

## MANUAL HANDLING RISK MANAGEMENT IN HEALTH CARE USING MANUTENTION

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**Abstract** - The high cost of manual handling injuries in health and community care workers has led to radical interventions in the late 1990's. A broad risk control approach accompanied by a complete ban on lifting has been introduced in many nursing environments. However the physical demands on health carers are broader than lifting and are closely linked to the need to assist patients to rehabilitate to optimum function or risk increased dependency of patients, thereby increasing handling demands on carers.

Manutention is a system of manual handling, with particular application to the handling of people. It acknowledges the importance of skilled performance as part of the ergonomic system of person-equipment-environment. The Manutention system takes a total risk control approach which aims to change patterns of manual handling behaviour and to increase safety, comfort and efficient outcomes for both carer and client, without lifting.

In this paper case studies illustrate a risk management approach including implementation of the Manutention system into care environments with dramatic decreases in injury rates.

### INTRODUCTION

Approximately 25% of work related injuries across the industrialised world are back injuries. In addition a varying percentage of other manual handling related musculoskeletal disorders (MSD) feature highly in the workers' compensation statistics. Manual handling pervades all aspects of life and work based solutions appear to be part only of the solution to the resultant MSD. However some industries show very high injury rates and are clearly more risky than others. Particularly in female employment carers in health and community provide injury statistics pointing to the high cost of handling human beings. Epidemiological evidence would suggest that some factors are more likely to cause injury, such as high force, high repetition, awkward postures (forward reaching, bending, twisting and working above the shoulders) and unexpected movement of loads. Quantification of risk from these factors is far from simple. Literature covering specific tasks and risk factors abounds, yet the outcome of repeated poor manual handling posture over time remains largely unexplored, although alluded to as a risk. The measurement of manual handling risk is not nearly so straight forward as is, for example, the measurement of the dose-effect of a chemical.

The hierarchical risk control approach now taken in reducing the cost of manual handling injuries has much to recommend it. This paper makes an argument for the need to retain appropriate skill and training as an important part of risk control, particularly where manual handling relates to the handling of people.

## **MANUAL HANDLING IN HEALTH AND COMMUNITY CARE**

There has been considerable preventive action in the health and community care sector, that is, those industries involved in the complex needs of handling human beings. In Australia, for example, the recent Victorian Manual Handling Regulations (1999), which are part of the Occupational Health and Safety Act (1985), have specified handling of people as a specific case where manual handling risk assessment must be performed. A broad risk control approach accompanied by a complete ban on lifting has been introduced in many nursing environments. This approach has support from the nursing union (ANF, 1998), and replicates the approach taken in several countries by nursing bodies and unions.

However the physical demands on health and community carers are much broader than 'lifting'. This industry is aimed at assisting people with illness or injury, age-related or physical disabilities to maintain or rehabilitate to optimum function. A risk control strategy of eliminating or decreasing manual handling may decrease the immediate demands on carers but must be balanced against the duty of care to clients to maintain maximum independence, and in the long run a decrease in handling may lead to an increase in dependency and the need for manual handling. Thus workers in this industry must have a specific approach to manual handling which may not always easily fit the risk control hierarchy as closely as more mechanical industries.

## **MANUTENTION**

Manutention is a system of manual handling, with particular application to the handling of people (Dotte, 1979). It does not replace the need for appropriate design of the environment and equipment and adequate work design, but acknowledges the importance of skilled assessment and performance of handling, as part of the ergonomic system of person-equipment-environment. The Manutention system aims to change patterns of manual handling behaviour, using natural movement patterns; to decrease back strain and energy expenditure; and to increase safety, comfort and efficient outcomes for both carer and client, without lifting. In its application to people handling it places great emphasis on assisting and encouraging the client to retain or regain their physical independence.

Manutention is part of a total risk control approach but endorses a view that manual handling is a skill which can be taught and that to become proficient in the skill behavioural change is required. The model of skill-based learning is widely applied in the training of operators in human factors of complex environments so that performance becomes automatic and does not require conscious control (Rasmussen, 1987). Despite this, manual handling is rarely acknowledged as a skill. The adequacy of training as part of a preventive program may thus be compromised by inadequate or limited methodologies, such as using didactic training only or inadequate practice opportunities (Kroemer, 1992).

Manutention takes the broad risk control process to a level of personal skill acquisition in a far more specific way. Particularly in the health field, it accepts that the concept of 'lifting' is but one small part of the handling people perform. Teaching workers the ability to assess the environment, the task and the human factors, while learning skills to protect their bodies leads to an intelligent approach not only to work but to manual handling in life in general.

## **RISK MANAGEMENT AND TRAINING**

Under occupational health and safety legislation in Australia the employer must provide a safe and healthy workplace in which employees perform manual handling. This includes safe working environments, furniture and equipment, work practices, and the provision of training. Under the accompanying manual handling legislation, organisations are required to manage manual handling risks in a systematic way by identifying hazards, assessing or quantifying the risks and applying risk control strategies. The use of information, training or instruction must only be used where no other means of risk control are practicable (Victorian WorkCover Authority, 1999). Training is thus at the lowest level of risk prevention.

Studies addressing the outcomes of manual handling training in themselves are difficult to design, often only addressing injury rates and costs as the outcome of training. Kroemer (1992) addresses this issue at some length and points to the inadequacies of the training methods and the research methodologies. Numerous papers have attempted to evaluate training, but without a multifocal preventive program, the success of training in handling techniques cannot be easily isolated, particularly in a complex applied setting, such as a workplace.

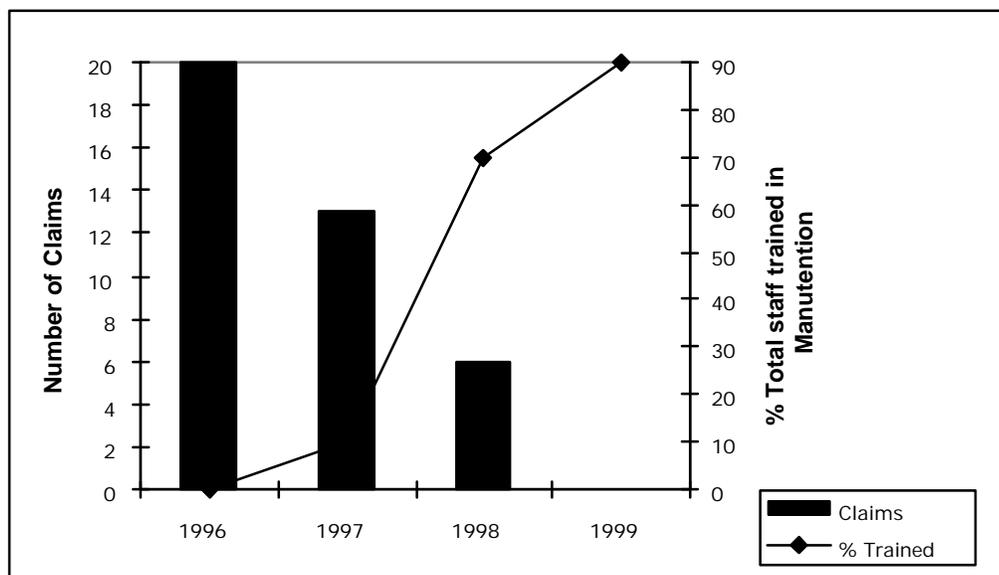
In a well controlled workplace study we found that manual handling skills in a trained group were very much better than in a control group at the end of training and at three and twelve months follow ups. Acceptance and morale were high, but the long term outcomes of injury and cost were not influenced positively (Best, 1997). A previous attempt to introduce Manutention training to a representative group of hospital workers showed that the isolation of this training had good outcomes for those trained, but did not address the overall outcomes for the organisation (Best, 1995). An unmeasured factor became evident in each case, differences in local management practices and local commitment to a total risk management approach.

Two case examples of the introduction of Manutention in health and community care follow to illustrate the use of skills training as part of an overall risk approach.

### CASE STUDY 1

A large nursing home complex introduced Manutention training in late 1996. The process was one of comprehensive training of a small number of mentors. These staff were given skills in risk assessment and control of manual handling situations, in general protective behaviour and specific handling situations, and finally in teaching these skills to other staff. By 1997 10% of all staff were given ongoing training and by 1999 90% of staff had been trained. Supervision, monitoring and mentoring were ongoing throughout the period. During this time lost time claims (all of which had been manual handling claims) fell from 20 in 1996 to 13 in 1997, 6 in 1998 and 0 in 1999. This is illustrated in Figure 1.

Figure 1: A comparison of staff numbers trained in Manutention and lost time claims in a nursing home



As with most interventions the introduction of this comprehensive training model was accompanied by new initiatives in environment and equipment design, in work practices related to client management, staff selection processes and introduction of strengthened policy and procedure documentation and implementation. The nursing home management however attributed, although naturally this is difficult to measure separately, the change process to the increase in skills and understanding that reached to all levels of staff.

Although some informal staff surveys indicated an increase in staff satisfaction and feelings of control, the only quantifiable measurable outcome was the decrease in lost time. This tends to indicate what is often referred to, but rarely able to be measured, good quality of people management leads to a satisfied, productive and safe workforce. Positive performance indicators of staff satisfaction, such as decreased staff turnover, decreased accidents and errors were difficult in this situation to measure, as staff turnover was already low and client accidents or incidents were already at a minimum.

## **CASE STUDY 2**

This case study refers to the implementation of a risk management program for direct carers within the Aged and Disability Service unit of a large local authority. One hundred and thirty employees of the Home and Community Care Program worked either as special carers or home helpers. Although assessments of home environments were made with each client, and minimum standards required of clients homes and behaviours, it is quite difficult to implement the hierarchy of risk control in a workplace which is essentially a series of homes and where the employee is usually operating alone.

The council had undertaken an overall risk management process, and the disability services unit of the council had higher accident rates than other business units. They also had a higher than industry insurance premium rate (Alsop & LeCouteur, 1999).

A program of induction and ongoing staff training, along with performance monitoring and supervision through a competency-based assessment tool was commenced late in 1997, using Manutention as the basis for training. The training was part of a national training accreditation process through the Technical and Further Education system (TAFE) and all direct care staff achieved a level of TAFE certification. An in-house health and safety team was developed including a full time nurse educator/evaluator and a part time carer. Evaluation of working environments was undertaken by this team. All clients made aware that service delivery could not be at the expense of the health and safety of the carers. All carers were given skills in assessing manual handling risks and there was a consultation process with management about the most appropriate risk controls. Skills in general manual handling and techniques specific to people handling were practiced and evaluated.

The results of this program have been excellent. Not only have claims and insurance premiums gone down, but the Service has been one of only 17 organisations to achieve advanced standing in SafetyMap (a risk management assessment tool developed by the Victorian WorkCover Authority and used widely in Victoria) and the Service has won the Victorian Training Award and Employer of the Year in 1999 and the Community Sector Training Award in 2000. Between 1997 and 2000, compensation claims reduced to zero and the workers compensation premium (industry average with variation bonus or loss depending on performance) reduced from 5.5% of remuneration to 2.66%. As with the first example, there is clearly a relationship between good occupational health and safety performance and commitment from management to the education, monitoring and support of the staff.

## **DISCUSSION**

Case studies are often used in occupational health to argue for the success or otherwise of programs which, in the uncontrolled setting of the workplace, cannot be introduced in an experimental manner, nor evaluated in a scientific framework. As with all such uncontrolled evaluations, they are open to bias and it is almost impossible to separate out parts of a systems approach to occupational health and safety.

In the high risk, high cost area of health and community care, an approach which increases the skills and competencies of staff, often previously untrained in any health or human services management, is needed to raise awareness of all aspects of manual handling risk.

This paper has argued that there is a definite place for a particular approach to risk management which does not deny the importance of training and education in manual handling risk management, particularly in the health and community sectors. It does not argue for an approach of 'teaching people how to keep their back straight and bend their knees', but rather for a systems approach to the skill of handling. This involves time and effort and teaching workers assessment skills to complement the behaviour change involved in learning to handle competently and with reduced effort.

Giving employees skills and knowledge empowers them. Rewarding their skills by formally accrediting them and consulting with them on risk matters can lead to not just a decrease in injuries and costs, but positive indicators of quality outcomes of work.

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