Industry Factsheet

Ceiling hoists as a method of transferring people with disabilities

PEER REVIEWED

Purpose

The purpose of this factsheet is to support service providers and tradespeople with regard to the installation of ceiling hoists in the homes of older adults and people with mobility impairment. It summarises available information about the potential effectiveness of ceiling hoists when installed in a private home to assist with lifting and transferring tasks. It also provides information about personal and environmental characteristics to be considered to maximise the usability of ceiling hoists.

This factsheet supplements the HMinfo Clearinghouse document **Industry Checklist: Ceiling Hoists as a Method of Transferring People with Disabilities**, highlighting critical information about each item on the checklist. However, it is acknowledged that it does not provide extensive detail. This factsheet is intended for people prescribing and installing ceiling hoists for elderly people and people with mobility impairment. This includes suppliers and manufacturers of ceiling hoists, occupational therapists, architects, and builders.

This paper translates research results from a systematic review, **Evidence Based Research: The Effectiveness of Ceiling Hoists in Transferring People with Disabilities**, completed by HMinfo Clearinghouse in 2009. A complete list of evidence was provided in relation to the effectiveness of ceiling tracking hoists through the systematic review, available on the Evidence Based Practice Reviews page in the Resource Library at www.homemods.info.

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Policy Contexts

The 'ageing in place' policy encourages elderly people to remain in their homes within their local communities. However, the fact that the physical demands of caring results in acquired disability among caregivers looms as a challenge to the policy, and has an impact on the quality and quantity of care given. In healthcare settings, the high rate of musculo-skeletal injuries among caregivers has led to the adoption of 'no-lift policy.'

Health Department no-lift policy in Australia states that the manual lifting is to be eliminated in all but exceptional or life-threatening situations. It recommends that people use mechanical handling aids whenever possible to reduce the risk of injuries. Although the policy does not directly apply to private home caring, the implications of the policy are restricted to clinical facilities. This is because there are, as of 2003, as many as 2.6 million household carers (13% of the total population) in Australia and the number is expected to continue to grow due to the ageing of the population.

Ceiling hoist basics

Ceiling hoists have emerged as a working solution to potentially harmful physical stress, and provide more comfort and ease for users. This technology supports vertical and lateral transfers with minimal manual manipulation. Typically ceiling hoists are suspended from a mounted track fixed on the ceiling, which allows a person in a sling attached to the track to perform mobility activities within the coverage of the track.

There are a variety of designs within ceiling hoist systems: fixed or portable according to the portability of the lifting unit, single or multiple track system, and straight, angled or multi-directional track systems. There are also a number of types of slings. Different types of ceiling hoists are expected to have different effects on the handling of people with disabilities. Therefore, attention has to be given to the different efficacy of design attributes of ceiling hoists, such as their size, shape, weight capacity and so forth, when installing them.

What are the advantages of ceiling hoists?

Research has identified strong evidence that ceiling hoists significantly decrease musculo-skeletal injuries and physical stress among care-givers. Compared to mobile hoists and manual handling, ceiling hoists increased care-givers' subjective comfort and job satisfaction, and improved dignity and safety among the users during the movement. Ceiling hoists required fewer assistants to undertake the transfer task and less time than mobile hoists. Improved manoeuvrability and less susceptibility to spatial restrictions have also been well documented. Ceiling hoists proved their true merits in small-spaced environments with environmental obstacles such as thresholds and carpeted floor.

What regulations are relevant to ceiling hoists?

A number of aged care facilities and hospitals in Australia are participating in the no-lift policy. However, participation is non-compulsory and it is unclear whether the policy is applicable to home caring. Relevant architectural regulations can be found in the International Organisation for Standardisation (ISO). ISO 10535 stipulates safety requirements and test methods of the hoists for the transfers of people with disabilities. The Australian Standard complies with ISO, and it is recommended that all ceiling hoists are manufactured in accordance with ISO 10535 criteria. This standard covers generic hoists including mobile and stationary hoists, and contains the important design principles of ceiling hoists.

What user characteristics need to be assessed?

A person's functional ability and the severity of mobility impairment will determine the installation of a ceiling hoist. Ceiling hoists are best for those people who are unable to transfer without human and mechanical assistance, and for their assistants who have high risk of injuries during the activity. Ceiling hoists are not recommended for those whose impairments are transient in nature and are likely to resolve within a short period.

Ceiling hoists can promote independence and reduce the amount and type of assistance required. Physical status such as weight and size (and potential weight gain) should be considered with regard to the capacity of a ceiling hoist. Experts agree that the efficacy of ceiling hoists increase when transferring heavier people because mobile hoists are more difficult to move when loaded.

What activities are to be assisted by ceiling hoists?

Theoretically, ceiling hoists can support any mobility activities including lifting, transferring and repositioning within their coverage areas. The X-Y track system can find vertical pick-up points at any height between floor and ceiling and carry a person to any destination within the track scope. However, research results imply that reduction in musculo-skeletal injuries and physical exertion in repositioning is less noticeable than in lifting and transferring. Although ceiling hoists can facilitate repositioning tasks both up and down and side to side, rolling a person either toward or away to prepare for a transfer is considered to be the most stressful action when using ceiling hoists. Therefore, to expect the maximum efficacy of ceiling hoists, lifting and transferring should be the main tasks. Frequency and distance of the activities which require ceiling hoist assistance are also the essential considerations in decision making.

What environmental considerations affect ceiling hoist installation?

Ceiling joists must be strong enough to bear the weight of a lifting unit and the user before installation. A gantry system can be a solution to weak joists, spatial utility will be decreased.

The number of rooms and the structure of the tops of doors should also be taken into account to make sure that ceiling hoist traverse freely across the rooms.

If ceiling hoists are to be installed in a unit or flat, special attention needs to be paid to the noise from the motor, and sound insulation may be required. As ceiling hoist installation involves structural modifications, permission from the property owner has to be obtained prior to any installation proceeding.

In summary

Regulations

- Must comply with ISO 10535.
- Personal characteristics of user.
- Significant projected improvement in the transfer process and level of safety for carers and users.
- The user's physical characteristics are appropriate for this kind of transfer process.

Activities

- Frequency of lifting and transferring.
- Distance between activities (for example, from bedroom to bathroom).

Environmental considerations

- Are there any spatial restrictions or structural obstacles for the mobile hoist?
- Consider ceiling joists, number of rooms, tops of doors etc.
- Level of noise during the operation.

Other considerations.

- Permission from the property owner.

***This information was correct at time of printing.*