

### What is the Impact of Poor Ergonomic Design in Health Care?

Every year, the Canadian health care system spends **billions** of dollars because of the poor design of health care facilities, work systems, job tasks, work spaces, equipment, and policies and procedures.

Poor design contributes to musculoskeletal disorders and other accidents and injuries for health care providers. Costly, lost time injuries related to patient handling can be directly related to poor workspace, equipment and system design.

Medical errors and reduced patient safety can also be attributed to design issues. New health care technologies are often complex and difficult to use due to the poor design of controls, displays, and instruction manuals. This can result in serious consequences for both the health care provider and patient. Poorly designed systems for labelling, storing, prescribing, and selecting medications can result in potentially life threatening errors that need to be addressed at a systems design level.

Finally, the challenge of recruiting and retaining skilled workers in a competitive labour market is made more difficult when work systems are poorly designed. This problem is made more acute due to the impact that poor ergonomic design has on an aging workforce.

### How Can Good Ergonomic Design Help?

Good ergonomic design is the key to safe and effective delivery of health care services in both acute and long-term care facilities. It helps to eliminate exposures to design-related hazards that can result in costly accidents / injuries. It helps to ensure that equipment, technology, workspaces, and work systems are designed to promote patient safety and reduce medical error. Good ergonomics significantly improves the ability of health care facilities to recruit and retain skilled and knowledgeable workers and to protect the health and well-being of an aging health care workforce.

There are few, if any, environments where ergonomics is more important than in the health care sector. This is especially true when one considers the ever increasing costs of providing health care services. Significant cost savings can be realized by designing health care facilities, workspaces, and tasks to maximize human performance and well-being.

### ESA Can Help You to Improve the Performance of Your Health Care Facility

ESA understands that worker and patient safety, service delivery, and operational costs are a high priority for the health care sector. By applying our expertise related to ergonomics and design in the health care setting, ESA can help with all of these priorities. We can help ensure that health care systems and technologies are designed to enhance human performance. This will improve patient and employee safety, improve service delivery, and reduce costs. ESA provides high value, cost effective ergonomics consulting services that will improve the performance of any health care facility.

ESA is Atlantic Canada's leading human performance consulting company specializing in ergonomics. Our Certified Professional Ergonomists have worked extensively in the health care sector and have more than 30 years of experience assisting workplaces solve their ergonomics related design problems and improve their overall performance!

ESA's goal is to help improve the performance of your organization. We do this by identifying design issues that impact the health and safety of both workers and patients, and directly increase the cost of delivering health care services. We then recommend practical and effective solutions that improve the design, set-up and organization of work systems, spaces, equipment, and tasks. This reduces costs for the organization, improves worker health and wellbeing, and enhances patient care and safety.



## Workstation Design and Layout Assessment

ESA's assessment process provides a detailed examination of the set-up and design of workstation components, tasks performed, and postures adopted. We identify design, task and organizational issues that can contribute to worker pain and discomfort, impact patient safety and service delivery, and increase costs. We work with management and staff to identify, cost justify, and implement solutions that will reduce exposure to the identified issues.

## Job Demands Analysis

ESA's job demands analysis (JDA) process provides the detailed information needed to identify safety issues and process improvement opportunities, and assist with early return-to-work, job assignments, and accommodation. ESA's approach is not checklist based. We quantify all key job demands so that managers, employees, human resources staff, and health care professionals have a clear picture of the demands required. We will then work with your staff to identify, evaluate and select solutions that enhance performance and reduce the risk of injury.

ESA provided us with a comprehensive analysis of the jobs in some of our high risk injury departments including recommendations as to how to decrease the risk of injury to these departmental employees. This information coupled with the functional abilities of the individual employee will enable us to successfully accommodate return to work employees and ensure their health and safety as they carry out their work practices.

Emma Chester, MSc  
Injury Prevention Consultant  
Annapolis Valley Health

## Safe Patient Handling

ESA has helped acute and long-term care facilities from across Canada implement state-of-the-art safe patient handling systems. Our systematic approach includes a review of the existing patient handling policies, procedures and equipment. Building on current strengths, ESA will help develop patient handling policies and procedures tailored to the organization or facility. This is followed up with training for both management and front-line workers to provide them with the information and skills they need to assess, handle and transfer patients safely.

## Evaluation of Medical Equipment and Devices

ESA can help ensure that medical equipment and devices, and their displays and controls are designed to be intuitive, easy to use, and easy to learn. Well-designed devices can reduce the likelihood of medical error, increase efficiency, and increase patient safety.

## Workstation, Furniture and Equipment Purchasing Decisions

ESA can provide health care facilities with expert advice when they are considering the purchase of new medical equipment, workstations, furniture, house keeping equipment, etc. This advice allows for informed purchasing decisions that can result in significant long term savings.

## Facility Design

Planning a new facility or redesigning and expanding an existing health care facility? ESA can help by facilitating a design review that can include a review of proposed floor plans and workspace layouts, workflow analysis, user group focus groups/simulations, way finding and signage design, and specific design requirements for different functional areas of the facility. This helps to ensure that ergonomics-related design issues are identified and addressed during the design, construction / installation and commissioning stages of the facility, reducing long term operational costs and significantly increasing safety and performance.

## Customized Training Sessions and Workshops

ESA's applied training sessions and workshops increase awareness of design related hazards and enhance in-house capabilities to recognize hazards, implement effective solutions, and improve workplace health and safety and organizational performance. ESA's range of practical and effective sessions can be tailored to meet site specific needs. We can also create customized training to address specific issues in individual organizations or facilities.