The XXIXth Annual Occupational Ergonomics and Safety Conference
Seattle, Washington, USA
June 1-2, 2017

Integrating Safe Client Handling

Leah Thomas-Olson, Remi Adejumo, Melanie Gee, Deanna Harrison, and Nermin Helal

Fraser Health, Surrey, British Columbia, Canada

Corresponding author's Email: leah.olson@fraserhealth.ca

Author Note: Leah Thomas-Olson is an Ergonomist at Fraser Health and also conducts research & evaluation for the larger Workplace Health Department at Fraser Health. She has over 10 years' experience working on the development of the Safe Client Handling program as well as a wide range of research projects within the occupational health and safety programs offered by Fraser Health. She has published articles on safe client handling in emergency and operating room departments, as well as critical incident stress management. Leah has a Master of Science degree in Ergonomics and Organisational Behaviour and enjoys the complexity of healthcare ergonomics and collaborating with staff to foster a culture of safety.

Remi Adejumo has worked in various healthcare settings for her entire career of 20+ years; as a clinician and now as an Ergonomist. She finds the multifaceted healthcare setting with its evolving processes, makes for an engaging, yet challenging environment to apply ergonomic principles. Her focus is working collaboratively with stakeholders to address concerns identified as barriers to a safe work environment, with the implications for the quality of work.

Melanie Gee has worked for 10 years as an Ergonomist for Fraser Health. The focus of her work is to help prevent musculoskeletal injuries by promoting the Safe Client Handling program, helping identify barriers and overcoming these challenges through collaboration and staff engagement. She enjoys the variability of practicing ergonomics in healthcare.

Deanna Harrison (BSc (Kin), BA (Psych), CPE) has over 20 years of experience in the application of ergonomics principles to injury prevention and over 15 years' experience in healthcare. Her program focus is on Safe Client Handling within acute care, residential care and home health. She has previously published on safe client handling in the operating room. Deanna enjoys the complexity and challenges associated with applying ergonomics in healthcare.

Nermin Helal, BSc, has been a member of Fraser Health's Ergonomics Team for 10+ years, is a Canadian Certified Professional Ergonomist (CCPE) and a certified Project Management Professional (PMP). Nermin works to support ongoing safe patient handling and ergonomic programs within Fraser Health, as well as, provide consultation for the implementation of ergonomic and safe patient handling infrastructure in the design of new builds and renovations. Nermin also has a professional background in mining, manufacturing, and industrial ergonomics.

Abstract: Successful implementation of safety programs can be challenging in a healthcare environment that is complex and highly dynamic with shifting and competing priorities. With over 25,000 employees, Fraser Health is a large, unionized, multi-site and multi-level healthcare organization in British Columbia, Canada. The safe client handling (SCH) program in Fraser Health consists of core components of policy, mobility assessment protocols, equipment, and training. The focus of SCH program implementation has been to look for ways to integrate components with patient care initiatives, with a focus on improving the safety and quality of patient care. Over a two year period, Ergonomists worked on a multi-disciplinary team to develop a mobility assessment clinical practice guideline that outlines roles and responsibilities to encourage documentation and communication of mobility and improve the quality of patient care. This work led to participation on an acute-care based team, working to encourage and support early mobilization at the unit and site levels. Ergonomists also worked with a team in Home Health to develop protocols for assessing clients for equipment needs in the home, including training on equipment and sling options.

In the region's busiest Emergency department, a SCH champion was embedded to address patient handling issues specific to the emergency care environment. The SCH champion focuses on enhancing awareness of appropriate mobility assessment and use of equipment including improved storage and accessibility, and provides practical on-unit training. Within residential care, Ergonomists work with multi-disciplinary unit-based teams that strive for excellent care for residents, encompassing the principles of resident-centred care and working to enhance a culture of safety. Positive outcomes have included improvements in care team communication and teamwork, and creative programs for enriching the quality of life for residents. By looking for ways to collaborate, and partner with care delivery through different forums and in different sectors within the organization, safe client handling principles and program components can be effectively and seamlessly integrated to improve patient care and staff safety.

Keywords: injury prevention, safe client handling

1. Integrating Safe Client Handling

There continues to be high rates of musculoskeletal injuries (MSIs) within the healthcare industry in British Columbia, with over 5000 overexertion claims in 2015, higher than the construction, retail services, or transportation industries [2515, 2310, 1565 respectively] (WorkSafeBC, 2015). The majority of MSIs experienced by healthcare workers occur in patient care environments while performing patient handling (PH) tasks.

Fraser Health is a large, unionized, multi-site and multi-level healthcare organization in British Columbia, Canada, with over 25,000 employees. The Fraser Health Ergonomics Program is tasked with addressing Ergonomic issues in the healthcare environment. The safe client handling (SCH) program in Fraser Health was initiated in 2004. The goals of the SCH program focus on reducing the incidence and severity of MSI injuries, specifically targeting those related to PH. The SCH program consists of core components of policy, mobility assessment protocols, equipment, and training.

Successful implementation of safety programs can be challenging in a healthcare environment that is complex and highly dynamic with shifting and competing priorities. The focus of SCH program implementation has been to look for ways to integrate components with patient care initiatives, with an emphasis on improving the safety and quality of patient care.

1.1 Safe Client Handling Program Elements

The SCH Program elements include a SCH policy outlining roles and responsibilities; mobility assessment processes; provision of appropriate PH equipment and assistive devices; development and delivery of education and training resources; and management support to enhance and sustain a culture of safety.

The Safe Handling of Patients/Residents/Clients Policy has been established to ensure safe, quality care for patients/residents/clients and to ensure a framework for the provision of care so that the risk of injury to healthcare providers is minimized during handling tasks. The policy outlines the specific expectations and responsibilities of employees, management, and the departments that support the performance of work.

A clinical practice guideline for mobility assessment has been established across the continuum of care to ensure that safe methods for patient mobilization have been assessed, documented and communicated.

The provision of patient handling equipment and assistive devices is an essential component. Based on the risk factors for injuries associated with patient/resident/client handling, use of mechanical lifts is an essential practice. The Fraser Health Ergonomics Team assists in the provision of equipment and devices including ceiling lifts, floor lifts and friction-reducing manual devices.

A training program should address the skills required by the workers to effectively and safely complete the typical and critical tasks within their job, including the skills necessary to perform designated client handling procedures. Training may take many forms including new employee orientation, formal ongoing training, and informal peer training. Education addresses the knowledge requirements of a job. With regards to safe client handling, education should cover the processes, policies, and procedures that support a safe client handling environment.

2. Examples of Safe Client Handling Integration

The number and severity of worker injuries associated with PH tasks have remained high over the past three decades, leading to recommendations for evidence-based approaches to PH tasks (Harwood, 2015; Hodgson, Matz & Nelson, 2013; Nelson, Harwood, Tracey & Dunn, 2008; Nelson & Baptiste 2006). Further to this, research has shown that a multi-faceted and participatory design is required (Zalk, 2001; Nelson et al., 2006; Haney & Wright, 2007) to address injury prevention. An overarching principle of the SCH program is that the program not be viewed as separate from patient care, nor seen only as a staff safety initiative. Therefore, the focus of SCH program implementation in Fraser Health has been to look for ways to integrate components within patient care initiatives, with an emphasis on improving the safety and quality of patient care. Integrating SCH components into clinical practice is critical for providing quality care, along with the safety of staff and patients/clients/residents (DeCastro, Hagan & Nelson, 2006; Evanoff, Wolf, Aton, Canos & Collins, 2003; Zadvinskis & Salsbury, 2010).

2.1 Integrating Patient Assessment

High-risk patient/resident/client handling tasks are characterized by significant biomechanical and postural stressors imposed on health care providers (HCP). Factors, such as the patient/client/resident's weight, transfer distance, workspace, unpredictable behaviours, and awkward positions such as stooping, bending, and reaching, significantly contribute to the risks of performing patient/resident/client handling tasks (Nelson & Baptiste, 2006). The health of staff and injury prevention

is critical therefore SCH requires technology to minimize manually lifting and moving patients/residents/clients. It also requires a process to integrate these methods into patient care delivery, including assessment of mobility.

Traditionally, PH has not been viewed as a clinical issue yet due to the importance of mobility on patient care, this ideology is not acceptable. Patient/client/resident immobility can contribute to physical deconditioning, increased hospital length of stay and complications post discharge (Bassett, Vollman, Brandwene, & Murray, 2012), therefore early mobilization is critical. Prevention strategies include changes in model of care; focusing on early and ongoing assessment to promote functional mobility. Health care providers need to have the knowledge and skills to perform initial and ongoing mobility assessments to promote patient/resident/client mobility and decrease risk of injury to health care providers.

Over a two year period, Ergonomists worked on a multi-disciplinary team to develop a mobility assessment clinical practice guideline that outlines roles and responsibilities to encourage assessment, documentation and communication of mobility and improve the quality of patient care. All HCPs who participate in mobilizing patients/residents/clients will include observation and/or screening and assessment (using mobility algorithms as a guideline) to determine the safest method of transfer, repositioning and/or ambulation. This work led to participation on an acute-care based team, working to encourage and support early mobilization at the unit and site levels. Ergonomists also worked with a team in Home Health to develop protocols for assessing clients for equipment needs in the home, including training on equipment and sling options.

With the mobility assessment processes established within the health authority, additional linkages have been set up with other patient care programs that impact mobility including Falls and Injury Prevention guidelines and the 48/6 initiative which identified mobility as a key care area for providing timely and consistent care to patients.

2.2 Safe Client Handling Culture in Emergency Departments

The provision of technique training (i.e., body mechanics) or classroom-based off-unit education and training has been one of the traditional interventions of choice to prevent MSIs in healthcare. Published research shows that the traditional means of providing off-unit training sessions focusing on manual PH techniques and the use of good body mechanics does not have a lasting effect for changing work practices or on decreasing the risk of MSIs to healthcare workers (Hignett, 1996; Hignett, 2003; Nelson, Fragala & Menzel (2003); Brims, 2005; Nelson & Baptiste, 2006). Due to its fast-paced, often chaotic environment and variety and complexity of patients, the Emergency Department (ED) faces distinct challenges with respect to PH.

Based on a participatory ergonomic approach using peer champions that has been successfully reported in the literature (Smedley et al., 2003; Collins, Wolf, Bell & Evanoff, 2004; Koppelaar, Knibbe, Miedema & Burdof, 2011), the Fraser Health Ergonomics team embedded a SCH champion in the region's busiest ED to address PH issues specific to the emergency care environment. The SCH champion focuses on enhancing awareness of appropriate mobility assessment and use of equipment including improved storage and accessibility, and provides practical on-unit, in the moment PH coaching and training. The SCH champion liaises with the Fraser Health Ergonomics team on an ongoing basis.

Having a dedicated resource for PH on the unit provides a sustainable SCH education and training strategy for the ED. Having the SCH champion part of the ED team is crucial for understanding and translating the practical and beneficial aspects of mobilization and PH equipment use to staff, which helps to address common negative influences reported by healthcare workers around the use of PH equipment by minimizing barriers to appropriate implementation of ergonomic devices in health care.

2.3 Partnerships in Person-Centred Approach (PPCA) in Residential Care

The healthcare setting is complex and highly dynamic, with constantly evolving interactions between processes, equipment and of course, people: the patients, their families, and healthcare providers across the continuum of care. When issues surface in this ever-changing environment, one-size fits all solutions are ineffective in addressing them.

In 2007, members of the Fraser Health Workplace Health team worked with a residential care facility to explore the challenge of rising injury rates due to PH despite equipment and processes in place. It was determined that workplace incidents were being impacted by a number of variables, including the underlying workplace culture. Teamwork and communication issues were a common thread, and reported to be factors in the challenges faced by the staff.

Since that time, several residential care facilities have adopted the Partnerships in Person-Centred Approach (PPCA) as a way of fostering communication, thereby enhancing relationships and improving teamwork. Research evidence supports the relationship between effective teamwork and increased safety and quality of care (Manser, 2009). Both nursing and patient safety need to be considered simultaneously (de Ruiter, 2006), and it has been demonstrated that an effective healthcare system has an engaged and productive workforce (Sikka, Morath & Leape, 2015). Ergonomists work with multi-disciplinary unit-based teams that strive for a common goal of excellent care for residents, encompassing the principles of resident-centred care (Brooker, 2004) and working to enhance a culture of safety.

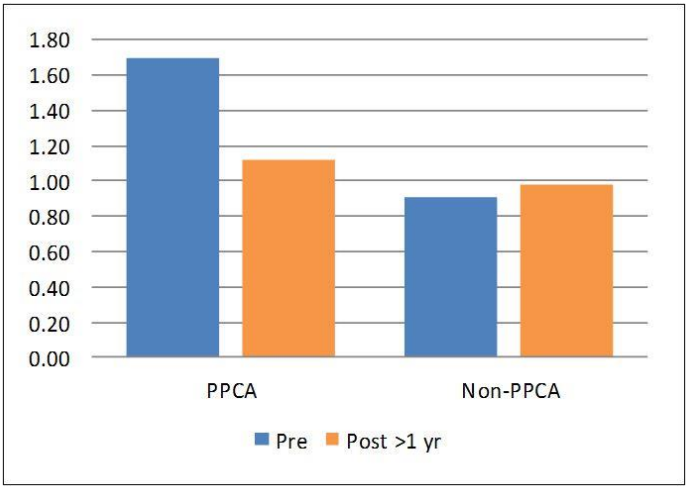

Figure 1: Comparison of WorkSafeBC Claim Rates for PPCA vs. non-PPCA sites

The main elements of the PPCA model are short duration weekly meetings with care staff and leadership focusing on immediate concerns; longer duration multi-disciplinary team meetings in which the Ergonomists participate occur every 2 – 3 months; and safety huddles. These elements in combination provide a practical approach for staff to identify issues impacting their ability to provide safe, quality resident care, develop solutions collaboratively, and implement effective strategies to achieve their goals. Measures include injury data and safety culture components, which are assessed using the Innovation Survey (conducted every 3 years).

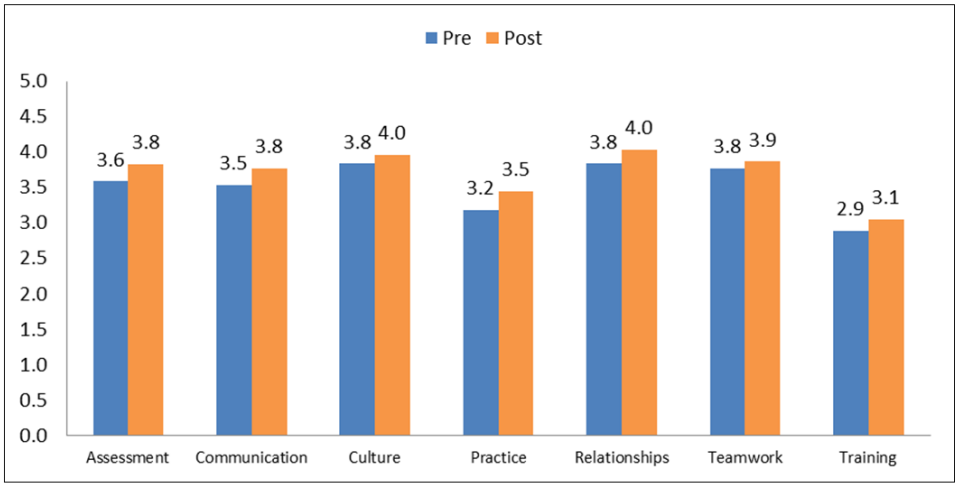

Figure 2: Innovations Survey Results – Pre and Post PPCA Start-Up

With Leadership support and based on the principle that the conditions of work are the conditions of care, PPCA lays a solid foundation for the working through of complex issues utilizing the expertise of all players in the continuum of care. Residential care facilities that have adopted the PPCA model have seen decreases in WorkSafeBC claims (figure 1)

ISBN: 97819384965-5-4

improvements in safety culture domains (figure 2), positive outcomes in care delivery and creative programs for enriching the quality of life for residents. Challenges include scheduling of the bimonthly meetings, changes at the highest levels of the organization, and competing priorities on a macro level.

3. Conclusion

A key part of the collaborations are embedding resources and working closely with clinical staff. By looking for ways to integrate PH with care delivery through different forums and in different sectors within the organization, safe client handling principles and program components can be effectively and seamlessly integrated to improve patient care and staff safety.

4. References

Bassett, R.D., Vollman, K.M., Brandwene, L. & Murray, T. (2012). Integrating a multidisciplinary mobility program into intensive care practice: A multicentre collaborative. *Intensive and Critical Care Nursing, 28* (2), 88-97.

Brims M. (2005). *Musculoskeletal Injury Prevention: Education Strategy Review*. Workplace Health & Safety, Interior Health.

Brooker, D. (2003). What is person-centred care in dementia?. *Reviews In Clinical Gerontology*, *13*(3), 215-222. doi:10.1017/S095925980400108X

Collins, J.W., Wolf, L., Bell, J. & Evanoff, B. (2004). An evaluation of a "best practices" musculoskeletal injury prevention program in nursing homes. *Injury Prevention, 10*(4), 206-211.

DeCastro, A. B., Hagan, P. & Nelson, A. (2006). Prioritizing safe patient handling: The American Nurses Association's handle with care campaign. *The Journal of Nursing Administration, 36*(7-8), 363-369.

de Ruiter, H. (2006). The safety paradox. *Creative Nursing, 12*(3), 4-7.

Evanoff, B., Wolf, L., Aton, E., Canos, J. & Collins, J. (2003). Reduction in injury rates in nursing personnel through introduction of mechanical lifts in the workplace. *American Journal of Industrial Medicine, 44(5),* 451-457.

Haney, L. L. & Wright, L. (2007). Sustaining staff nurse support for a patient care ergonomics program in critical care. *Critical Care Nursing North America, 19*(2), 197-204.

Harwood, K. (2015). Blazing a new trail: Advocacy for safe patient handling and mobility. *American Journal of Safe Patient Handling and Movement, 5*(1), 21-26.

Hignett, S. (1996). Work-related back pain in nurses. *Journal of Advanced Nursing, 23*(6), 1238-1246.

Hignett, S. (2003). Intervention strategies to reduce musculoskeletal injuries associated with handling patients: a systematic review. *Occupational and Environmental Medicine, 60*(9). doi:10.1136/oem.60.9.e6.

Hodgson, M. J., Matz, M. W., & Nelson, A. (2013). Patient handling in the Veterans Health Administration: Facilitating change in the healthcare industry. *Journal of Occupational and Environmental Medicine, 55*(10), 1230-1237.

Koppelaar, E., Knibbe, J.J., Miedema, H.S. & Burdorf, A. (2011). Individual and organizational determinants of use of ergonomic devices in healthcare. *Occupational and Environmental Medicine, 68*(9), 659-665. doi:10.1136/oem.2010.055939.

Nelson, A. & Baptiste, A.S. (2006). Evidence-based practices for safe patient handling and movement. *Orthopaedic Nursing, 25*(6), 366-379.

Nelson, A., Fragala, G., & Menzel, N. (2003). Myths and facts about back injuries in nursing. *American Journal of Nursing, 103*(2), 32-40.

Nelson, A., Harwood, K., Tracey, C., & Dunn, K. (2008). Myths and facts about safe patient handling in rehabilitation. *Rehabilitation Nursing, 33*(1), 10-17.

Nelson, A., Matz, M., Chen, F., Siddharthan, K., Lloyd, J. & Fragala, G. (2006). Development and evaluation of a multifaceted ergonomics program to prevent injuries associated with patient handling tasks. *International Journal of Nursing Studies, 43*, 717-733.

Manser, T. (2009). Teamwork and patient safety in dynamic domains of healthcare: A review of the literature. *Acta Anaesthesiologica Scandinavica, 53*(2), 143-151. doi:10.1111/j.1399-6576.2008.01717.x

Sikka, R., Morath, J. M., & Leape, L. (2015). The Quadruple Aim: Care, health, cost and meaning in work. *BMJ Quality & Safety, 24*(10), 608-610. doi:10.1136/bmjqs-2015-004160

Smedley, J., Trevelyan, F., Inskip, H., Buckle, P., Cooper, C. & Coggon, D. (2003). Impact of ergonomic intervention on back pain among nurses. *Scandinavian Journal of Work Environment & Health, 29*(2), 117-123.

WorkSafeBC. *2015 Statistics*. Richmond, BC: WorkSafeBC; 2015.

Zadvinskis, I. M. & Salsbury, S. L. (2010). Effects of a multifaceted minimal-lift environment for nursing staff: Pilot results. *Western Journal of Nursing Research, 32*(1), 47-63.

Zalk, D.M. (2001). Grassroots ergonomics: initiating an ergonomics program utilizing participatory techniques. *Annals of Occupational Hygiene, 45*(4), 283-289.