Children with cerebral palsy fall often, and we still don't know why…

A narrative review exploring the missing link between falls and daily environments

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Introduction

What is CP?

Cerebral palsy (CP) is a neurological condition. It is one of the **most** common causes of childhood motor disability[1], affecting how children walk.

35% of children with CP report falling daily, 30% report weekly or monthly[2], yet reasons for falls are unknown. Walking in replicated daily environments such as stepping over obstacles may give better insight on why daily falls occur[3], but literature is yet to be summarised.

Research question: Do daily walking challenges contribute to a high fall risk for children with CP?
Research aim: To summarise whether daily walking challenges impact stability for children with CP.

Methods

5 databases searched → Titles and abstracts screened with inclusion criteria → **8 articles included** → **3 types of environment**

Results

Uneven Surfaces

3 papers [4,5,6]

Children ↑ step height and width

= altered walking to improve stability

image: Freepik.com

Obstacle Crossing

2 papers [3,7]

Children ↑ step height & width but **also ↑ torso movement**

= altered walking with some instabilities

image: Freepik.com

Incline Walking

3 papers [8,9,10]

Typical changes to walk, but some **walked on toes**

= altered walking with some instabilities

image: Freepik.com

Conclusion

Children with CP adapted walking patterns to compensate for instabilities caused by environments. Yet increased torso movement and toe-walking may still reduce stability and so compensations **may** be inadequate for fall prevention, however more research is required.

The **limited number of studies** represents an overall lack of research, which may partly explain the wider uncertainty regarding causes of falls overall for children with CP.

Future research might also consider how vision contributes to fall prevention due to the greater sensory demand of daily environments[3]. The research team for the current review will look to investigate these factors in upcoming work through a series of walk and talk interviews with children with CP.

References
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