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Does an observational pain assessment tool improve time to analgesia for cognitively impaired older persons? A cluster randomised controlled trial

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Acknowledgements

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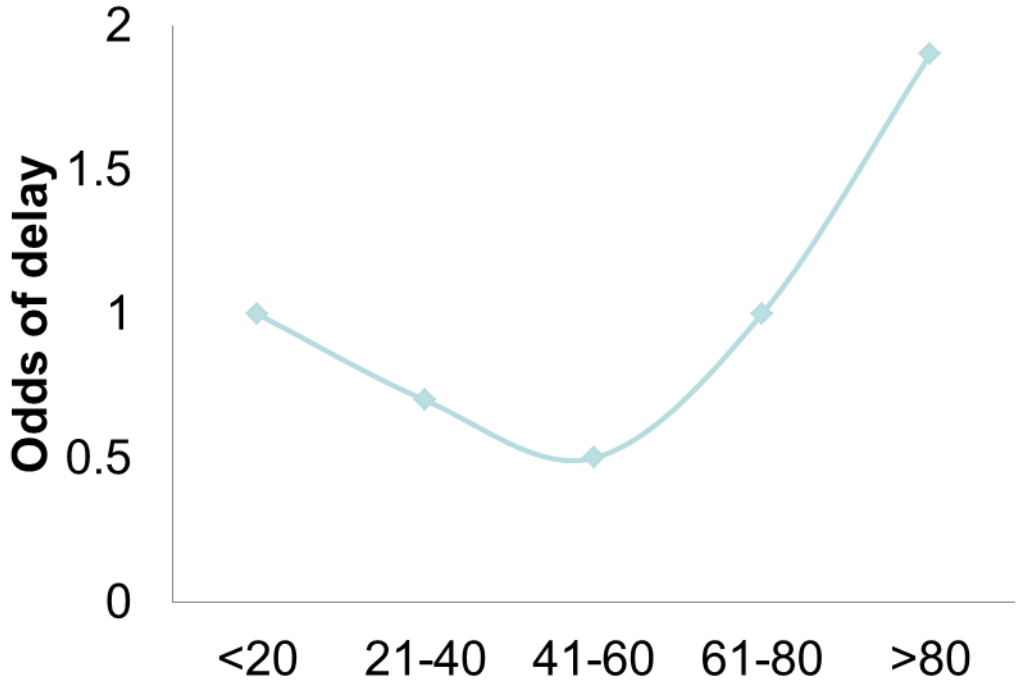
Emergency Care Institute of NSW

Eight participating EDs

Older age and analgesia response times

Age is an independent risk factor for delay to analgesia



Arendts G and Fry M, *J Pain,* 2006

What of the cognitively impaired?

Dementia Delirium Both

Up to 25% of older ED patients

Unequivocally, they suffer more than the unimpaired elderly

254 patients with long bone fracture in four EDs

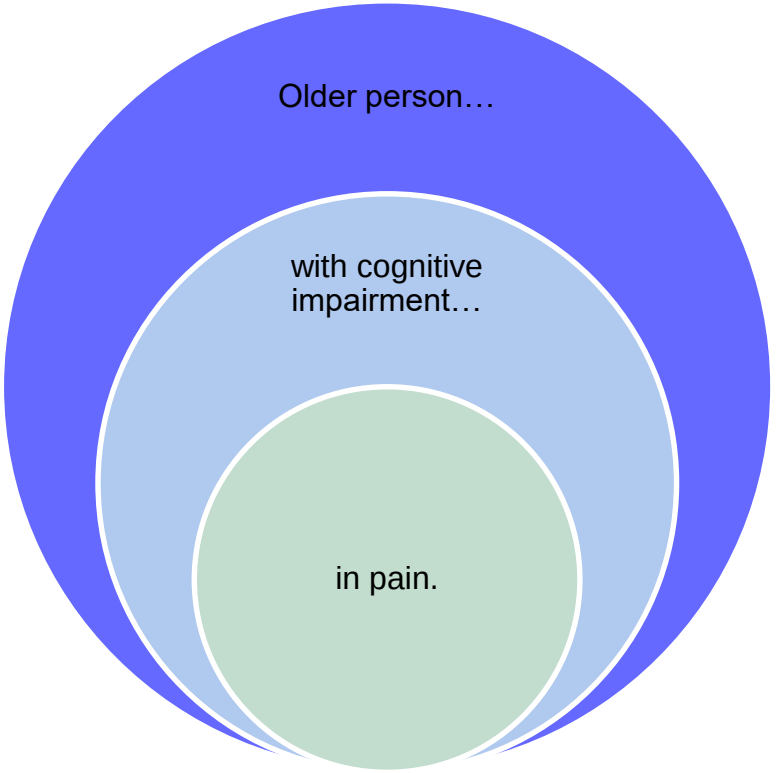
	Intact n=182	Impaired n=72	P value
Median TTA	72 minutes	149 minutes	<0.001
% TTA < 1 hour	44%	23%	0.006
Adjusted OR	1	2.2	0.04

Fry M, Arendts G et al *Int Psychogeriatr* 2015

The solution? To manage pain you must assess pain

Cognitive screen

Appropriate tool



PAINAD

	0	1	2
Negative speech	None	Disapproving or angry tone, occasional groaning	Repeatedly groaning, crying or calling out
RR	Normal	Intermittently increased	Persistently increased
Facial expression	Smiling or calm	Sad, frowning	Grimacing
Posturing	Relaxed	Tense, fidgeting	Rigid, making fists, striking out
Consolability	No need to console	Consolable or distractable with word/touch	Inconsolable

What is pain and how do we assess it?

Sensory & discriminative

- Intensity
- Quality
- Location

Motivational & affective

- Fight or Flight, urge to escape
- RR, HR, SBP
- Expression and posturing

Aim

To determine, in older patients with cognitive impairment, if the introduction of PAINAD into the ED nursing assessment would improve time to analgesia (primary outcome) and proportion of patients receiving analgesia in less than one hour (secondary outcome).

Method

A cluster RCT in patients with cognitive impairment and clinically suspected long bone fracture in eight EDs

Approved by relevant ethics committees and conforming with the Declaration of Helsinki, waiver of consent

ACTRN 12613000997752

ED entry

Eight level 5 or 6 ED which see trauma patients

Randomised by coin toss to intervention or control site

Intervention sites underwent training for the duration of the study on PAINAD, but with outcome measures concealed

Patient entry

Inclusion criteria

- 65+ years
- suspected long bone fracture
- Known cognitive impairment
- SIS < 4

Exclusion criteria

- ATS 1
- polytrauma
- SBP < 90 mmHg

Sample size

600 patients (75 per ED) required to reduce median time to analgesia by one hour (150 to 90 minutes) assuming an intraclass coefficient of 0.1 and 80% power to detect this difference at the 0.05 significance level

Analysis

ITT with a preplanned sensitivity analysis including in those patients in which prior severe cognitive impairment was present

Descriptive statistics, Mann Whitney U test and Pearson's chi square test for unadjusted analyses

Cox regression analysis adjusting for confounders of age, fracture type, arrival mode and triage category.

Baseline results (n=602)

	Intervention n=323	Control n=279	p value
Female	71%	74%	0.42
Age	86 (79-90)	83 (74-89)	<0.01
Fracture type			<0.01
Lower limb	55%	56%	
Upper limb	30%	39%	
None	15%	5%	
Prehospital analgesia	54%	55%	0.90
ATS			<0.01
2	5%	7%	
3	53%	68%	
4	42%	25%	
First pain score	5 (3-8)	5 (3-8)	0.64

ITT analysis (n=602)

	Intervention n=323	Control n=279	p value	Adjusted p value
TTA minutes	83 (110)	82 (106)	0.42	0.74
Analgesia less than 1hr	32%	28%	0.19	0.91
No analgesia	12%	9%	0.26	
Admitted to hospital	86%	86%	0.96	

Sensitivity analysis (n=271)

	Intervention n=157	Control n=114	p value	Adjusted p value
TTA minutes	90 (113)	103 (168)	0.62	0.40
Analgesia less than 1hr	22%	23%	0.92	0.79

Why?

PAINAD as an assessment tool is no good.

Assessment of pain was not linked explicitly to action to treat pain

Study limitations

- baseline imbalances (ATS 4)
- better than anticipated performance at control sites

Main conclusion

Analgesia delays in older people with cognitive impairment in ED remain pervasive and, in this trial, unchanged by introducing an observational tool to assess pain