



Our stated mission is “to develop a leading edge Home Modification information clearing project designed with the assistance of, and accessible to, the full range of industry and consumer target groups.”

The Effectiveness of Ceiling Hoists during the Bed-to-Chair Transfer

By Yong Jung

It has been reported that the physical demands of caring results in acquired disabilities among care givers (Bridge et al., 2006), exposing carers to one of the highest rates of work-related disorders (French et al., 1997). Discomforts and injuries among care-givers can have negative impacts on the caring performance and, as a consequence, decrease patient safety and comfort. Despite the development of patient lifting equipments, manual handling has been the most common approach so far (Nelson & Baptiste, 2004). As a response to the prevalence of injuries among carers, ‘no-lifting policy’ was enacted by the Australian Nurses Federation in 1998, which encourages the use of mechanical handling aids.

Among many kinds of mechanical devices, ceiling hoists are becoming a more popular choice (Clark, 2003; Nelson & Baptiste, 2004). Ceiling hoist refers to a patient handling technology which is suspended from mounted tracks fixed on the ceiling. It allow patient in a sling attached to the track to perform mobility activities within the coverage of the track, and to support vertical and lateral transfers of patients with minimal patient manipulation.

This systematic review established the framework for a comprehensive evaluation of the use of ceiling hoists, and included the following aspects: physical stress of care-giver, non-physical benefits of care-giver, safety and comfort of patient, patient dependency on care-giver, transfer time, spatial utility, cost-effectiveness, and physical function of patient. This review provides evidence that ceiling hoists significantly decrease musculo-skeletal injuries and physical stresses among care-givers (Chhokar et al., 2005;

Engst, Chhokar, Miller, Tafe, & Yassi, 2005; Ronald, Yassi, Spiegel, Tate, & Mozel, 2002; Silverwood & Haddock, 2006; Spiegel et al., 2002; Villeneuve, 1998). Despite few contrary outcomes shown in previous studies, research demonstrates that ceiling hoists are given a far higher preference from both care-givers and patients compared to mobile hoists and manual handling, as they increase care-givers’ subjective comfort and job satisfaction, and patient dignity and safety during the movement (Engst et al., 2005; Miller et al., 2006; Nelson et al., 2003; Villeneuve, 1998). Ceiling hoists required the least assistant to fulfill the transfer task and less time than mobile hoists. Improved maneuverability and less susceptibility to spatial restriction of ceiling hoists have also been well documented. In particular, ceiling hoists prove their true merits in transferring heavy patients in small-spaced split-level environments with thresholds and carpet floor. In spite of the up-front installment cost, ceiling hoist system is found to be cost-effective in the end.

Despite evidential proofs, it should be noted that there are many under-tested issues regarding the efficacy of ceiling hoists. Ceiling hoists alone can not always be an ultimate solution for safe patient transfer. The analysis results of this review suggests that the utility of manual handling based on biomechanics and other devices including mobile hoists is still valid as integral parts of safe patient transfer. Home design implications drawn from this review include lowered ceiling heights, strong ceiling joists, and the top of the door between rooms which allows ceiling hoists to be freely traversed.

References:

Bridge, C., Phibbs, P., Kendig, H., Mathews, M., & Bartlett, H. (2006). The costs and benefits of using private housing as the 'home base' for care for older people: a systematic literature review: AHURI: Australian Housing and Urban Research Institute.

Chhokar, R., Engsta, C., Millera, A., Robinsona, D., Tatea, R. B., & Yassi, A. (2005). The three-year economic benefits of a ceiling lift intervention aimed to reduce healthcare worker injuries. *Applied Ergonomics*, 36(2), 223-229.

Clark, T. (2003). Getting Better All the Time. *Contemporary Longterm Care*, 26(3), 26-31.

Engst, C., Chhokar, R., Miller, A., Tafe, R. B., & Yassi, A. (2005). Effectiveness of overhead lifting devices in reducing the risk of injury to care staff in extended care facilities. *Ergonomics*, 48(2).

French, P., Flora, L. F. W., Ping, L. S., Bo, L. K., & Rita, W. H. Y. (1997). The Prevalence and cause of occupational back pain in Hong Kong registered nurses. *Journal of Advanced Nursing*, 26(2), 380-388.

Up Coming Research: The Use of Colour In The Home Environment of

By Dr. Navit Gohar

There is a growing interest in the effects of the physical environment on the health and well being of the elderly and disabled population (Devlin & Arneill, 2003). Research that investigated the relationship between some particular environmental properties such as the interior architecture (e.g. Verderber and Fine, 2000) and lighting (Pitch & Bridge, 2006) on patients' health have pointed out that a supporting environment should promote the individual ability to function and orient independently in it. Given that the elderly population is prone to develop age-related impairments in vision and mobility (Mitchell et al., 1997; Tielsch et al., 1995) strategies that address the visual or mobility barriers to independent living are becoming critical. The natural diminish of vision processes associated with increasing age is know to affect acuity, accommodation, speed of adaptation to change and a variety of perceptual disabilities such as blurring, decrease spatial abilities, loss of colour discrimination etc. (Wijk et al., 1999; Wijk & Sivik, 1995). One strategy that has been suggested as a means of compensating for the decreased visual ability of elderly persons is the use of contrasting colour cues to increase environmental legibility

Miller, A., Engst, C., Tate, R. B., & Yassi, A. (2006). Evaluation of the effectiveness of portable ceiling lifts in a new long-term care facility. *Applied Ergonomics*, 37, 377-385.

Nelson, A., & Baptiste, A. S. (2004). Evidence-Based Practices for Safe Patient Handling and Movement. *Online Journal of Issues in Nursing*, 9(3), 1-26.

Nelson, A., Lloyd, J., Menzel, N., & Gross, C. (2003). Preventing nursing back injuries: Redesigning patient handling tasks. *AAOHN*, 51(3), 126-134.

Ronald, L. A., Yassi, A., Spiegel, J., Tate, R. B., & Mozel, M. R. (2002). Effectiveness of installing overhead ceiling lifts: Reducing musculoskeletal injuries in an extended care hospital unit. *American Association of Occupational Health Nurses (AAOHN)*, 50(3), 120-127.

The full article will be available soon online www.homemods.info

The Elderly and Visually Impaired Individuals.

(Cooper, Mohide & Gilbert, 1989; Cooper & Barnes, 1995).

However, there is a lack of systematic research on the use and effect of colour on the living environment of elderly population. The aim of this systematic review is therefore to identify and review the effectiveness of the use of colour and colour contrasts around the house to enable elderly and individuals with vision impairment to safely and independently move around their dwellings. More specifically, the main objectives of this research involve the investigation of ways in which the application of colour can promote function through both coding and cueing, and to prevent elderly or disabled persons from becoming disoriented. Colour coding is the systematic, consistent use of colour as an association device (for example the identification of a person's bedroom) whereas, colour cueing refers to non-specific use of colour as a signal (e.g. colour contrast to facilitate orientation).

The research question was refined into an operational format to allow for a systematic search of the literature. A systematic review methodology has been adopted to investigate the research

questions and which involves searching electronic databases, grey literature as well as legislation and manufactures specifications. Over 100 papers published between 1980 and 2008 have been identified so far and are currently scanned and analysed according to the study inclusion and exclusion criteria. A matrix for the analysis of the information collected has been created and its completion is currently in progress. The analysis of the material and the final results of this review should be published on the Home Modification website www.homemods.info in the next few months.

References:

Cooper, B., Mohide, A., & Gilbert, S. (1989, September). Testing the use of color in a long-term care setting. *Dimensions in Health Service*, 66, pp. 22, 24-26.

Cooper Marcus, C., & Barnes, M. (1995). Gardens in healthcare facilities: Uses, therapeutic benefits, and design recommendations. Martinez, CA: The Center for Health Design.

Devlin, A. S., & Arneill, A. B. (2003). Health Care Environments and Patient Outcomes. A Review of the Literature. *Environment and Behavior*, Vol. 35, No. 5, 665-694.

Mitchell P, Hayes P, Wang JJ. Visual impairment in nursing home residents: the Blue Mountains Eye Study. *Med J Aust*. 1997;166(2):73-76.

Pitch. M., & Bridge. C., (2006). Lighting your way into home modifications. *Promoting Independence for Older Persons with Disabilities*, Vol 18, 181-191.

Tielsch JM, Javitt JC, Coleman A, Katz J, Sommer A. The prevalence of blindness and visual impairment among nursing home residents in Baltimore. *N Engl J Med*. 1995, 332(18), 1205-1209.

Wijk, H. and Sivik, L. (1995) Some aspects of colour perception among patients with Alzheimer's disease. *Scand. J. Caring Sci*. 9(1), 3±9.

Wijk, H., Berg, S., Sivik, L. and Steen, B. (1999) Colour discrimination, colour naming and colour preferences in 80-year-olds. *Aging Clin. Exp. Res*. 11(3), 176-185.

Latest Events & Training

Unity Strength and Innovation. 2008 Biennial Conference of the NSW Home Modification and Maintenance Services State Council. September 1 - 2. Leura NSW.

21st Rehabilitation International World Congress. Quebec City, Montreal Quebec, Canada. 25 Aug 2008.

Creating the Future: OT Australia 23rd National Conference and Exhibition 2008. Melbourne. VIC

Ctrl+Click on the word to go to listed [events](#) and [training](#)

Featured Web Site:

Irish National Disability Authority.

The Irish National Disability Authority was established in 2000, and is the lead state agency on disability issues, providing independent expert advice to Government on policy and practice. The authorities' web site is located at <http://www.nda.ie/cntmgmtnew.nsf>.

This site has an excellent array of resources under the following headings; Home, Education, Health, Employment, Training, Transport, Income, Housing, Accessibility, Attitudes and Equality. Each of these headings has a range of information as sub headings including technical publications, policy and related information sites.

The area of greatest interest to Home Modification services would be Accessibility. This includes a subheading on the Built Environment. Within this subheading is an overview of different subject areas and list of publications and resources. Publication included; Access Audit Guidelines, Access Handbook Template and

New Publications:

- [Identifying Barriers to Home Modifications: Systematic Review](#)
- [Grabrail self-installation leaflet](#)
- [Modify or Move: Summary Bulletin](#)
- [Home Water Management: Summary Bulletin](#)
- [Modify or Move: Summary Bulletin](#)
- [Evaluation of the national and NSW HACC-funded home modification and home maintenance service usage as reported by the 2001/2002.](#)
- The Effectiveness of Ceiling Hoists during the Bed-to-Chair Transfer – soon out.

Ctrl+Click on an underlined publication to go straight to it!

Building for Everyone. These publications can be downloaded free of charge from the site.

The Authority also supports the 'Excellence through Accessibility Awards'. Available at <http://www.nda.ie/cntmqmtnew.nsf/0/9B9E40D1CAECAEC580256F85004F6F15?OpenDocument> The site has series of video clips which were shown at the 2007 Award Ceremony to provide guests with an insight into the benefits arising from participation in the ETA Award Scheme. These awards support associated strategies managed by the authority including; Building for Everyone and Centre for Excellence in Universal Design (CEUD).

The site is well organised, quick and easy to navigate. The information is up to date and links work. The site has multiple links to both European Union (EU) and UK policy and practice sites. Overall it is a good site and worth viewing.

Publication Review:

Publication Review: *Beyond Beige: improving architecture for older people and people with disabilities.* Garlick, B Jones, D & Luscombe, G.

(Ed.). (2008). The Royal Institute of Architects, Manuka.

Reviewed by Maree Porter

Sixth in the RIAA journal series TAKE, this publication is a collaboration of 13 articles by Australian academic researchers, architects, industry professionals, government and community representatives, who have a vested interest in architecture for older people and people with disabilities. The articles focus on the importance of how the design of built environments, are required to meet the diverse needs of an increasing ageing population, and contribute to "the creation of socially sustainable and inclusive communities" (p.20).

The individual articles raise important issues for service providers, industry professionals, builders, architects, government policy makers as well as consumers regarding accessibility, the changing demographic landscape and the challenges and benefits of removing barriers to living independently at home and being independent in the community.

The inadequacy of current infrastructure (such as roads, public transport and housing) to accommodate the growing population of ageing Australians (with a particular reference to 'baby boom' generation) is highlighted. A projection that the increasing ageing population will place a burden on available services and resources in urban and rural areas is a cautionary theme in several articles.

There are several pieces that will be of potential interest to Home Modification Services and Occupational Therapists. In particular, the piece, "I like living in my own home" by Harry Sprintz, Beverley Garlick, Debra Dean and Colin James (p183). This chapter contains a series of small pieces by Architects and people with functional disabilities telling their own stories about housing and homes and the challenges they have faced and met. In the case of the residents, it's about what is important for them and what works. For the architects, it's about design for people and their reflections on this. Such as Colin James talking about housing for older Aboriginal people in Redfern NSW.

The piece by Dr Catherine Bridge, "Creating no-step entrances" and the issues surrounding entry and egress from buildings provides useful information as a reminder of what is possible and the costs of not

improving housing. Dr Bridge cites¹ the cost each year in Australia of home related injuries at \$2,369 million for older people and \$660 million for children.

Overall this book is a useful introduction improving architecture for older people and people with disabilities.

HMinfo Background

Our team brings together a range of experience. The Directors are Catherine Bridge from School of Occupation and Leisure Science, Faculty of Health Sciences, The University of Sydney and Peter Phibbs from the Urban Research Centre, University of Western Sydney. John Pimping and Katrina Chaudhary recently left the HMinfo to undertake new professional challenges. Lyndal Millikan is currently on a maternity leave and will return to the HMinfo on July this year. Andrew Clark, who has done some work in the HMinfo in the past, recently joined our research team, which also includes Maree Porter, Dr. Navit Gohar and Yong-Moon.

Editor: Dr. Navit Gohar

How to contact us

Home Modification Information Clearinghouse
Faculty of Health Sciences
East St,
PO Box 170
Lidcombe, NSW 1825

Phone: 612 9351-9215

Fax: 612 9351-9197

¹ Atech Group 'Health and Safety Risks in Buildings report' Canberra, ACT, Australian Buildings Board Code, 2003.