodt L, Mckinley S, For The Australian and New Zealand Intensive Care Society Clinical Trials Group, and The George Institute for Global Health (2013) Patient comfort in the intensive care unit: a multi-centre, binational, point prevalence study of analgesia, sedation and delirium management. Crit Care Resusc 15:213-219
3. Thompson L, Hammond N, Eastwood G, Festa M, Glass P, Rajbhandri D, Seppelt I, Taylor C, Watts N, Myburgh J et al (2017) The Australian and New Zealand Intensive Care Society clinical trials group point prevalence program, 2009-2016. Crit Care Resusc 32:165-174
4. Perez D, Peters K, Wilkes L, Murphy G (2019) Physical restraints in intensive care – an integrative review. Aust Crit Care 32:165-174
5. De Jonghe B, Constantin JM, Chanques G, Capdevila X, Lefrant JY, Outin H, Mantz J, The Group Interfaces Sedation (2013) Physical restraint in mechanically ventilated ICU patients: a survey of French practice. Intensive Care Med 39:31-37