

HELPING HEALTH CARE: A HOSPITAL ERGONOMICS (MUSCULOSKELETAL INJURY) RISK ASSESSMENT PROJECT

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Abstract

The South Fraser Health Region (Greater Vancouver, British Columbia) in partnership with the Workers' Compensation Board of B.C. (WCB) has launched a comprehensive ergonomics (musculoskeletal injury) risk assessment project at Langley Memorial Hospital in Langley, B.C. The goal of the project is to reduce musculoskeletal injuries at the hospital through comprehensive ergonomic risk assessment and implementation of control strategies.

The project plan was initially established by a steering committee with representatives from the health region, the healthcare unions and the WCB. The specific project activities, including risk assessments, are being carried out on site by an ergonomist, with input from the Joint Occupational Health & Safety (JOHS) Committee and other on-site staff. The entire project is expected to take 18 months with a target completion of July 2002. Within the province of B.C., this comprehensive risk assessment of patient/resident and material handling tasks will be one of the first, fully complete pictures of risks for musculoskeletal injury associated with working at a medium-size acute care facility. Details of the project plan, with emphasis on communication, are discussed.

Key words: (health care, risk assessment, musculoskeletal injuries)

AIDER LES SOINS DE SANTÉ : PROJET D'ÉVALUATION DES RISQUES ERGONOMIQUES (LÉSIONS MUSCULO-SQUELETTIQUES) DANS UN HÔPITAL

Résumé

Les services de santé régionaux de la vallée du Fraser sud (South Fraser Health Region), situés dans le Grand Vancouver, et la commission des accidents du travail (Workers Compensation Board) de la Colombie-Britannique ont mis sur pied un projet d'évaluation des risques ergonomiques (lésions musculo-squelettiques) à la Langley Memorial Hospital. L'objectif du projet est de réduire les lésions musculo-squelettiques à l'hôpital grâce à une évaluation détaillée des risques ergonomiques et à l'implantation de stratégies de contrôle.

Le plan de projet a été conçu à l'origine par un comité d'orientation en collaboration avec des représentants des services de santé régionaux, des organismes syndicaux de professionnels de la santé et de la commission des accidents du travail. Un ergonomiste assure la mise en application des activités spécifiques au projet, y compris l'évaluation des risques, avec l'aide d'un comité conjoint en sécurité et santé du travail et du personnel sur place. Le projet, dont l'échéance est prévue pour juillet 2002, devrait durer 18 mois. Dans la province de la Colombie-Britannique, cette évaluation détaillée des risques liés au patient-résident et des tâches de manutention constituera le premier portrait complet des risques de lésions musculo-squelettiques attribuables au travail dans un établissement de soins de courte durée de taille moyenne. On discute des détails du plan de projet et l'accent est mis sur la communication.

Mots clés : (soins de santé, évaluation des risques, lésions musculo-squelettiques)

INTRODUCTION

The South Fraser Health Region of Greater Vancouver, British Columbia is focusing on its vision of “healthy individuals arising out of healthy communities” and applying it to its own workforce. The Health Region, in partnership with the Workers’ Compensation Board of B.C. (WCB) has launched a comprehensive ergonomics (musculoskeletal injury) risk assessment project at Langley Memorial Hospital. The ergonomics risk assessment is one of four risk assessments being conducted at the hospital in Langley B.C. The other components include risk assessments for chemical agents, blood borne pathogens, and workplace violence.

Typical of many hospitals, Langley Memorial has high musculoskeletal injury rates among its staff. In response to increasing injury rates and concern for the human and monetary costs associated with them, this ergonomics risk assessment project was initiated. It is anticipated that implementation of effective MSI prevention initiatives resulting from the risk assessment will eliminate or minimize the risk of MSIs, facilitate the retention and promotion of healthcare workers, reduce the costs associated with MSIs, and support quality patient care.

Langley Memorial Hospital

Langley Memorial Hospital (LMH) is one of four acute care hospitals in the South Fraser Health Region and serves the City and Township of Langley, B.C. and surrounding area. In one of the fastest growing communities in B.C. with a current population of 110,000, the hospital provides primary care, specialized services and geriatric services. Built in 1948, LMH has grown from a 48-bed hospital to its current size of 411 beds.

LMH is staffed by over 750 full-time equivalents, and is served by 121 physicians. In the year 2000, 9,200 patients were admitted, there were 43,340 emergency visits, 1,520 births and almost 5,000 day surgeries.

Langley Memorial Hospital was chosen as the project site because it represents a typical medium-sized facility in the province, providing a range of services commonly offered at acute care centres. The intent is that the risk assessment’s findings and recommendations can be disseminated and applied to similar settings province-wide.

The scope of the project was initially limited to the acute care part of the facility but was later broadened to include the 5 extended care units (ECUs) which have a high proportion of the total number of MSIs at LMH.

OBJECTIVES AND TIMELINE

The focus of the ergonomics risk assessment project is on reducing MSIs at LMH. Reduction of MSIs is expected to reap many benefits including increased job satisfaction and morale, increased ability to attract and retain qualified employees, and reduced costs (including WCB and health care costs, cost of replacement workers and retraining).

In addition, the project will increase awareness of MSIs in the health care setting. The project will determine what workers are at risk of MSI and the activities they are performing that put them at risk. There will be increased worker awareness of the signs, symptoms and risk factors for MSI. As well, there will be increased awareness of the control measures that can be put in place to reduce the risk of MSI, including engineering and administrative controls

such as new or improved equipment design, changes to work space and layout, and updated work processes and practices.

The project was initially laid out by a steering committee consisting of representatives from the health region (Workplace Health & Safety staff), the Hospital Employees Union (HEU), the British Columbia Nurses Union (BCNU), the Health Sciences Association (HSA) and the WCB. The steering committee continues to oversee progress on the project with monthly meetings and frequent communication.

The specific project activities, including assessments, are being carried out on site by an ergonomist, with assistance as appropriate from JOHS committee members and other on-site staff (e.g. physiotherapists, occupational therapists, department safety representatives).

From start to finish, the entire project is expected to take 18 months, with a target completion date of July 2002.

PROJECT PLAN

An initial project plan and timelines were proposed and approved by the steering committee in early February 2001. The plan is to continue the project steps as outlined (see Table 1). It is likely that there will be ongoing revisions and updates to the project plan and it will become more detailed as time goes on. A few key points regarding each activity follows.

Fact gathering

The first undertaking was fact gathering; involving meeting with external and internal resources, gathering reference material, and reviewing relevant literature, web sites and other industry guidelines. This information was used to establish the initial project plan.

MSI incident analysis

The second major activity carried out was a statistical analysis of MSI incidents at LMH. A three-year review of incident information was carried out using various sources including Workplace Health incident database, first aid reports, long term disability (LTD) information, WCB claims information, and payroll reports.

The incident analysis provided an initial focus for the project as it effectively identified trends (what workers are affected, what departments do they work in, what activities are they performing that put them at risk of MSI) and was used to establish a prioritized listing of department to assess, with target occupations identified within each department. The prioritizing scheme chosen (based on the findings of the incident analysis) demonstrated that over 90% of the facility's MSIs are accounted for by only 20% of the department-specific occupations. In addition, information from the incident analysis will provide a baseline for comparison after the risk assessments have been completed.

Develop risk assessment forms

The third key step involves the development of an MSI risk assessment form. This will involve a review of available risk assessment tools and checklists with development of appropriate reports, worksheets and checklists as the goal.

Develop risk assessment process

This process will document a standardized approach under which each of the risk assessments will take place. As per the incident analysis prioritization, a risk assessment is planned for those occupations within each department, which have demonstrated a risk of MSI. As appropriate, a “team” approach will be used in that employees familiar with the work tasks will participate in both the assessment phase (where risk factors are identified) and in the development of appropriate control measures.

Develop risk assessment database

A risk assessment database will be developed as a means of capturing information collected and analysed during the assessments, as well as providing a valuable reference source.

Table 1: Ergonomics Risk Assessment Project Plan and Timeline

ACTIVITY	DETAILS	TIMELINE
1 Fact gathering	Meet with internal and external resources; review literature and web sites; establish project plan; communicate project to LMH staff	Feb – Mar 2001
2 MSI incident analysis	Review 3 years of data to establish prioritized listing of job/tasks for risk assessment and to establish baseline statistics for comparison purposes	Feb – May 2001
3 Develop risk assessment forms	Review existing tools and symptom surveys; gather input from committees; develop risk assessment forms; conduct trials with forms	Apr – May 2001
4 Develop risk assessment process	Document process for conduct of risk assessments; gather input from committee members	Apr – May 2001
5 Develop risk assessment database	Determine inputs and outputs; provide information to database developer	May – Sept 2001
6 Conduct risk assessments	Conduct job observations for identification of risks; document findings; document controls immediately implemented	May 2001 – June 2002
7 Perform analysis of risk	Conduct assessment of risk factors identified	May 2001 – June 2002
8 Establish recommendations	Develop recommendations with input from department	May 2001 – June 2002
9 Report on outcomes	Finalize risk assessment reports and project report	May 2001 – July 2002
10 Continued monitoring	Continued follow-up on status; perform re-assessments as required	ongoing
11 Communicate results	Communicate project initiatives and results to LMH staff	Feb 2001 – Jul 2002

Conduct risk assessments: identification, analysis, control

The risk assessments themselves will be carried out in three steps: risk identification, assessment or analysis of risk, and development of appropriate control measures. Although each step is distinct and will be carried out in sequence, individual risk assessments will be

conducted as “mini-projects” with start to finish timelines ranging from one week to several months, depending on the complexity of the assessment. The target completion for all risk assessments (as identified by the prioritized list) is estimated at 10-12 months.

Report on outcomes and monitoring

Department-specific reports will be completed as the risk assessments are completed. There will be continued monitoring and follow-up on the status of the control measures recommended. Re-assessment will be performed as necessary (i.e. when work practices change or new equipment is installed).

Communication

Key to the project's success will be frequent and ongoing communication to all stakeholders. Communication among those directly involved in the project, those responsible for the facility and all employees is essential.

The project's progress and activities will be reviewed monthly with the steering committee and OH&S Committee in order to provide regular updates, get feedback and input, and obtain suggestions and assistance in carrying out activities. There will be a concerted effort to provide ongoing information about the project to all hospital staff using various communication vehicles such as the hospital and regional newsletters, e-mails, and bulletin boards.

Ongoing communication will be conducted throughout the life span of the project. Specific project initiatives will be publicized including the results of the MSI incident analysis, the prioritized listing of jobs for assessment, and the risk assessment process. In addition, “case study” examples of completed risk assessments will be provided, including control measures recommended. The intent is to keep the project up front and the momentum going.

CONCLUSION

Within the province of B.C., this comprehensive risk assessment of patient/resident and material handling tasks will be one of the first, fully complete pictures of risks for musculoskeletal injury associated with working at a medium-size acute care facility.

The goal of the ergonomics risk assessment project is to reduce musculoskeletal injuries at Langley Memorial Hospital through comprehensive ergonomic risk assessment and implementation of control strategies. In doing so, it is intended that a systematic approach is undertaken and that this information is documented and provided to other healthcare employers, unions and the Workers' Compensation Board. The expertise and knowledge gained from this in-depth process will enable the South Fraser Health Region and other stakeholders to plan and implement MSI prevention activities.

REFERENCES

- (1) South Fraser Health Region internal memo “*Activities Template: Ergonomics Risk Assessment Project*”, prepared by Workplace Health and Safety, January 2001.
- (2) South Fraser Health Region internal memo “*Investment In Workplace Safety and Health Leadership*”, prepared by Workplace Health and Safety, June 1999.