

USE OF PARTICIPATORY ERGONOMICS TO IDENTIFY AND SOLVE HIGH-RISK TASKS

Organisation

GlaxoSmithKline (GSK)

Introduction

In 2001, managers at GlaxoSmithKline (GSK) implemented its first Ergonomic Improvement Team (EIT) at a pharmaceutical manufacturing site to investigate the increasing numbers of lost time illnesses and injuries related to work-related musculoskeletal disorders (MSDs), to identify and assess associated risk factors and to achieve operational excellence.

Aims

The scope of the project was:

- investigation of lost time illnesses and injuries related to MSDs;
- identification and assessment of associated risk factors;
- achievement of operational excellence.

All lost time incidents at this particular site in the previous year were caused by MSDs. The site employed approximately 1400 staff working in product laboratories and offices, site maintenance, warehousing and plant rooms. The key business drivers were:

- the increasing number of musculoskeletal injuries resulting in absence;
- the costs associated with the injuries;
- the need for regulatory compliance;
- the need to reduce the risk of enforcement action;
- the need to reduce product cycle waste;
- a desire to improve efficiency in the workplace;
- a desire to support the Health and Safety Executive's program to reduce MSDs.

What was done, and how

To address the problems an EIT comprising 12 experienced manual handling assessors was set up to enable workers to participate in the improvement process by identifying ergonomic hazards and seeking solutions to reduce the risk of MSDs.

Responsibilities of the EIT included:

- learning about work systems in the organisation;
- evaluation of workstations and tasks for risk factors;
- ranking and selection of risk factors to control;
- implementation of improvements to reduce risk factors;
- conducting a risk reduction evaluation;
- providing information and assistance to workers and managers to address risk factors;
- documenting risks, preventative action and information concerning the risk reduction and productivity improvements;
- assisting managers and supervisors when investigating potential MSDs.

The EIT received two full days of ergonomics training from an expert who also facilitated the EIT by helping to develop improved assessment tools and provided expert knowledge for solving problems. The team met every month for the first six months in order to provide optimum support and development to the team. Once an action plan had been devised to address the key ergonomic risks, it met every two months. Sub-groups were formed to investigate improvements and share best practice across the site. Progress of the EIT was monitored by site management and support given where appropriate. The EIT recorded progress against agreed time frames using an action plan. The action plan included the following:

- project name;
- potential problems;
- initial risk levels;
- improvement activities;
- the team member responsible for action;
- target date;
- completion date;
- the final risk level;
- confirmation from a qualified and competent third-party to ensure that risks has been reduced to reasonably practicable levels.

The potential risk for a MSD was assessed using risk assessment methods accepted by team members. The methods used were easy to use, identified the relevant risk factors for the type of ergonomic problems being addressed, and allowed accurate assessment of exposure levels. The same risk assessment methods used for the initial assessment were used to conduct a post-intervention assessment to verify the effectiveness of the solution.

For workers performing a particular work task, a discomfort form was sometimes used to gather information concerning areas of discomfort, likely causes, and possible solutions. Additionally, the discomfort form was also re-administered after the intervention to verify changes in intensity, frequency and duration of discomfort and symptoms of MSDs.

Sometimes, the analysis of exposure levels to risk factors in a particular task required the use of expert methods, for example, video observation analysis or biomechanical modelling to evaluate spinal compression forces. These methods should only be used by certified ergonomists.

A full communication and marketing programme was undertaken by the team in order to maximise staff awareness of the team. This varied from articles in the site journal, posters and plasma screen briefings. An ergonomic solution suggestion form was devised by the team and made available to all departments. This resulted in a significant number of ergonomic suggestions being raised to the EIT for consideration and further progression.

It was found that 90% of all the ergonomic solutions implemented were identified by the EIT members within the company. Only a small number of high-risk and complex tasks needed the expert advice from an external ergonomist.

What was achieved

Twelve months after the participatory ergonomics programme was initiated at the site, 31 work system improvements had been achieved. One intervention involved automation and eliminated human involvement, two interventions mechanised the work process, thus eliminating the risk but human involvement remained. Three interventions used administrative controls involving changes to job design or work policy. Twenty-five interventions reduced exposure to multiple risk factors for MSDs by introducing new equipment, repositioning or modifying existing equipment and introducing new ways of working.

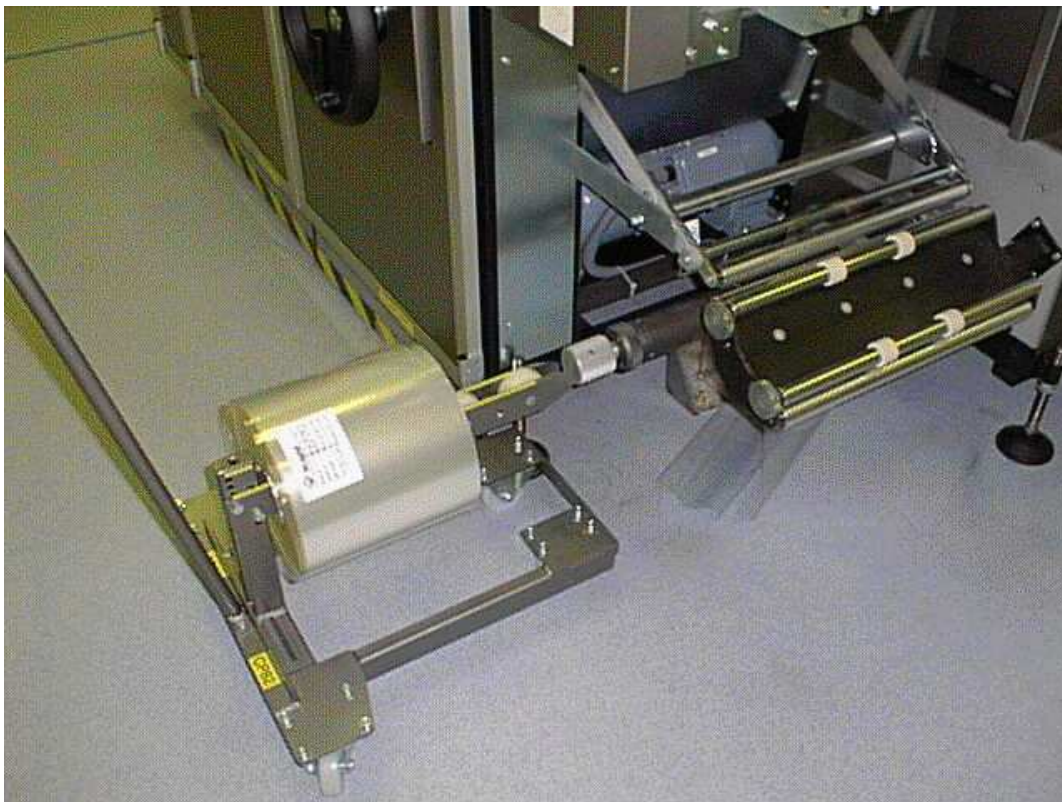


Figure 1 Before and after an intervention



Figure 2 Before and after an intervention

There was also a 40% reduction in MSDs attended to on site by the company physician. A reduction in MSDs was not observed at similar sized manufacturing sites that did not initiate an EIT.

Within three years, the EIT was considered a resounding success and resulted in the following additional improvements:

- 65 ergonomic improvements implemented and evaluated in total;
- 160% increase in ergonomic hazards reported;
- efficiency savings and reduced cycle times of up to 40%;
- best ever worker health and safety performance – 3.4 million hours work free of lost time illness and injury reached in 2003;
- best global health and safety audit score 94%.

The total cost of implementing the EIT was approximately £20,000 (c €26,900) a year at the site. This figure was derived from costs based on meeting attendance times, design course attendance time and fees, materials for training and consultant fees. This was viewed as a significant cost benefit in relation to the costs of incident investigations, claims, compliance etc.

Transferability

Since the successful introduction of this EIT, GSK has taken this model and implemented the EIT model at another 15 of their sites in the UK.

Further information

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