

# Research in brief: Inpatient hip fractures and nomenclature of delirium and acute encephalopathy

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## Inpatient hip fractures: understanding and addressing the risk of this common injury

Elderly patients represent an increasing proportion of the general medical take and of the inpatient population in our hospitals.<sup>1</sup> Older patients are at increased risk of falls while in hospital. Most falls are multifactorial in nature. Delirium in the context of acute illness and unfamiliar surroundings, compound pre-existing frailty, comorbidities and polypharmacy.<sup>2</sup> Hip fractures are the most common serious injury in older people and are associated with long-term disability and loss of independent living.<sup>3</sup>

Recent work by Singh *et al* examines the circumstances leading to inpatient hip fractures and subsequent outcomes.<sup>4</sup> Through retrospective review of all inpatient falls resulting in hip fractures within the Aneurin Bevan University Health Board in Wales between January 2016 and December 2017, they establish a mean falls rate of 8.7/1,000 occupied bed days, with an inpatient hip fracture rate of 0.12/1,000 occupied bed days (n=118). Forty-five per cent of all fractures happened after the first inpatient fall. As seen in previous studies, most falls were multifactorial – on average, more than four factors contributed to each fall.<sup>2,3</sup> The top risk factors included a history of falls in the past 12 months, a history of dementia or cognitive impairment, walking with mobility aids, polypharmacy and immobility due to weakness or pain. While 28% of patients had a history of fragility fractures, only 39% of these were treated for osteoporosis. In keeping with findings from the National Hip Fracture Database, most falls seemed to coincide with evening staff changeover times.<sup>3</sup> Finally, inpatient hip fractures have a strikingly poor prognosis; 95% of patients were admitted from their own home, but only 43% were discharged back there. The inpatient mortality was 30% – more than double that for community hip fractures.

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The findings in this study highlight the importance of undertaking a comprehensive assessment of modifiable falls risk factors for all acute admissions above the age of 65 years, with particular attention paid to the management of osteoporosis where appropriate.<sup>5,6</sup>

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## Updated nomenclature of delirium and acute encephalopathy: statement of 10 societies

Patients with acute illness can commonly acquire an acute, global disturbance in cognition – affecting one-third of patients over the age of 70 years who are admitted to hospital.<sup>1,2</sup> It is associated with increased long-term morbidity.<sup>3</sup> A better understanding of predisposing factors, prevention and management, represents an area of unmet clinical need.

A recent article in *Intensive Care Medicine* tackles the variable terminology used to describe acute cognitive dysfunction (delirium, encephalopathy, acute confusional state, acute brain failure and altered mental status).<sup>4</sup> Through an extensive literature review, the authors demonstrate that use of the terms 'encephalopathy' and 'delirium' are favoured separately by investigators from different disciplines; neurology, neurosciences, general/internal medicine journals published more articles with

**Table 1. Standardised nomenclature associated with acquired acute cognitive dysfunction**

Name	Definition	Time course	Cause
<b>Acute encephalopathy</b>	Change from baseline cognitive status.	Rapidly developing (<4 hours).	Pathobiological process in the brain.
<b>Delirium</b>	Disturbance in attention, cognition and awareness, not explained by another neurocognitive disorder or reduced level of arousal.	Hours to few days. Tends to fluctuate.	Direct physiologic consequence of another medical condition, intoxication, withdrawal, toxin exposure or multiple aetiologies.
<b>Coma</b>	Severely depressed responsiveness.	Variable.	May follow acute encephalopathy or delirium.

'encephalopathy' in the title, whereas geriatrics, psychiatry and intensive care / anaesthetics journals published more articles with 'delirium' in the title. This segregation in the literature leads to confusion and poses a barrier to research in the field more broadly.<sup>4,5</sup>

The aim of this consensus statement is to standardise the nomenclature associated with acquired acute cognitive dysfunction. Definitions were created, refined and voted on using the modified Delphi method by an international panel of experts from a range of disciplines (Table 1).

The panel recommends that these terms should not be used: 'acute confusional state' (use delirium or acute encephalopathy instead); acute brain dysfunction; brain failure; and altered mental status. ■

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