

## Evidence table: Falls prevention

Reference	Evidence level (I-VII)	Key findings, outcomes or recommendations
<p>Yifan Xu., <b>Paediatric Patient Falls: Prevention</b>. Evidence Summaries – Joanna Briggs Institute. Adelaide: Jan 15, 2009</p>	<p>V</p>	<ul style="list-style-type: none"> <li>• In 2004, an estimated 46,000 children died from falls worldwide</li> <li>• Falls rank as the 12<sup>th</sup> leading cause of death among 5-9 year olds and 15-19 year olds</li> <li>• A study exploring falls in hospitalised children identified the three most significant factors: history of falls, altered mental status (episodes of disorientation), and impaired gait</li> <li>• Children less than 3 years have developmental differences in ambulation, which could make them more susceptible to falls, and the hospital is a new environment with unfamiliar surroundings and equipment, where the child is at greater risk for an unanticipated fall</li> <li>• A high number of fallers who had a caregiver in attendance, merely having someone in the room did not prevent falls in hospitals. Educating families about the increased risk for falls in the hospital and what interventions are effective towards preventing falls is important</li> <li>• Parents and health care workers should be aware that because children are in an unfamiliar environment and may have an impaired gait or episodes of disorientation associated with their illness, the child is further predisposed to falls</li> <li>• Children who are hospitalised should be closely monitored and assisted when performing activities such as going to the bathroom and getting out of bed because these activities were found to contribute to falls</li> <li>• Due to lack of evidence focusing on falls prevention for hospitalised children, future studies are needed to validate effective preventative nursing interventions</li> <li>• A screening program is only useful if there is also effective treatment or intervention available for patients identified as 'high risk'</li> </ul>

<p><i>Jamerson, J., Adlard, K., Akre, M., Barton, S J., Bennett, C., Brewer, M A., Bufe, G., Cooper, C L., Fields, H W., Graf, E., Kerby, R., Hill-Rodriguez, D. <b>Paediatric falls: State of Science.</b> Paediatric nursing July-August 2009. 35(4), 227-231</i></p>	<p>VII</p>	<ul style="list-style-type: none"> <li>• The hospital environment differs from the home environment, risk for falls is greater due to physiological factors, medications, toileting needs and use of equipment</li> <li>• Five significant risk factors were identified:             <ol style="list-style-type: none"> <li>1. Length of stay greater than 5 days</li> <li>2. An orthopaedic diagnosis</li> <li>3. Seizure medications</li> <li>4. Being IV free</li> </ol> </li> <li>• One third of paediatric falls are accidental</li> <li>• 6% attributable to unpredicted physiologic factors</li> <li>• 61% of falls were anticipated in part due to due to normal child growth and development patterns.</li> <li>• Adult tools poorly predicted the risk of paediatric falls</li> <li>• Parents were noted to be in attendance for the majority of falls</li> <li>• Incidents usually involve a fall out of bed, while ambulating, a slip on a wet surface or a trip over an item.</li> <li>• 81% of hospitals surveyed used a fall risk assessment tool that was developed internally, 11.5% used the GRAF PIF and 7.7% used the Humpty Dumpty Falls Assessment Tool</li> </ul>
<p><i>Rasmus, I., Wilson, D., Smith, R, Newman, E. (2006) <b>Falls in Hospitalised Children.</b> Paediatric Nursing. 32(6), 568-572</i></p>	<p>V</p>	<ul style="list-style-type: none"> <li>• Nurses decrease potential harm in children by understanding common patterns of injury and educating parents against injury prevention</li> <li>• The three most significant factors identified in this study were history of falls, altered mental status (episodes of disorientation) and impaired gait.</li> </ul>

<p><i>Rasmus. I., Wilson. D., Smith. R., Newman. E. Falls in Hospitalised Children 2006 Nov-Dec. 32(6):568-72.</i></p>	<p><b>VI</b></p>	<ul style="list-style-type: none"> <li>• Having someone in the room did not prevent falls</li> <li>• Beds are involved in a significant number of pediatric falls. Most hospital beds are not designed so that small children can easily get in and out of bed without falling.</li> <li>• The presence of side rails doesn't guarantee fall prevention in small children.</li> <li>• Episodes of disorientation and fall history were the best predictors of pediatric falls for this sample.</li> <li>• Children have some of the same and different risk factors for falls when compared to adults. <ul style="list-style-type: none"> <li>○ The similarities between children and adults in regards to activities involved in falls included getting out of bed and attempting to go to the bathroom.</li> <li>○ Key difference between the two groups is that children less than 3 years of age have developmental differences in ambulation, which could make them more susceptible to falls.</li> </ul> </li> <li>• The type of injuries that children experienced were different from adults, children hit their heads on hard objects whereas adults typically injure their hips.</li> <li>• It is also unclear how many non-injured pediatric patient falls were not reported due to the developmental stage of the child</li> </ul>
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# The Hierarchy of Evidence

The Hierarchy of evidence is based on summaries from the National Health and Medical Research Council (2009), the Oxford Centre for Evidence-based Medicine Levels of Evidence (2011) and Melynyk and Fineout-Overholt (2011).

- I Evidence obtained from a systematic review of all relevant randomised control trials.
- II Evidence obtained from at least one well designed randomised control trial.
- III Evidence obtained from well-designed controlled trials without randomisation.
- IV Evidence obtained from well designed cohort studies, case control studies, interrupted time series with a control group, historically controlled studies, interrupted time series without a control group or with case- series
- V Evidence obtained from systematic reviews of descriptive and qualitative studies
- VI Evidence obtained from single descriptive and qualitative studies
- VII Expert opinion from clinicians, authorities and/or reports of expert committees or based on physiology

Melynyk, B. & Fineout-Overholt, E. (2011). *Evidence-based practice in nursing & healthcare: A guide to best practice (2<sup>nd</sup> ed.)*. Philadelphia: Wolters Kluwer, Lippincott Williams & Wilkins.

National Health and Medical Research Council (2009). *NHMRC levels of evidence and grades for recommendations for developers of guidelines* (2009). Australian Government: NHMRC.

[http://www.nhmrc.gov.au/files/nhmrc/file/guidelines/evidence\\_statement\\_form.pdf](http://www.nhmrc.gov.au/files/nhmrc/file/guidelines/evidence_statement_form.pdf)

OCEBM Levels of Evidence Working Group Oxford (2011). *The Oxford 2011 Levels of Evidence*. Oxford Centre for Evidence-Based Medicine. <http://www.cebm.net/index.aspx?o=1025>