

RISK ANALYSIS AND PREVENTION ON A MOTOR CAR ASSEMBLY LINE

1. Case metadata

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2. Organisations involved

Visteon Autopal, s.r.o., Nový Jičín

3. Description of the case

3.1. Introduction

Visteon, a transnational company, is a leading supplier of motor vehicle parts and accessories including automotive lighting for the 22 biggest car producers in all over the world. The company aimed to achieve world class overall safety performance in 2008. Visteon's 2008 severity rate, which measures the days lost associated with a lost time injury, also improved from 4.10 to 3.61 between 2007 and 2008. For the second year in a row more than 50 percent of Visteon facilities worldwide achieved zero lost time cases, the top health and safety benchmark for an individual plant. For 2009, the company has set even more challenging goals for health and safety performance, continuing to place the protection of the workforce as a top priority.

Visteon Autopal, located in Nový Jičín, is a company with the over 100-year-tradition. It was founded by Mr Josef Rotter in 1879. Nowadays it employs 3000 workers. As a part of Visteon (since 2000) the OSH policy aims at achieving good safety performance. In 2008, for example, zero work related injuries and illnesses were achieved. However, the lighting equipment production lines at this car plant have a great deal of tools and equipment, which poses a high risk of injury. The assembly work involves increased strain on the forearms, due to high levels of repetitive movements in particular. Musculoskeletal disorders (MSDs) including problems such as back pain, joint injuries and repetitive strain injuries of various sorts have been identified in the company as a priority. Until now risk assessment did not include environmental and ergonomic issues. It is not enough to merely note the risks, however – they must be actively removed through teamwork.

3.2. Aims

The main aim of the intervention described was to set up a proactive risk assessment and management, including workers' participation and the use of both internal and external expertise, to eliminate or minimize MSDs. The main principle of this approach was 'where we cannot eliminate a risk, we must get it under control'.

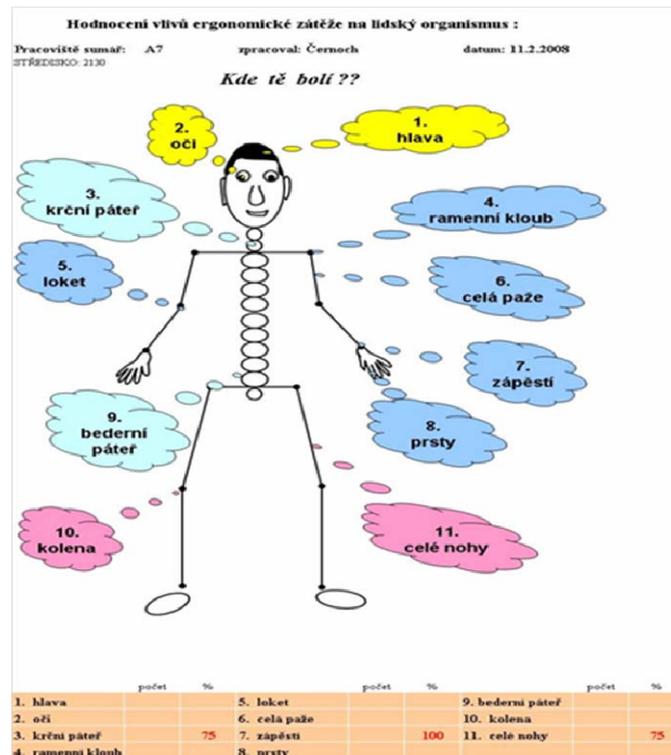
3.3. What was done, and how?

The goals of the initiative were achieved via the following activities:

- ensuring regular OSH-related activities like occupational risk assessment or promoting safe work among workers that before were taken rather occasionally,
- organising Safety Weeks aimed at increasing employees' awareness and knowledge of occupational risks,
- organizing Safety and Ergonomics Workshops,
- providing recondition exercises.

Risk identification workshops were organised, attended by the operator of the work station in question, e.g. an equipment technologist or industrial engineer. The workshops included a brainstorming session where participants came up with a list of measures to eliminate/reduce risks. Each measure was then described in an individual document. The process of document preparation and standardisation was important. As a result each device had its own risk assessment sheet stating all safety, environmental and ergonomic risks. For important activities a description of work processes has been produced, including visual aids. Special measurements, e.g. of muscle strain, were carried out by an accredited laboratory. All the risk assessment and control information has been made available on the company intranet. To help employees to identify MSDs a set of visual aids was developed. The most successful, thanks to its simplicity, was a Body Sheet (Figure 1), in which each employee should point to a place of body that hurts.

Figure 1. Body Sheet



CASE STUDIES

The Body Sheet enabled developing a catalogue of non-physiological positions that was a starting point for implementing preventive measures. Most of the improvements were the results of brainstorming sessions and they were really simple, low cost and effective. These included:

- work station redesign
- adjustable fixtures
- tool redesign
- job rotation
- work pacing
- work breaks

Examples of the improvements as a result of these brainstormings are presented in the pictures below (Pictures 1, 2 and 3).



Picture 1: Sit-Stand stool for the press



Picture 2: Lockable case for wolfram sorting



Picture 3: To fasten blow gun that is set for a steady level

To ensure the success of the workshops and to help the employees and the managers to understand the causes of MSDs and give advice on what to do to reduce the possibility of developing MSDs, the company cooperated with external experts. This expertise was also used for providing recondition exercises for employees. In total, 24 sessions of such exercises were provided by specialists and a manual allowing employees to continue the exercises individually was produced.

Additionally, for each piece of equipment its own risk sheet stating all safety, environmental and ergonomic risks was developed. Each risk sheet was supplemented by day-to-day maintenance (prevention) regulations, stating all of the tasks and the frequency with which they should be carried out, e.g. on each shift, once a day, twice a month, etc. The development of these documents during the workshops ensured their acceptance and approval by all the employees concerned.

3.4. *What was achieved?*

A standardised method for identifying and eliminating risks as well as for workshops and employees' participation in OSH-related activities was introduced in the company. Consequently the following was achieved:

- an improved team cooperation
- a decreased lower staff turnover
- decreased work injuries and near-accidents
- an increased work comfort
- an improved working environment and increased comfort for workers
- Staff involvement in health and safety has increased due to the improved environment and participation in problem solving.

3.5. *Success factors*

Employee involvement is a key factor in the acceptance of ergonomic changes and the ultimate success of any MSD prevention program. The main idea of the initiative was to involve all employees in activities aimed at improving working conditions. This active participation of all employees as well as external expertise have contributed to the success of the initiative.

3.6. *Further information*

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3.7. *Transferability*

The initiative can be implemented in any organization irrespective of its type of activity and size. While implementing the initiative the main objective must be to eliminate or reduce health and safety risks. This can be achieved by using the expertise and skills of the company's employees, as well as external associates.

4. References, resources:

<http://www.visteon.com>