



KEY POINT SUMMARY

OBJECTIVES

The main purpose of the study was to review relevant research on flooring materials in healthcare settings that may reduce the likelihood of injuries resulting from falls.

Flooring as an Intervention to Reduce Injuries from Falls in Healthcare Settings: An Overview

Drahota, A., Gal, D., Windsor, J.
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Key Concepts/Context

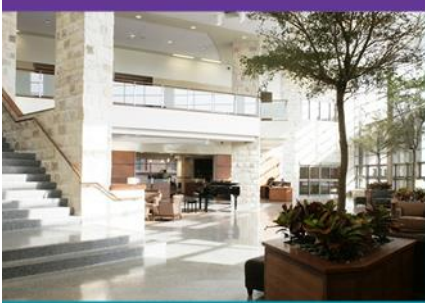
As the elderly population grows, the risk of falls in healthcare settings and of injuries resulting from falls will increase, as this population exhibits higher risk for falling due to age-related factors. Researchers have long focused on variables that impact fall prevention in healthcare settings; yet, since prevention of all falls is not possible, and about 30% of patient falls result in injury, there is growing interest in understanding strategies for injury prevention, to reduce the more serious cost and health implications of falls. The researchers conducted a systematic review of the literature, looking at hospital environments, flooring types, and patient health-related outcomes including falls and injuries.

Methods

A comprehensive review of the literature was conducted. This included a Cochrane systematic review, which honed in on hospital environments and patient health-related outcomes. Other components of the search for literature focused on studies that looked at flooring materials, falls, and injuries from falls.

Findings

The review of literature suggests that selecting appropriate flooring materials for healthcare environments is one potentially promising option for reducing fall-related injuries. Unfortunately, most studies to date do not use rigorous study designs, nor do they detail the types of flooring and subflooring materials being compared. With the evidence that does exist, the authors conclude that concrete subfloors result in more injuries from falls than wooden subfloors.



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Limitations

There are very few rigorous, experimental studies conducted on this topic, suggesting that more research is needed to determine the best types of flooring materials to reduce injuries from falls in hospital settings. Lab studies and simulation studies that measure impact forces of flooring materials are limited in their generalizability due to the inability to simulate more complex human variables such as bone strength, fall dynamics, and muscle contraction.

Design Implications

For healthcare facilities, there is value in selecting proper flooring materials to reduce injuries from falls. While this article cannot definitively point to a specific type of flooring based on rigorous experimental research, evidence is starting to build a case for the use of nonconcrete subfloors. Additionally, use of underlays with shock absorbency may be an important component of flooring materials, but more testing is needed. There is also a need to better understand what types of vinyl and what types of carpeting seem to get the best results in combination with different types of underlays.