

A NEW APPROACH TO THE TEACHING OF LIFTING AND MOVING

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ABSTRACT

In the Electricity Supply Industry of Great Britain for many years the kinetic movement as first proposed by McClurg Anderson had been taught. The author became concerned about the failure of this teaching to produce results.

An investigation by a working party of the Industry is described which showed that the methods of teaching led to misconceptions, particularly that "straight back" became "rigid back".

A new training technique was devised with emphasis on methods of performing tasks rather than changing the way the body is used. The author contends that the commonsense approach to what is the commonest manoeuvre in all tasks is to teach the application of basic safety principles to lifting and moving.

In the Electricity Supply Industry of Great Britain since the 1950's, instructors in lifting and handling had been trained either at courses run by the Industry's own Training Centre or at similar courses organised by the Royal Society for the Prevention of Accidents which were based on the accepted interpretation of McClurg Anderson's teachings on kinetic movement¹. This approach was summarised in the six key factors:

- (1) proper hold
- (2) straight back
- (3) chin in
- (4) proper foot positions
- (5) arms in to body
- (6) use of body weight.

These factors were often accepted as the principles of kinetic movement.

These instructors gave classes of at most two days' duration, sometimes only of two hours, where they attempted to put over these principles to the work force.

The author became worried about the effectiveness of this form of teaching, when it was found that at the Apprentice Training School the boys were trained for two terms in the performance of their skills and then in the third term a lifting and handling instructor gave them a three-day course which their craft instructors said confused them. Direct discussions of this with Mr McClurg

Anderson elicited the information that in his opinion much of his work was being internationally misinterpreted.

A film "Your Move"² which attempted to relate his teachings to actual work in the Central Electricity Generating Board was made and the craft instructors were given a short course in the principles of kinetic movement. The objective was to relate from the very start lifting and moving training more closely to the job being taught, and away from separate subject classroom conditions. It was this thinking that was further developed in the work which is now described.

In 1974 the Safety Branch of the Industry, concerned that accidents classified as lifting and handling remained the greatest number of all accidents giving rise to more than three days' absence, set up a working party including the author to study the problem. After two years of looking at, not only the Electricity Industry but other British Industries, the working party were unable to find any evidence of real benefit in the long term from any training scheme then in existence, and the statistics suggested that in the Electricity Supply Industry, where great effort was going into campaigns on prevention of these accidents, the figures were worse than in manufacturing industry generally (Fig. 1).

The working party noted that by no means all accidents classified as lifting and handling were the injuries usually associated with these manoeuvres, i.e. back injuries, hernias etc., but were other injuries arising during lifting and moving, which after all, are the commonest operations performed in all types of work. They accepted, however, that in addition to accidents there was much sickness absence attributable to back conditions, tenosynovitis etc., which from clinical histories could be associated in the sufferers with poor methods of lifting and moving.

The working party therefore felt that while the principle of kinetic movement as propounded by McClurg Anderson was right as a method of preventing body damage, the usual method of interpreting it and teaching it was failing.

Misinterpretation by instructors was common because their approach was often based on a mechanistic comparison between the body and a machine which led to a series of static poses rather than a true dynamic approach. Poster campaigns etc. led to misinterpretation by the individual such that while the illustration was intended to show the correct movement the actual effect was to produce a rigid posture. Verbal instruction to "lift with a straight back and avoid bending" is also frequently translated by the operator into keeping the back rigid.

The apparent improvement achieved and reported by various firms after training sessions and/or publicity campaigns was probably a temporary "Hawthorne" effect. No evidence of a long-term improvement from such approaches could be found.

The working party made a number of recommendations regarding lifting and moving tasks amongst which was that "the question of teaching in this field should be examined and revised".

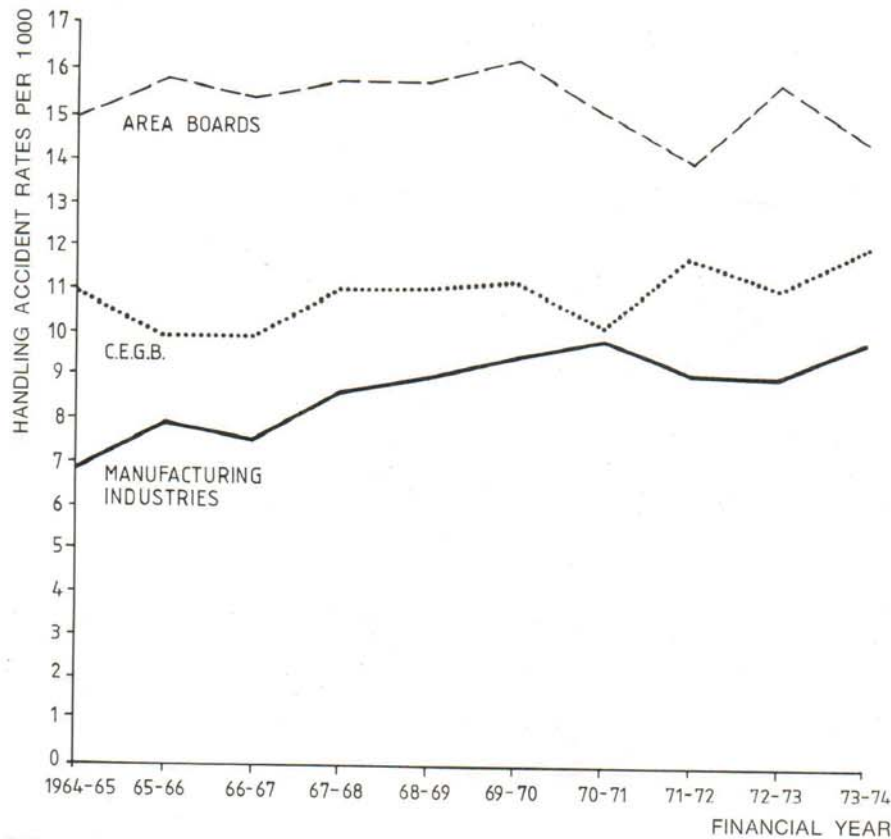


FIG. 1 - Handling incidence rates per 1000 employed persons in relation to a financial year. The data for manufacturing industries are for the calendar year nearest to the Electricity Supply Industry's Financial Year.

Another working party, this time of the Education Branch of the Industry with a safety officer and a doctor (the author), was set up and proceeded to analyse the problems facing an instructor who needed to train the work force to avoid lifting and moving injuries. They decided that the objective of training should no longer be to teach the performers of tasks to use their bodies in a different manner, since this was unachievable in any realistically available time. Dr Glover³ has said "there are so many structures in the back that we doctors don't really know what the cause of backache is"; how much less likely it is that an adult man with well established patterns of body movement will understand how to make permanent changes in these patterns from a few hours' teaching. Either the strong motivation of having experienced a personal injury or a willingness to undergo the long training schedules of the athlete are necessary to achieve such changes. These incentives are lacking in the majority of a work force.

The instructor's objective was in future to be teaching the whole work force – engineers, supervisors and shop floor workers – how to arrange the performance of the work in a manner which would reduce the risk of injury and would lead naturally to a dynamic approach. In achieving this objective he would need to know about movements, how the body functioned and how injuries were produced but would not necessarily need to pass this on to others. He must make full use of the craft skills already available in the staff to solve the problems which their tasks set. He must understand both individual limitations and group attitudes.

A training package was designed for use by senior instructors in training others who would actually be the "instructors" at the workplace. This package was made up in sections containing instructional plans and supporting visual aids. It covered: safe working systems, human kinetics, environmental conditions, equipment characteristics, protective clothes, use of hand tools, tasks at fixed locations, dragging and pulling etc., and substantial awkward and heavy tasks. While forming a logical whole each module could be used separately.

Experienced instructors were brought to the central training establishment and trained in the whole package so that they could return to their Electricity Boards and in two-week courses, with the assistance of safety and medical services, train local instructors. The local instructors with modified material from the package would then be in a position to give, not shortened versions of their own training, but guidance, tailored to the requirements of the staff at each location in designing and performing tasks safely.

This meant that the instructors must be able to assess the local problem and then select the appropriate training for the engineer responsible for designing the task, and the supervisor allocating the task, only after this to decide the appropriate advice to give to the manual workers actually performing the task. Thus the instructor has to convince local management that training the engineer and the supervisor is as important if not more important than training the man who does the job. The instructor must therefore adopt an approach which appreciates the problems of adult learning, such as proper social support in the student role, the best adult atmosphere and care for individual susceptibilities in the correction of errors. He must understand and allow for the fact that most people find change threatening.

It is felt that this approach is only using that most rare sense – commonsense; it is teaching the application of the basic principles of safety to the performance of that very common manoeuvre in all jobs, lifting and moving. Only time will tell whether this approach is more successful than the old methods.

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