



A Conceptual Framework for Integrating Workplace Health Promotion and Occupational Ergonomics Programs

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Introduction

Musculoskeletal, cardiovascular, and psychological state are all related to the physical and psychosocial conditions of labor, also like individual health behaviors. An integrated approach to workplace health-promotion programs should include attention to the work environment, especially in light of recent findings that employment organization influences so-called lifestyle or health behaviors. Macro ergonomics provides a framework to enhance both physical and organizational features of labor and, within the process, to empower individual workers. The middle for the Promotion of Health within the New England Workplace may be a research-to-practice effort examining the effectiveness of worksite programs that combine occupational safety and health especially ergonomics with health promotion, emphasizing the contribution of labor organization to both. Two intervention studies are underway in three different sectors: health care, corrections, and manufacturing. Each study features participatory structures to facilitate employee input into health goal-setting, program design and development, and evaluation, with the goal of enhanced effectiveness and longer-term sustainability. Occupational ergonomics may be a discipline which attempts to adapt the work to the worker with the goal of promoting worker health, safety, and luxury also as productivity. This paper presents an introduction to the principles of occupational ergonomics, and lists some items to think about when performing an ergonomic evaluation of the workplace. The goal of this communication is to extend the occupational health nurses awareness of, and skill to spot and stop, ergonomic hazards within the workplace.

Musculoskeletal disorders are a number one explanation for disability among people in their working years. In 1972 the entire economic cost attributed to musculoskeletal disorders was estimated to be \$20 billion per annum, second only to circulatory diseases. The last us National Health Survey revealed that the foremost common impairments (over 20 million) involved the system. About one fifth of those were classified as "sinusitis, bursitis, or tenosynovitis" -

disorders frequently related to job tasks which impose cumulative "micro" traumas to the system. In 1981, the Bureau of Labor Statistics reported over 23,000 cases of repetitive trauma disorders, with an estimated 270,000 lost work days. A method to stop work-related disorders of the system is thru the appliance of the principles of ergonomics. Definition and goals the word ergonomics comes from the Greek word ergo, meaning work and names, meaning law. It's a discipline which recognizes the physiological, anatomical, and psychological capabilities and limitations of individuals, with reference to their work tasks, equipment used, and therefore the job environment. The goal of ergonomics is to determine a best fit between the human and imposed job conditions to make sure and enhance worker health, safety, and luxury also as productivity. This paper discusses the way to perform an ergonomic evaluation within the framework of the nursing process. The main target is on the prevention and control of the 2 major categories of occupational health problems affecting the musculoskeletal and peripheral system nervous. The primary of those, upper extremity Cumulative Trauma Disorders (CTDs), is related to repetitive, forceful hand/wrist movements; the second is muscle strain and fatigue, resulting from static muscular work.

Cumulative Trauma Disorders: Cumulative trauma disorders of the upper extremities are related to repetitive exertions. Movements like wrist extension and flexion and ulnar and radial deviation of the wrist are samples of postures which may affect the hand/wrist system. Many work-related CTDs involving this part of the body are reported and include tendonitis, tenosynovitis, bursitis, trigger finger, and epicondylitis. In an occupational setting, associated risk factors include repetitiveness, and force required of a task, posture, and use of hand tools. **Muscle Strain and Fatigue:** Muscular activity is often classified as either dynamic or static work. In dynamic work the muscle alternately tenses and relaxes providing a pumping action which promotes the circulation of blood. During dynamic work a muscle receives necessary nutrients and rids itself of painful waste products.

By comparison, prolonged contraction of a muscle like occurs during static work results in an increase in pressure in the contracted muscle which compresses blood vessels and restricts blood flow to the tissue. During static work not only does the muscle receive insufficient nutrients but waste products accumulate also. Moreover, static work, if prolonged and excessive, can eventually cause deterioration of joints, tendons, and ligaments. Some samples of static postures are flexion or abduction of the arms or shoulders, leaning forward or sideways, placing weight on one leg, pushing and pulling, crouching or crawling, and dealing with a bent or twisted neck or spine. Static muscular activity is usually liable for nonspecific aches and pains also as muscular fatigue and may end in reduced productivity and absenteeism. Work postures which cause static loading of muscles should be avoided.

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