# Can ergonomic intervention benefit the ageing worker?

Duncan Abbott

## News Digest

**Forth Systems** (stand J82) launches a new range of flexible spill containment solutions.

Now providing manual handling training for all 6,000 London fire fighters, **Osteopaths for Industry** (stand G60) is discussing the HSE campaign to drive down manual handling injury, and what to do about it.

**Principal People** (stand P61) is providing free careers advice and registration to its database of safety and health expertise.

**Quest Diagnostics** (stand T50) launches its UK toxicology laboratory, providing legally defensible drug and alcohol soloutions.

**Sempermed** (stand S64) is launching two new hand protection products.

**Sypol** (stand L80) is demonstrating its training and support services, claimed to help organisations achieve best practice by linking health and safety initiatives to company performance.

*Older workers and their ability to carry out tasks is now a major concern facing British and European companies. In 1996 the numbers of workers in employment over retirement age was 770, 000. Since then the number has substantially increased; at the same time clusters of older workers have started to form in areas with a skills shortage; and UK population projections indicate the number of people aged 45-59 will increase by 13% in 2006 (1). Ergonomics expert* ***Duncan Abbott*** *investigates how the use of ergonomic intervention may ease the situation.*

Approaches to meeting the health and safety requirements for the older worker are not straightforward. Chronological age is a poor guide to the workers' capabilities, ageing varies greatly between individuals. Age related disease can have an impact on work performance, for example, some workers may suffer from various joint, bone or musculoskeletal diseases. Based on this lack of uniformity in the ageing process, a multi faceted approach to workplace intervention is required and in this article an ergonomic programme focusing on the older workers capability is discussed.

The ergonomic programme should be implemented with the help of an ergonomist to ensure that the relevant aspects of the older worker are fully considered. These would include: **Physiological**: range of limb movement, strength, vision, hearing; **Psychological**: cognitive, reaction time, memory; and **Anthropometric data**: the size and shape ranges of the worker. Aspects of the built environment should also be considered and should include the **Physical** aspects of design: stairs and ramps and in particular accessibility: **Hygrothermal** conditions: cold, damp, heat; and **Security and Sensory** aspects: acoustics, lighting, comfort, communication systems, signage and navigation.

The implementation of an ergonomic programme would benefit employers to ensure that the demands of the task and work environments matches the capabilities of the older worker in order to prevent occupational ill health and maintain safe working conditions.

The worker in a job suspected of causing ergonomic challenges should actively participate as they are likely to have given much thought to how their job might be redesigned, and with a little prompting, will share the information. Their involvement will provide them with a stake in the success of the redesign and could probably add years to an individual's work-span. Alternatively employees can be observed performing the job which can help to uncover risk factors.

A successful ergonomic programme can be implemented in a variety of job settings and should consider procedures, equipment, and characteristics specific to the organisation. If force and repetition are of particular concern, consideration can be given to whether the task can be mechanised or automated. Or tools and handles, if identified as a concern, can be redesigned in order to minimise impact loading to the worker by incorporating damping devices, equally the weight of the tool could be decreased by using lighter materials. Tools should be selected to match the workers capacities if the risk that the older worker faces is to be reduced. Appropriate worksurfaces such as height adjustable tables can also help to minimise deviated wrist postures, avoiding the need to stoop or stretch for materials. For any change to be successful it must be tailored to the individual workplace, and a high level of commitment is required by both employer and employee. The ergonomic programme put forward must demonstrate management's commitment is serious in its attempt to address and resolve issues that face the older worker. Older workers need to be kept up to date to ensure that their skills match the requirements to operate new equipment. They must also be made aware of changes to procedures and given refresher training in relation to carrying out certain tasks, in particular where risk is perceived as a key issue. If the needs of the older worker are forgotten or not known then serious consequences for both employer and employee can result in lost productivity and an increased risk of occupational ill-health.

In preparing an ergonomic programme an ergonomic practioner called an ergonomist must carry out a task analysis to ensure that no steps or vital parts have been missed. This would then allow them to put forward recommendations for management's consideration. Of particular note is job rotation as this can allow the older worker to vary working conditions through increased flexibility. The objective of job rotation is to allow recuperation to muscles used in one task by using a different set of muscles for another task. Rotation of task can also stimulate interest, and reduce boredom and fatigue that can arise from undertaking one type of task continuously. Some employers have found job rotation helps injured and older employees return to work as well as lead to improvements in quality and productivity.

The objective of the ergonomic programme is to ensure that workplace hazards are properly controlled so that risk is decreased! Hazards and risks to older employees must be identified and this can be achieved by undertaking risk assessments. Solutions based on the identification of problems can be put forward, for example, redesigning the task or implementing control measures to reduce the risk. Overall the ergonomic programme must demonstrate that problems can be managed and for this to be achieved, a participative approach must include all central groups involved in the health promotion if good results are to be achieved. The role of the ergonomist is to find an optimal fit for the worker, task and environment and to suggest ways that can mitigate the functional decline associated with physiological ageing and age related disease. The ergonomist will also provide recommendations and justifications as to what changes in the workplace need to be made if the older worker is to benefit.

After the ergonomic programme is implemented it is important to follow the effects of changes in the workplace on the health and well being of all workers, because the aim of the changes in the organisation is linked primarily to the productivity of the workers. If the ergonomic programme is to succeed management must both monitor and review the changes. This can be achieved by asking the worker to fill out a self report questionnaire on a regular basis. Ergonomic intervention in the past has been found by many companies to assist in improving their product quality and productivity and at the same time reduce worker compensation costs. For injury prevention to the older worker a better match between job demands and worker capabilities is required. A skilled ergonomist will help companies to understand when, how and why most injuries occur in the workplace.

(1). Ellison, R., Tinsley, K. and Houston, N. 1997, British labour force projections: 1997-2006. Labour Market Trends, 105, 51-67

**Duncan Abbott** has extensive experience in ergonomic training and consultancy for a wide range of clients.
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## On the Floor

**Safety & Health Expo** will feature several ergonomics specialists.
For more information visit www.safety-health-expo.co.uk