

COOPERATION OF OCCUPATIONAL PHYSICIANS AND SAFETY EXPERTS AS A CENTRAL POINT OF GOOD PRACTICE IN HEALTH AND SAFETY AT WORK: CONCLUSIONS FROM THE CROATIAN SEMINAR

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ABSTRACT

Introduction. Basic aim of the occupational health and safety sector is prevention of work-related health disorders in workers, including injuries at work, occupational and work-related diseases, as well as diseases aggravated by work. The cooperation of employers, employees, safety experts and occupational physicians is crucial for everyday implementation of rules and regulations related to health & safety at work. *Objective/Methods.* Cooperation of occupational physicians and safety experts is presented in this article through a review of good practice cases based on the successful seminar held in Croatia in 2018. *Results.* Primary prevention of work-related health disorders is always the main focus for health and safety sector, maintaining worker's health. Secondary prevention focuses on early detection and treatment of excessive exposure or adverse health effects in exposed workers, and tertiary prevention aims to maintain work capacity and employment for a worker with developed health disorder. This article presents good practice cases describing health and safety measures in all three levels of prevention. *Conclusions.* The importance of close cooperation between occupational physician and safety expert in implementation of health and safety measures is emphasized, as well as the importance of proper health surveillance of workers. Occupational physicians should stay in line with the changes in working populations, processes, conditions and hazards, fulfilling their main task to prevent development of work-related health disorders, and maintain work ability of workers.

KEY WORDS: health surveillance, prevention, risk assessment, work capacity, work-related health disorders

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INTRODUCTION

Basic aim of occupational health and safety sector is prevention of work-related health disorders in workers. Work-related health disorders, including injuries at work, occupational and work-related diseases, as well as diseases aggravated by work, often have a chronic course, resulting in reduced working capacity and quality of life of a patient, prolonged sick leaves, unemployment, early retirements, and proceedings for damage compensation (Bubaš et al., 2008; Ecimović and Macan, 2018). Prevention of work-related health disorders can be categorized in three levels: primary, secondary and tertiary. The primary level of prevention implies measures to prevent the occurrence of the disorder, i.e. to maintain workers' health. Focus of the secondary prevention level is timely detection of work-related health disorders including early diagnosis and treatment, reassessment of workplace hazards and safety measures with possible removal of employees from hazardous workplaces, and referral to occupational rehabilitation. Tertiary prevention is implemented when the disease is advanced, and its aim is to prevent complications, reduce disability, and rehabilitate an individual to the extent that is possible (Alfonso et al., 2017). *Figure 1* shows levels of prevention in the algorithm concerning work-related skin diseases (Alfonso et al., 2017).

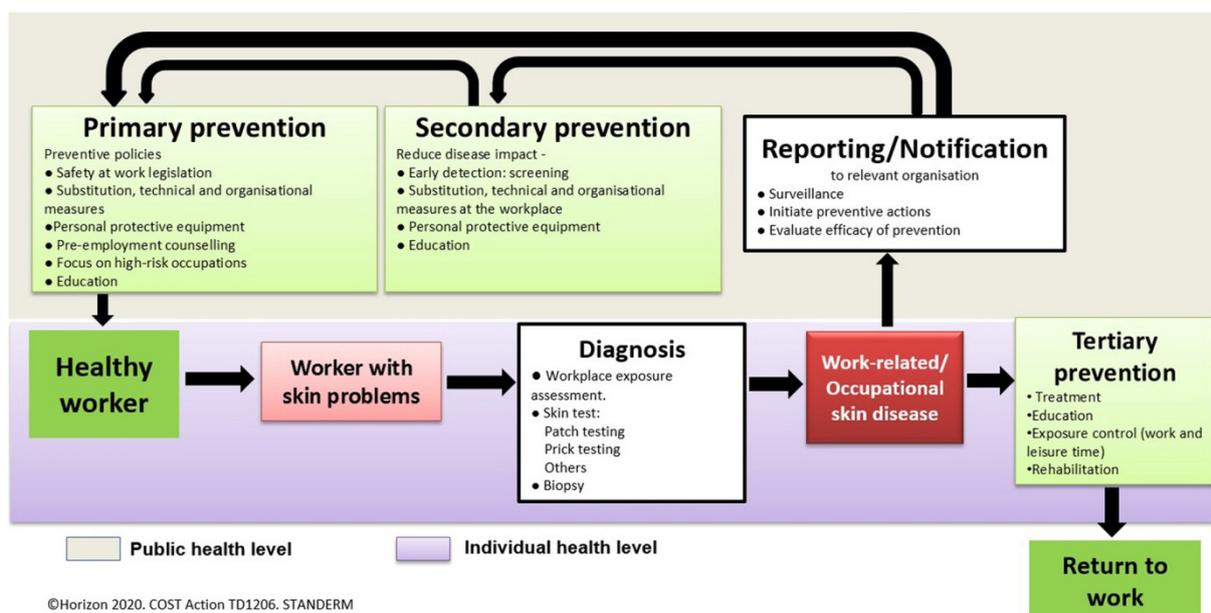


Figure 1. Work-related skin diseases flow-chart (source: Alfonso et al. 2017).

The cooperation of employers, employees, safety experts and occupational physicians is crucial for everyday implementation of rules and regulations related to health and safety at work. Cooperation of occupational physicians and safety experts is highlighted in this article as a central point of good practice in health and safety at work, based on the successful seminar held in Croatia in 2018. The Seminar was organized by the Croatian Medical Association, Croatian Society on Occupational Health, and the Croatian Institute for Health Protection and Safety at Work. It provided a review of good practice cases presenting close cooperation between safety experts and occupational physicians. Initiators for this seminar were members of the team who gathered up with the aim to present good practice case studies for an actual EU-OSHA campaign related to safe work with dangerous substances (EU OSHA, 2018). The team consisted of two occupational physicians, two safety ex-

perts, and a toxicologist. They successfully spread the idea for gathering more good practice cases among safety experts and occupational physicians, and present them in a form of a seminar.

THE GOOD PRACTICE SEMINAR

Good practice cases on the level of primary prevention

The presented good practice cases were developed in all three levels of prevention. Primary prevention of work-related health disorders is always the main focus for health and safety sector. Successful primary prevention means that healthy worker will stay healthy in spite of the fact that his work tasks include some hazardous exposures. Two good practice cases operating on the level of primary prevention were presented.



Figure 2. Hierarchy of safety measures at work.

Exposure to dangerous substances

Good practice in work with dangerous substances was described in relation to two companies: a pharmaceutical company producing veterinary medicines, feed additives and a range of care products for animals, and a manufacture producing organic cosmetic and hygiene products. Both companies use recommended pyramidal approach in safety practice related to work with dangerous substances, i.e. primarily use technology and organizational measures for decreasing workers exposure (*Figure 2*). Both cases emphasized the replacement of harmful chemicals with a less harmful in the production, i.e. replacement of epoxy resin with acrylonitrile butadiene styrene (ABS) plastic in the production of moulds, or replacement of ethidium bromide with a GelRed nucleic acid gel stain in a process of identification and visualisation of nucleic acids. Both cases are

published under the current EU OSHA campaign (Šarić et al., 2018; Ljubek et al., 2018). All workers exposed to dangerous substances are covered by regular periodic health surveillance provided by occupational physicians. The cooperation with the occupational physician was found important in evaluation of pregnant and breastfeeding workers, i.e. the need for workplace change. Cases also pointed out the difficulties to find relevant data about chemicals. The problem is the poor quality of toxicological and health and safety information available from free internet sources, and the poor quality of the safety data sheets provided by suppliers. Safety data sheets are usually not in REACH format (REACH-Registration, Evaluation and Authorization of Chemicals), the classification and labelling are often not in accordance with the latest CLP Regulation (CLP- classification, labelling and packaging of chemicals), and basic toxicity data are often missing ('data not available').

Good practice cases on the level of secondary prevention

The level of secondary prevention includes measures for early detection of excessive exposure or adverse health effects in workers exposed to occupational hazards, before full development of a health disorder. Measures for primary and secondary levels of prevention are often taken together and often cannot be clearly distinct, as can be seen in the following two presented good practice cases.

Health promotion in meat industry

Workers in a meat processing factory are exposed to everyday strains of the musculoskeletal structures of the hands, arms and shoulders, leading to the development of work-related arm overuse syndromes. A good practice was presented through the implementation of short, but regular targeted exercise programme provided for the workers during work shifts. This kind of a preventive measure works both on the primary and secondary level of prevention, i.e. keeping healthy worker healthy, and stopping or slowing down early development of work-related overuse syndromes. The programme was initiated by the occupational physician, and fully developed in cooperation with a safety expert and a kinesiologist as an external expert.

Protection from noise

Workers are exposed to noise in a company producing components for household electrical appliances. The company occupational physician detected a significant number of workers with acoustic trauma during a periodic health surveillance of workers, alerting safety expert of the company to strengthen the protective measures. The good practice case presented the undertaken technological measures (covering noise making machinery), and educational measures for better use of personal protection. This case also clearly increased the primary and secondary prevention level, protecting both healthy workers and workers with signs of acoustic trauma.

Good practice cases on the level of tertiary prevention

The level of tertiary prevention, albeit too late to be called real prevention, is of great importance in occupational medicine and safety at work. Namely, workers with developed health disorder, work-related or not, should be evaluated for the remaining work capacity and the need for occupational rehabilitation, workplace adaptation or change. The focus of these evaluations is to maintain work capacity and employment for a worker with some health disorder, as can be seen in the following two cases.

Work on height

Work on height is one of the very strict work tasks concerning health status of the workers, and numerous chronic non-communicable diseases prevalent in working population (type 2 diabetes, hypertension, degenerative musculoskeletal disorders, etc.) often lead to permanent work incapacity for work at height. This case presented a close cooperation of the occupational physician and the safety expert in the biggest national distributor of electric energy. Work at height is a common work task in this company, but can be performed in several ways concerning safety levels, for example free climbing and work with a safety belt, and work in a platform with a fence. Changing the mode of work at height for workers having disparate health disorders detected during the periodic health surveillance can have a significant impact on maintaining the work capacity of workers.

Workplace change for workers with a chronic health disorder

This case was recorded in one of the oldest and leading wholesalers in Croatia. The core business is selling, storing and distributing human and veterinary medicines, medical products, equipment and dental aids, diet, cosmetics, hygiene and other products intended for the health-care market. An employee with epilepsy contacted the safety expert because he could no longer perform the work tasks and follow the default work rhythm due to a chronic fatigue, and a fear that such conditions would provoke seizures. The safety expert referred him to an occupational physician for medical examination, after which they both revealed that the main problem is a pressure to perform fast and recurring work tasks. It was decided that the employee is able for work with limitation of harder psycho-physical strains and recommended to change the workplace. In the presence of an occupational physician, the employee and a safety expert, a visit to a new potential workplace was organized. The adapted job included rhythm of work determined by the employee himself, with no pressure to perform fast and recurring work tasks. The employee's work capacity was maintained satisfactorily for both the employer and the employee.

DISCUSSION

In the Republic of Croatia, regulations based on the Act on protection at work regulate health surveillance of workers who perform jobs under special working conditions (Croatian Society on Occupational Health, 2012) as one of the obligatory measure for prevention of work-related health disorders. Health surveillance includes clinical examination and work ability assessment of employees completed by occupational physicians in a form of obligatory pre-employment and periodical health checks, or overall or specific work ability assessments in case that there is a change in the employee's health condition that could jeopardize safe performance of work tasks or his health. Good practice cases presented at our seminar confirmed data from the literature suggesting that health surveillance can have significant impact in health and safety at work, contributing to prevention of work-related health disorders at all levels (Win et al., 2015; De Matteis et al., 2017; Welch et al., 2017; Boiano et al., 2017).

Regarding primary prevention, we would like to stress the importance of workplace risk assessment. This process is a base for implementation of safety measures, and should be performed by a team of experts including the occupational physician, the only one who has de-

tailed knowledge about the health effects of various occupational hazards. Health surveillance performed by occupational physicians, particularly pre-school and pre-employment examinations, evaluating compatibility between working conditions and individual risk factors, are also considered measures of primary prevention (Fenner, 2011; Moscato et al., 2011). Implementation of prevention measures should not be forgotten during secondary vocational education programmes for jobs with specific health risks, with a need for inclusion of safety issues in the school curricula (Andersson, 2015; Samardžić et al., 2016).

Importance of tertiary prevention is constantly increasing due to the prolonged length of service before retirement, increasing the number of elderly workers with various chronic health conditions (Edge et al., 2017). Health surveillance and work ability assessment of workers with chronic illnesses will be one of the prominent tasks for occupational physicians in the future (Welch et al., 2017). The employees, who have chronic conditions that start to cause problems at work, may be worried that they can lose their jobs. It is necessary that employees with a disability are not discriminated compared to a person without a disability. Employees are advised to notify their safety experts and occupational physicians about their health status. After the medical and safety check-up, they will inform the employer about the needs for change or adaptation of workplace according to the changes in work capacity of an employee.

CONCLUSION

The presented good practice cases emphasized the importance of close cooperation between occupational physicians and safety experts in the implementation of health and safety measures, as well as the importance of proper health surveillance of workers. The modes of health surveillance need to be changed according to the changes in working populations, working processes, conditions and hazards. Occupational physicians should stay in line with such changes, always fulfilling their main task to prevent development of work-related health disorders, and maintain work ability of workers as long as possible. It should be stressed that our seminar had a bottom-up approach, i.e. good practice cases were gathered from company experts and occupational physicians who work closely together without special encouragements from authorities and employers. This kind of approach generated great interest primarily among occupational physicians and safety experts, and also among employers' organizations and the Ministry of Labour. The interest was so great that we had to repeat the seminar due to the lack of space. Therefore, we encourage national societies related to occupational health to find and present cases of good cooperation between stakeholders in health and safety sector.

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