

## **ABSTRACT**

- Abstract ID: 250
- Presentation Type: POSTER PRESENTATION
- Title: AN EDUCATIONAL MODEL FOR DEVELOPING A SUCCESSFUL WOUND CARE PROGRAM IN A HOSPITAL SETTING
- Author(s): Eisenberg, M., St. John's Rehab Hospital, Supported by Smith & Nephew Inc.
- Abstract: **PURPOSE:** To create and deliver an education program to establish best practices for the prevention and treatment of pressure ulcers. **RELEVANCE:** This project demonstrates quantifiable progress in clinical outcomes through best practices in advanced wound care in a unique rehabilitation hospital setting. **DESCRIPTION:** An interprofessional committee was organized to oversee the project which began with a wound point prevalence study to establish baseline data. Modest hospital infrastructure changes were made to support the project. A multifaceted, interprofessional education program was launched, respecting principles and individual learning preferences described in adult learning theory. A second point prevalence study was completed 11 months after the initial one. Lastly, a "Strategic Partnership" alliance was established to provide our hospital with a custom education program that will span several years. **OBSERVATION/DISCUSSION:** 113 patients were surveyed in the initial point prevalence study and the pressure ulcer prevalence rate was 21.2%. The second point prevalence study surveyed 140 patients and showed a 38.7% reduction in pressure ulcer prevalence with a rate of 13%. Although NPUAP guidelines were used, data collection in each study was completed by different assessors. **CONCLUSIONS:** In less than a year, following modest infrastructure changes and implementation of a comprehensive education program, our pressure ulcer prevention program showed a significant reduction in pressure ulcer prevalence rate.
- Poster Category: Best Practices or Organizational Initiatives

## ABSTRACT

- Abstract ID: 143
- Presentation Type: POSTER PRESENTATION
- Title: BEST PRACTICES IN FALLS PREVENTION & MANAGEMENT: A GAP ANALYSIS & ORGANIZATIONAL STRATEGY
- Author(s): Solway S\*; Fancott C\*; Toronto Rehabilitation Institute, Toronto, Ontario.
- Abstract: **PURPOSE:** To develop an organizational strategy for falls prevention and management. **RELEVANCE & DESCRIPTION:** Falls are complex events caused by multiple factors related to mobility, sensory perception, cognitive function, medications, comorbidities and environmental conditions. A review of several fall incidents at our organization, as well as the recent Healthcare Insurance Reciprocal of Canada (HIROC) Risk Management Self Assessment and addition of falls prevention as a new Required Organizational Practice (ROP) for the Canadian Council of Health Services Accreditation (CCHSA), has led to falls prevention as a safety and best practice priority at Toronto Rehab. Using the Toronto Rehab Clinical Best Practice Process, patient need in each patient care area was determined, present practice reviewed, and a gap analysis with best practice performed. A resulting organizational strategy with recommendations was developed with the goal to enable a consistent organizational approach including standardization of effective risk management to falls prevention and a reduction of adverse falls incidents. Emphasis was placed on a collaborative, inter-professional approach. **DISCUSSION & CONCLUSION:** Twenty-eight recommendations in the areas of data and evaluation; fall risk assessment; falls risk and injury prevention strategies; post falls assessment; equipment and supplies; wheelchair skills and safety; staff education and training; patient and family education; policy; audit and evaluation and clinical innovation and research were developed and approved by senior leadership. Key champions in each patient care area, portfolio and department have been identified to guide the implementation of the recommendations, ensure sustainability, and facilitate accountability and timelines. In step with the planning and implementation of these recommendations, an evaluation plan which encompasses both process and outcome indicators, is occurring.
- Poster Category: Best Practices or Organizational Initiatives

## ABSTRACT

- Abstract ID: 230
- Presentation Type: POSTER PRESENTATION
- Title: CAN ALEX DECIDE?: ASSESSING CAPACITY IN THE PEDIATRIC REHABILITATION SETTING
- Author(s): McDonald, M.\*, Bloorview Kids Rehab and Toronto Rehab; Dade, L., Bloorview Research Institute and Bloorview Kids Rehab
- Abstract: **PURPOSE:** Since 1996, Ontario law requires clinicians to obtain consent from all patients, regardless of age. During the consent process, clinicians assess capacity, yet there are no tools for pediatric capacity assessment. The proposed tool will focus attention on the complexity of capacity assessment in pediatric rehabilitation. **RELEVANCE:** Children requiring rehabilitation may be followed over extended periods of their development. Typically they undergo numerous types of procedures and may be capable to consent to some treatments and not to others. Children's capacity fluctuates over time, as they change cognitively in relation to development, illness, or recovery processes. Thus, clinicians need to assess capacity continually. **DESCRIPTION:** Respect for children and adolescents and freedom of choice are considered paramount and must be combined with a philosophy of patient and family-centered care. Clinicians are responsible for identifying when a patient is incapable to make decisions. A review of Toronto hospital policies and health professional college's policies shows very little assistance is given to clinicians in assessing capacity of children. A capacity assessment tool is proposed by adapting an existing adult tool and supplementing it with shared decision-making principles. **OBSERVATION/DISCUSSION:** During recent training sessions, some clinicians were still depending on age as the main criterion for capacity. Clinicians were uncertain how to best assess capacity by other means and identified the need for a tool. This capacity tool is at the stage of development requiring broad input from all stakeholders. **CONCLUSIONS:** Children should be involved in decision-making about rehabilitation to the extent they are able. Clinicians are continually assessing the capacity of a child within the complex rehabilitation setting but, as yet, have no tool to assist them. This tool recognizes the gradual shift in responsibilities in leadership for care from the health care clinician and parents to the young person as developmentally appropriate.
- Poster Category: Best Practices or Organizational Initiatives

## ABSTRACT

- Abstract ID: 237
- Presentation Type: POSTER PRESENTATION
- Title: CLINICAL REASONING AND DECISION MAKING IN COMMUNITY CONTEXTS
- Author(s): \*Rutledge, L. M., Faculty of Graduate Studies, Department of Occupational Therapy, Dalhousie University; Kita, M., Department of Rehabilitation Science, University of Toronto; Eimantas. T., Department of Rehabilitation Science, University of Toronto; Rappolt, S., Department of Occupational Science and Occupational Therapy, University of Toronto;
- Abstract: Clinical Reasoning and Decision-Making in Community Contexts **PURPOSE:** This study examines occupational therapists' clinical reasoning and decision-making processes across diverse and complex community practices. **RELEVANCE:** In our modern health care lexicon of professional and economic accountability, occupational therapists are increasingly expected to justify their clinical reasoning and decision-making processes. Daily practice supported by research evidence and client expectations in promoting positive functional outcomes must also acknowledge funding source expectations. Clinical decision-making becomes particularly challenging when working with clients in community environments. Various theories of clinical reasoning and decision-making exist across healthcare with limited empirical evidence suggesting how these processes can positively influence outcomes within the diverse confluence of social, physical, legal and economic factors and the input of multiple stakeholders. **DESCRIPTION:** In order to understand the clinical reasoning processes used by rehabilitation therapists practicing in complex practice situations, we explored clinical reasoning and decision-making processes across three community-based practice contexts: return to work, auto insurance and home modifications. Following a systematic review of the literature on clinical reasoning and decision-making in healthcare, we pooled therapists' clinical reasoning and decision-making data from qualitative research studies of therapists working in these three areas and the data were synthesized using categories and themes. **OBSERVATION/DISCUSSION:** Triangulation of the findings from the three studies suggest that different modes of reasoning are required across the stages of rehabilitation, including diagnostic and procedural reasoning, narrative, ethical, interactive, conditional and pragmatic reasoning. Furthermore, therapists' use of a particular mode of clinical reasoning related to numerous factors including: stage of clients' rehabilitation process, context, stakeholders involved and environmental influences. **CONCLUSIONS:** A provisional framework for clinical reasoning and decision-making in complex community environments was generated in this study. This framework requires prospective evaluation with larger samples of rehabilitation therapists across diverse community practices.
- Poster Category: Best Practices or Organizational Initiatives

## ABSTRACT

- Abstract ID: 153
- Presentation Type: POSTER PRESENTATION
- Title: COLLABORATIVE PARTNERSHIP TO INTEGRATE ACCESSIBLE SERVICES FOR PERSONS WITH DIABETES
- Author(s): Statton, C.\*, Oh, P., Toronto Rehab; Lewis, J., and MacNeill, G., Scarborough Community Diabetes Education Program
- Abstract: **PURPOSE:** To trial an integrated approach for managing individuals with diabetes mellitus (DM) through a collaboration between a Community Diabetes Education Program (DEP) and a case-managed Diabetes Exercise and Healthy Lifestyle Program (DEHLP). **RELEVANCE:** Diabetes is an important condition with high health burden and especially high impact in the South Scarborough community who also face economic and geographic challenges. Medical management, diet, lifestyle interventions and exercise are all considered as front-line therapy in DM treatment. Diabetes education can have a positive impact on self-management behaviours and glycemic control, particularly when accompanied by intensive follow-up support. Physical activity increases fitness, improves metabolic profile, and aids in weight loss. An ideal multidisciplinary disease management model would combine both of these approaches and deliver these interventions in a fully accessible format (i.e. affordable and close-to-home). **DESCRIPTION:** A partnered-program model was developed and to date has enrolled 16 clients in weekly aerobic and resistance training classes for a six-month period. A cardiopulmonary assessment, for prescribing appropriate exercise, was performed at the DEHLP prior to the classes beginning at the DEP. The sessions also included education related to exercise or diabetes management and individual support to help clients achieve their goals. **OBSERVATION:** Fasting blood glucose, A1C, lipids and fasting insulin levels were measured, along with VO<sub>2</sub>peak and body composition (BMI, % body fat, waist and hip circumference) pre- and post- six months participation in the program. **CONCLUSIONS:** Lifestyle factors are key in DM management. We have developed a model to combine the collective expertise of a Diabetes Education Centre and exercise rehab program to successfully deliver an integrated and accessible lifestyle intervention for a community in need.
- Poster Category: Best Practices or Organizational Initiatives

## ABSTRACT

- Abstract ID: 212
- Presentation Type: POSTER PRESENTATION
- Title: CREATING COMMUNITY TOGETHER
- Author(s): \*Curran, C.J., Bloorview Kids Rehab; Toronto, Ontario; Healy, H.; Bloorview Kids Rehab; adapted from Provincial Models of Service Delivery Task Force; Bloorview Kids Rehab.
- Abstract: A four-part participatory action model to increase community capacity & support social change for children & youth with disabilities. **PURPOSE:** The purpose of this model is to facilitate independent healthy lifestyles within supportive and interactive communities for children and youth with disabilities. This framework provides guiding principles and a philosophical approach to community practice. **RELEVANCE:** The World Health Organization (WHO), in its most recent definition states that health promotion and the associated efforts put into community development are valid in the prevention of diseases. WHO goes further by suggesting that individuals should assume responsibility for the health and welfare of themselves, their families and community members, encouraging the development of the community's capacity to contribute to their overall health and well being. Our organization is part of the community and as such has the responsibility to respond accordingly. **DESCRIPTION:** The model is a direct result of a framework that was developed for the provision of community focused practice. It serves to promote and support responsiveness to the needs of children and youth with disabilities and their families across a full spectrum of services. The model addresses the changing role of health care providers in resource sharing, community outreach, and community development. **OBSERVATION /DISCUSSION:** Feedback from participants in national and international workshops indicates that the model is useful in providing practice guidelines when developing partnerships with local service providers. **CONCLUSION:** Community based health initiatives for the pediatric rehab population is on the increase. As demand for community practice continues to grow, the role of the health care provider will evolve to that of an educator and facilitator. This model speaks directly to changes in service delivery and to the provision of alternative approaches to practice.
- Poster Category: Best Practices or Organizational Initiatives

## ABSTRACT

- Abstract ID: 109
- Presentation Type: POSTER PRESENTATION
- Title: DEVELOPING CLINICAL EXPERTISE IN REHABILITATION NURSING USING GEOGRAPHY/STAFF ASSIGNMENT
- Author(s): Mngoma, N., Providence Care; Whitmarsh, C., Providence Care; Clark, D., Providence Care
- Abstract: **PURPOSE:** To develop nursing expertise in one of the clinical areas of patient care; To enhance patient care through an integrated team approach. **RELEVANCE:** To develop interest and areas of expertise among rehab nurses, a two-part initiative was implemented. The geographic layout of the rehabilitation unit was redesigned such that each clinical group of patients was located within a distinct area, thus creating STROKE, MUSCULOSKELETAL, SPINAL CORD INJURY, ACQUIRED BRAIN INJURY clinical areas. Also, nursing staff remain in the assigned clinical areas instead of regularly rotating. **MODEL:** Prior to this initiative nurses were assigned to patients on a rotation basis, and the patient mix could vary greatly. The expectation is that, by remaining in their areas, nurses would develop greater interest in their areas, expertise in caring for that clinical group and be a more integral part of the care team. **FINDINGS:** The initiative, geographic location of patients and staff assignment, has allowed nursing staff to become an integral part of the interdisciplinary team, by allowing opportunity for greater understanding of the condition, and familiarity with clients and their families, thus better able to serve client needs. Although there have been some challenges associated with the new model, a number of benefits have also been observed and reported. For example, nursing staff are now more actively engaged in relevant continuing education. Furthermore, nurses have implemented clinical and educational initiatives to improve patient care; innovative communication strategies; education initiatives; and new plans of care. **DISCUSSION:** The location of clients and staff assignment by clinical condition have resulted in tangible positive changes to care and nursing staff expertise and work experience. The poster will describe the benefits, challenges and solutions that have been implemented.
- Poster Category: Best Practices or Organizational Initiatives

## ABSTRACT

- Abstract ID: 121
- Presentation Type: POSTER PRESENTATION
- Title: ENSURING THERAPIST DELIVERED ARTHRITIS PROGRAMMES REFLECT BEST PRACTICE GUIDELINES.
- Author(s): \*Reeb, M., The Arthritis Society; McKenna, R., The Arthritis Society
- Abstract: **PURPOSE:** The Arthritis Society's Arthritis and Rehabilitation Program is delivered by therapists and social workers with advanced training in the assessment and management of arthritis and is based on established management protocols. A review of selected populations was undertaken to determine if the existing programs reflected best practises based on current research evidence. **RELEVANCE:** This project provides insight for clinicians interested in ensuring that their current programmes reflect best practise guidelines. **DESCRIPTION:** Seven Content Expert Groups (CEG) were established: Osteoarthritis, Rheumatoid arthritis, Spondyloarthropies, Juvenile idiopathic arthritis, Total joint replacement, Fibromyalgia and Psychosocial. Each CEG conducted a literature review of the most effective non-pharmacological interventions/treatments. Assessment, data collection and charting guidelines were also reviewed. Logic Models were implemented to evaluate what needed to be enhanced, modified or changed in relation to the existing programs. Outcome measures were evaluated for best fit in the context of clinical practice. Seven logic models were models were completed and five were identified for pilot testing the feasibility and relevance of the selected outcome measures. Decisions for change were made using Plan, Do, Study, Act cycles. **DISCUSSION:** Following the pilots, some outcome measures were eliminated based on client burden, cost, lack of response, or other feasibility issues. Use of performance measures was left to the discretion of the therapist. To ensure consistency, a train the trainer approach is being used to roll out the new programming and measures province wide. **CONCLUSIONS:** Integration of the specific types of arthritis treatment protocols into Logic Models enabled a comprehensive review of The Arthritis Society programs. The process provided a logical framework to determine program efficacy, appropriate use of resources, and clinical feasibility in a community based practise. Current programming as delivered by staff of The Arthritis Society is reflective of established guidelines that are supported by clinical research evidence and clinically relevant outcome measures have been adopted.
- Poster Category: Best Practices or Organizational Initiatives

## ABSTRACT

- Abstract ID: 215
- Presentation Type: POSTER PRESENTATION
- Title: FRACTURE FIGHTERS: THE ONTARIO OSTEOPOROSIS STRATEGY FOR INPATIENT REHABILITATION
- Author(s): Jaglal SB, University of Toronto, Toronto Rehabilitation Institute, Women's College Hospital; Evans C, University of Toronto; \*Quan V, University of Toronto; Munce S, University of Toronto; Barrett L, Women's College Hospital; Papaioannou A, Hamilton Health Sciences; Flannery J, Toronto Rehabilitation Institute, funding support from the Ministry of Health and Long-Term Care
- Abstract: **PURPOSE:** To integrate osteoporosis assessment and management into existing inpatient rehabilitation services provided to patients post-fracture, thereby preventing recurrent fractures. **RELEVANCE:** The presence of a low-trauma fracture is a significant risk factor for osteoporosis and for predicting future fracture. Despite this, conventional rehabilitation protocols frequently did not make the link between fractures and osteoporosis. An integrated system for the management of fractures could improve tertiary prevention of osteoporosis, and reduce complications and recurrent fractures. **DESCRIPTION:** An environmental scan of Ontario inpatient rehabilitation facilities was conducted to identify characteristics of the facilities, staff, and patient population; and determine baseline osteoporosis practices and access to resources. Clinical coaches from participating facilities attended provider training workshops held across Ontario. Training sessions were structured using Pathman's model for change. Training sessions provided education related to osteoporosis and inpatient rehabilitation best practices; resources to raise awareness and facilitate the use of these practices; and strategies for integration of new practices into standard care. Facilities completed best-practices checklists for individual patients to determine uptake of the osteoporosis-related practices. **OBSERVATION/DISCUSSION:** Thirty-seven sites participated in the environmental scan. Results from the environmental scan demonstrated variability in the inpatient unit characteristics, access to osteoporosis resources, and current osteoporosis practices. Resource materials were developed for the purposes of raising knowledge and awareness, and to streamline processes for follow-up osteoporosis management. Eighty-eight clinical coaches of varying professional backgrounds from 38 facilities, participated in the provider training workshops. Knowledge of osteoporosis improved (Mean Osteoporosis Knowledge Questionnaire scores, pre=16/22, post=18/22). **CONCLUSIONS:** Provider training workshops enhanced participant knowledge and facilitated the initiation of osteoporosis-related practices for post-fracture patients. Participants emphasized the importance of a tailored approach to accommodate unique differences in provider, organization, and system characteristics. Continued support and follow-up with participating sites will assess the degree to which changes have occurred.
- Poster Category: Best Practices or Organizational Initiatives

## ABSTRACT

- Abstract ID: 204
- Presentation Type: POSTER PRESENTATION
- Title: IMPLEMENTATION OF AN "E-CASEPATH" FOR TOTAL JOINT REPLACEMENTS ACROSS THE CONTINUUM
- Author(s): \*Leung, B., Lakeridge Health Oshawa; Hyde, B., Lakeridge Health Oshawa. Anderson, C., Lakeridge Health Oshawa.
- Abstract: **PURPOSE:** To fully integrate an electronic casepath (E-casepath) into daily documentation for TJR patients across Pre-op/Acute/Rehab units. **RELEVANCE:** Lakeridge has implemented strategies to increase access and reduce wait times for elective TJR replacements since 2005. This project is a follow-up to the presentation done in 2007 and funded by the MOHLTC wait time innovations & education projects. Lakeridge is the first facility to create such a tool to work with electronic documentation. **DESCRIPTION:** A pre- and post- implementation survey was given to all staff involved in the care of TJR replacement patients to obtain a view of the current system (ease of documentation, time required to document and information retrieval). The surveys led us in the development of the e-casepath. Staff workgroups were created in the acute and rehab units for all disciplines, these groups developed the patient specific goals, interventions and documentation screens. They are the "super users" for the system, and will take part in educating and orientating staff members during implementation (Jan/08). The casepath is also designed to track indicators: acute & rehab LOS, % of patient "falling off" path, discharge location, and accuracy of our pre-op screening tool. The indicator results will identify strength/weakness in practice and process. **OBSERVATION/DISCUSSION:** The pre-survey results indicated that the majority of frontline staff is spending a significant amount of time on documentation, and away from patient care. There were many challenges with this project which involves changing staff philosophy, practice and getting interdisciplinary teams to work together and come to a consensus. **CONCLUSION:** The e-casepath has created a multidisciplinary input/access to information and facilitated information sharing throughout the continuum of care. The success in implementing this project could lead to further development in e-casepaths for the fractured hip population, stroke population or any condition that has a predictable path.
- Poster Category: Best Practices or Organizational Initiatives

## ABSTRACT

- Abstract ID: 162
- Presentation Type: POSTER PRESENTATION
- Title: IMPLEMENTING A COMMUNITY-BASED EXERCISE PROGRAM FOR PERSONS WITH NEUROLOGICAL CONDITIONS
- Author(s): Howe\*, J. Toronto Rehabilitation Institute, University of Toronto; Brunton, K.; Salisbury, K.; Bayley, M.; Gomperts, M.; Komar, J.; Peppiatt, C.; Roy, J.; Zee, J.; all of Toronto Rehab; Salbach, N., University of Toronto. Funded by the Toronto Rehab Foundation
- Abstract: **PURPOSE:** To enable transitioning from the health care system to community-based programs for ongoing exercise opportunities for persons with neurological conditions. To evaluate the safety, feasibility and participant outcomes of the exercise program designed by physiotherapists but led by fitness instructors at community centers. **RELEVANCE:** Because of their underlying impairments, persons with neurological conditions are at risk for inactivity and deconditioning after discharge from rehabilitation. Few opportunities presently exist in the community for these individuals to exercise in a safe and effective manner. As a long-term solution to increase activity and well-being, it is reasonable to provide exercise classes in community centers supervised by fitness instructors with non-clinical backgrounds. **DESCRIPTION:** A partnership was developed between a rehabilitation facility and an organization of community centers to deliver a pilot exercise program for 15 participants with neurological conditions such as stroke, multiple sclerosis or brain injury. An ongoing educational and support process for the fitness instructors was developed. An exercise program in a circuit format with systematic methods of participant progression was delivered twice per week for 12 weeks at two community centers. A single-group pre- and post-intervention design was used to evaluate participant outcomes including tests of walking and balance capacity, balance self-efficacy, vitality and community reintegration. **OBSERVATIONS/DISCUSSION:** Preliminary evaluations (repeated spot checks of the exercise classes, focus groups, attendance rates and zero-occurrence of adverse events) suggest that the program is safe, feasible and satisfying for the instructors and participants. Results of the participant outcome measures will be presented. **CONCLUSION:** It is critical to pool our strengths and enhance collaboration with community partners to create exercise opportunities for long-term health promotion for persons with neurological dysfunction. Future work will include expansion to more community centers to increase local accessibility and ongoing evaluation of safety, feasibility and participant outcomes.
- Poster Category: Best Practices or Organizational Initiatives

## ABSTRACT

- Abstract ID: 107
- Presentation Type: POSTER PRESENTATION
- Title: IMPROVED USE OF PHYSIOTHERAPY IN OUT-PATIENT ORTHOPEDIC CLINICS
- Author(s): Aiken, AB.\*, Queen's University; Hope, J., Hotel Dieu Hospital; Harrison, MM., Kingston General Hospital; Atkinson, M., Hotel Dieu Hospital. Work done in Hotel Dieu Hospital, Kingston ON. Financial support provided by Ministry of Health and Long Term Care, Government of Ontario.
- Abstract: **PURPOSE:** In order to address wait list issues many institutions have begun to examine interdisciplinary collaborative models of care. The purpose of this study was to examine the effectiveness of expanding the role of the physiotherapist in the out-patient orthopedic clinics to provide pre- and post-operative consultation to patients referred for hip and knee arthroplasty in order to save surgeons' time, and improve patient throughput. **DESCRIPTION:** A collaborative model of care was successfully implemented in these clinics and is ongoing, with data being collected. Pre-operatively the physiotherapist screens all patients before they are seen by the surgeon, and some do not see the surgeon. Post-operatively, the physiotherapist does all 3- and 6-month post-surgical visits. The physiotherapist has medical directives to order x-rays and blood work as needed. **OBSERVATIONS/DISCUSSION:** It has been found that the clinical caseload for the surgeon can be reduced by 30% pre-operatively and 70% post-operatively. The surgeons are able to book and assess more new patients and spend more time performing surgery, thereby increasing throughput and decreasing wait lists. Patients express a high to very high rate of satisfaction with both the pre-operative and post-operative collaborative model of care based on patient satisfaction surveys. **CONCLUSIONS:** This highly successful model has been adopted by the Ontario Ministry of Health to implement in hospitals to address wait time priorities. Data collection and evaluation are ongoing in order to ensure the continued success of the model. The most current numbers will be presented at the Best Practices Day.
- Poster Category: Best Practices or Organizational Initiatives

## ABSTRACT

- Abstract ID: 117
- Presentation Type: POSTER PRESENTATION
- Title: INPATIENT REHABILITATION OUTCOMES IN TOTAL HIP AND KNEE REPLACEMENT PATIENTS
- Author(s): Mngoma N\*, PhD; Symes A, BA, BPHE, BSc PT; McGuire M, PT, BSc PT/OT, CHE; Blair D, BScN, RN(EC) PROVIDENCE CARE, KINGSTON, ONTARIO
- Abstract: RESEARCH QUESTION: What changes in post-acute rehabilitation outcomes can be expected when an enhanced care strategy is implemented? RELEVANCE: We hypothesized that enhancing care by introducing a nurse practitioner role and changing the model of care from 5- to 7-day inpatient rehabilitation would result in greater functional improvements and shorter lengths of stay post-TKR and post-THR. SAMPLE: Consecutive patients admitted to the inpatient rehabilitation unit following unilateral hip or knee joint replacement were included in the analysis. DATA COLLECTION: In addition to basic demographic data, measures used were based on the FIM(TM) instrument (Functional Independence Measure) collected as part of the National Rehabilitation Reporting System (NRS) data as analyzed and reported by CIHI© (Canadian Institute for Health Information). These included: Average Motor Function Change, Percent Change in Total Function score, and Length of Stay (LOS) Efficiency: FIM(TM) change/LOS. ANALYSIS: Data were collected prospectively during the first year of implementation (April 05-March 06), and compared to data collected the previous year (April 04-March 05). New post-THR or TKR admissions with complete admission and discharge data were included in the analysis. FINDINGS: Overall, greater functional gains were achieved within similar length of stay durations, when outcomes were compared before and after the Enhanced Care Strategy. Compared to one-year before Strategy, more patients were admitted to the unit; on average patients were admitted earlier. Greater LOS Efficiency was achieved. CONCLUSIONS: The Strategy was successful in allowing more and earlier admissions following surgery, thus increasing the number of available beds in acute care. Both hip and knee replacement patients showed greater functional gains following rehabilitation during the Strategy compared to the previous year. Therefore, although LOS remained nearly unchanged, the rehab was more efficient in achieving functional outcomes (LOS Efficiency).
- Poster Category: Best Practices or Organizational Initiatives

## ABSTRACT

Abstract ID: 227

Presentation Type: POSTER PRESENTATION

Title: INTEGRATION OF INFORMATION TECHNOLOGY INTO CLINICAL PRACTICE:  
IMPROVING THE USE OF PATIENT-BASED OUTCOME INFORMATION

Author(s): \*Inrig, T., St. Michael's Hospital, Beaton, D., St. Michael's Hospital, Harniman, E., St. Michael's Hospital, Hogg-Johnson, S., Institute for Work and Health, Richards, R., Sunnybrook Health Sciences Centre (Holland Orthopaedic & Arthritic Centre)

Abstract: **PURPOSE:** One of the most difficult aspects of collecting standardized outcome measures is the time it takes to score the measures. The inability to have scores readily available during a particular client visit decreases their usefulness. Information technology (IT) has advanced to the point of being able to manage data entry using scanners and can immediately generate customized reports for each client. The purpose of this poster is to describe the process used to integrate IT with routinely completed surveys in the Workplace Safety and Insurance Board (WSIB) Shoulder and Elbow Specialty Clinic. **METHODS:** One month before coming to the clinic, clients of the WSIB Shoulder and Elbow Specialty clinic are mailed information describing the routine collection of patient-based outcomes. On arrival to the clinic, a consent form is reviewed and signed. Clients then complete a survey which includes self-reported descriptors of pain, disability, overall health, work status, and demographics. At the start of routine data collection, March 2004, surveys were designed for scannable data entry using Teleform v.8.2 (Verity Inc.). Clinic staff reviewed the content of the survey and, through a series of feedback sessions, decided upon the type of information they would like to see in a summary form. A mock up of a summary report was designed, circulated for feedback, and approved. A computer programmer designed the automated generation of that report. **RESULTS:** To date, 2,800 workers have consented and completed the survey. Teleform data entry has succeeded and a complete Teleform system has been installed in the clinic. **CONCLUSIONS:** This presentation will provide other clinics and researchers with ideas of how our group has succeeded at using technology to merge research activities with clinical practice and, at the same time, to overcome the gap between data collection and access to patient-based outcomes.

Poster Category: Best Practices or Organizational Initiatives

## ABSTRACT

- Abstract ID: 185
- Presentation Type: POSTER PRESENTATION
- Title: OCCUPATIONAL CONTACT DERMATITIS: RETURN TO WORK FOLLOWING MULTIDISCIPLINARY ASSESSMENT AND MANAGEMENT
- Author(s): Gomez, P., Kudla, I., DeKoven J., Holness, L., Switzer-McIntyre, S.; Department of Occupational & Environmental Health, St. Michael's Hospital
- Abstract: Purpose: The Occupational Disease Specialty Program (ODSP) within the Department of Occupational & Environmental Health at St. Michael's Hospital is an out-patient clinic and the provincial referral centre for the Workplace Safety and Insurance Board (WSIB) for workers who suffer from work-related skin disease, respiratory disease, hand-arm vibration syndrome (HAVS) and toxicology-related issues. The multidisciplinary dermatitis team is focused on diagnosis and management recommendations, including return to work, of work-related skin diseases. Relevance: This case study highlights the roles and positive outcome that can result when a high functioning team works together effectively and efficiently. Description: A 50 year old female health care worker presented to the clinic with suspected contact dermatitis of both hands. The trigger was related to hand washing activity which occurred 30-60 times per shift. At the Clinic she was assessed by the multidisciplinary team, leading to recommendations targeted at time away from direct patient care, aggressive medical management and graduated return to modified work using alcohol hand-rubs with emollients. There was ongoing monitoring through a photograph diary submitted by the patient, and discussion with the patient, the employer and the WSIB Service Delivery team. Within six weeks the patients hands completely cleared and she initiated transition into a modified job. The outcome of the case resulted in a modified job including working no more than two consecutive direct patient care shifts followed by three non-patient care shifts, using barrier cream as a protective agent and wearing gloves during patient encounters. Observation/Discussion: This team-based approach to assessment and management has enhanced the patient's ability to perform in the workplace. Conclusions: A team-based approach facilitates direct problem solving with respect to issues that arise as an individual progresses back into the workplace ensuring that the all questions are addressed by the right professional at the right time.
- Poster Category: Best Practices or Organizational Initiatives

## ABSTRACT

- Abstract ID: 179
- Presentation Type: POSTER PRESENTATION
- Title: OUTPATIENT REHABILITATION: A MEASUREMENT FRAMEWORK FOR DEMONSTRATING VALUE, IDENTIFYING GAPS AND ENSURING SUSTAINABILITY
- Author(s): McLaughlin, D. Credit Valley Hospital\*; Manzer, I. Bridgepoint Health; Murray, J. North York General Hospital; Falotico, A. Providence Healthcare; Wong, K. Rouge Valley Health System; Disotto Monastero, M., Pagura, S., Furman, M. St. John's Rehabilitation Hospital; Yip, V., York Central Hospital; Sharpe, S. Toronto Rehab; DeBruyn, J. Trillium Health Centre; Carson, D. Sunnybrook Health Sciences Centre, Moir, J, Saryeddine, T., GTA Rehab Network
- Abstract: **PURPOSE:** The purpose was to develop an approach to demonstrate the importance of outpatient rehabilitation in a clear, transparent and reliable manner. **RELEVANCE:** Hospital based outpatient rehabilitation are often at risk of elimination in the face of competing pressures because we have insufficient means to describe their value. **DESCRIPTION:** We defined value in terms of clinical, satisfaction, and patient flow benefits associated with outpatient rehabilitation in relation to its costs. **APPROACH:** For each of the 4 noted dimensions, we selected common approaches, indicators, and tools. A patient satisfaction questionnaire had already been developed and tested for reliability and validity in the outpatient rehabilitation setting. To determine patient flow benefits, we propose the assessment of each referral through a response form which captures patient characteristics and if the patient was accepted, how long and why the patient waited, and why the patient was declined. For clinical outcomes, we identified the set of possible goals of outpatient rehabilitation and one tool that would measure each goal. Our selection criteria were based on feasibility, known reliability and validity and suitability for the outpatient setting. The clinician is asked to determine which of the goals are relevant to the patient and then to use the assigned tools to take a measurement at the beginning of the active treatment phase and at the end of the active treatment phase. Resource utilization was measured using, as a proxy, the number of hours of professional services received during the active treatment phase as recorded in a log. **CONCLUSIONS:** With a comprehensive and transparent accountability framework, we can best advocate for the importance of outpatient rehabilitation. The framework is currently being piloted, the results of which will be available in February.
- Poster Category: Best Practices or Organizational Initiatives

## ABSTRACT

- Abstract ID: 244
- Presentation Type: POSTER PRESENTATION
- Title: PHYSIOTHERAPY CONTINUUM OF CARE FOR KNEE ARTHROPLASTY PATIENTS AT SRHC
- Author(s): Trach,E.\* , Southlake Regional Health Centre (SRHC); Dysart,D., SRHC; Mierdel,S., SRHC; Pare,A., SRHC; Trach,J., University of British Columbia; Waring, K., SRHC
- Abstract: **PURPOSE:** Southlake Regional Health Centre provides patients undergoing knee arthroplasty surgery to access a comprehensive continuum of educational and treatment programs from presurgery to completion of outpatient rehab. **RELEVANCE:** Patients are able to access the services they are require in a timely manner. The transition between services is seamless. Treatment is provided in a cost effective manner. **DESCRIPTION:** An algorithm describes the continuum of services. It begins with referral by the orthopedic surgeon to either a self-management arthritis education/exercise program (TAP) or directly to a preop education program. Following surgery, patients receive individual and group physiotherapy on the inpatient unit. Transition from acute to rehab status does not involve the patient moving within the hospital. With discharge from inpatient to outpatient, the inpatient assessment is integrated into the outpatient chart, avoiding duplication. Outpatient treatment is provided in group format. Following discharge from the outpatient physiotherapy program, patients may return to The Arthritis Program for a review of their general arthritis exercise program before continuing on an independent home program. Outcomes are assessed with WOMAC and TUG preoperatively and at discharge from OP physiotherapy. WOMAC is also administered at 6 months postoperatively. A patient satisfaction questionnaire is completed at discharge from physio. **OBSERVATION/DISCUSSION:** Transitions through the continuum are smooth, with patients receiving care in a timely manner. Outcomes are very good (WOMAC mean was 51.17 preop, 18.33 at discharge from physio, and 4.61 at 6 month follow up). Patient satisfaction is high. **CONCLUSIONS:** The knee arthroplasty continuum encompasses quality care, large volumes of patients and allows for flexibility to accommodate patient variances. It was developed to provide a smooth transition between points of transfer; patients have access to the right service at the right time.
- Poster Category: Best Practices or Organizational Initiatives

## ABSTRACT

- Abstract ID: 134
- Presentation Type: POSTER PRESENTATION
- Title: SERVICE DELIVERY INNOVATION: A PARTNERSHIP BETWEEN CLINICAL SPEECH-LANGUAGE PATHOLOGISTS AND THE RESEARCH TEAM.
- Author(s): Molfenter, S.M., Toronto Rehabilitation Institute\*; Yeates, E.M., Toronto Rehabilitation Institute\*; Ammourey, A., Toronto Rehabilitation Institute; Arabia, E.M., Toronto Rehabilitation Institute; Boyko, M., Toronto Rehabilitation Institute; Miller, D., Toronto Rehabilitation Institute; Nguyen, S., Toronto Rehabilitation Institute; & Steele, C.M., Toronto Rehabilitation Institute, Department of Speech Pathology, University of Toronto, CIHR New Investigator in Aging.
- Abstract: **PURPOSE:** A partnership between the clinical speech-language pathology (SLP) services and the Swallowing Rehabilitation Research Laboratory (SRRL) at Toronto Rehabilitation Institute (TRI) was developed in order to meet the swallowing rehabilitation needs of TRI patients. **RELEVANCE:** Swallowing rehabilitation is a burgeoning area of clinical research but presently is not systematically employed by the majority of swallowing clinicians. Most practicing clinicians currently use compensatory behavioural techniques to manage disordered swallowing, and tend not to use therapeutic intervention techniques (Steele et al., in press). One of the mandates of the SRRL is to investigate new therapies for swallowing. In order to involve the clinical SLP staff in the process of investigation and to reach as many TRI patients as possible, designated research SLPs trained, educated and supported their clinical counterparts to conduct sEMG therapy. **DESCRIPTION:** Clinical SLPs were educated regarding appropriate candidates for sEMG therapy. Next, research SLPs tailored the level of education, training and support using the sEMG therapy protocol to each individual clinician and/or patient. Involvement in therapy on the clinician's part depended on the clinician's level of comfort with the therapy, understanding of protocol and theory, complexity of the patient and willingness to participate in research. **DISCUSSION:** Post-training interview data indicated that clinicians valued their experience working with the research team. Clinicians reported that support from research staff helped them overcome various barriers, including therapeutic time constraints, difficulty maintaining knowledge of current research literature, and lack of confidence in implementing new techniques. From a research perspective, the model allows the recruitment of research participants from the clinical population while concurrently empowering clinicians to identify and treat appropriate patients. **CONCLUSIONS:** When research and clinical teams work together, innovative research protocols and therapies can efficiently and effectively reach frontline clinicians and positively impact the patients they work with.
- Poster Category: Best Practices or Organizational Initiatives

## ABSTRACT

- Abstract ID: 210
- Presentation Type: POSTER PRESENTATION
- Title: THE IMPACT OF PATIENT CENTRED CARE AND INTERPROFESSIONAL COLLABORATION
- Author(s): \*Grant,C.;Jickling,J.;Roberts,J.;Stoskopf,M.;Mol,D.;Mont,O.;Black,S.;Brydie,C., Halton Healthcare Services. Financial support through the Ministry of Health and the Interprofessional Mentorship Fund.
- Abstract: **PURPOSE:** To introduce a new culture and practice of interprofessional, patient centred care to Halton Healthcare Services (HHS), an amalgamation of three community based hospitals: Oakville, Milton and Georgetown. **RELEVANCE:** This project provides a framework for integrating interprofessional collaboration (IPC) and patient centred care (PCC) into practice through professional education and supporting documentation. **DESCRIPTION:** IMPACT (Interprofessional Mentorship, Preceptorship and Coaching Team) was developed with the support of the Ministry of Health and the Interprofessional Mentorship Fund. Expertise in patient centred care and interprofessional education was applied to two streams affecting rehabilitation: 1. staff professional development workshops and 2. documentation for the fractured hip patient population. The participant attitudes of IPC were evaluated using a pre and post workshop survey. Qualitative data was also collected. IMPACT developed a new patient guide post-fractured hip and an interprofessional reference guide for the fractured hip care path. **OBSERVATION/DISCUSSION:** 185 participants attended the workshops with extremely positive responses from the majority of professionals attending. The quantitative data collected from the pre and post workshop interdisciplinary education and perception scale (IPS) showed a very positive response overall, indicating positive attitudes for staff's own profession as well as their thoughts of working with other professional groups. Post-workshop scores showed a decline in scores in some areas, indicating a possible recognition of problems between professionals groups and teams that may not have been previously identified. The reference guide and patient guide following a fractured hip is still in the process of being evaluated. **CONCLUSIONS:** The introduction of PCC and IPC is important to enhance staff and patient satisfaction and team efficiency in an increasingly challenging and stressful work environment. Sustainability needs to be considered through management support, follow-up sessions, new structural initiatives and focusing on one team, such as in-patient rehabilitation, for future application.
- Poster Category: Best Practices or Organizational Initiatives

## ABSTRACT

- Abstract ID: 241
- Presentation Type: POSTER PRESENTATION
- Title: THERAPEUTIC RELATIONSHIPS AND CLINICAL REASONING IN AUTO SECTOR PRIVATE PRACTICE
- Author(s): \*Rutledge, L.M., Department of Occupational Therapy, Dalhousie University; Rappolt, S., Department of Occupational Science and Occupational Therapy, University of Toronto
- Abstract: **PURPOSE:** The purpose of this study is to explore how therapeutic relationships vary with health professionals' use of different modes of clinical reasoning and decision making with clients following motor vehicle accidents. **RELEVANCE:** Guidelines for client-centred practice have arisen largely within publicly funded institutions, with little reflection upon the needs and influences of private practice. Currently, a growing disjuncture exists in the application of core professional values in the ever-changing parameters of private practice. Health professionals accepting referrals from third party payers, such as automobile insurers, lawyers and clients, are finding themselves in potentially adversarial situations, placing contextual expectations for their daily practice in conflict with professional norms of client-centred practice. **DESCRIPTION:** Grounded theory method guides this qualitative study. In-depth interviews with ten purposively selected elite occupational therapists working in auto sector private practice will be analyzed thematically with respect to therapists' development of therapeutic relationships and to their use of different modes of clinical reasoning and with respect to referral sources. The potential for linkages between conceptual or practice data on therapeutic relationships with therapists' modes of clinical reasoning will be analyzed in matrices to suggest possible typologies and hypotheses. **OBSERVATION/DISCUSSION:** The findings will be discussed in light of theory and research evidence on the development of therapeutic relationships and clinical reasoning in client-centred and auto sector private practices. Analyses of themes suggesting potential linkages between therapeutic relationships and modes of clinical reasoning will be theorized. Potential linkages between the qualities of therapeutic relationships and the modes of clinical reasoning with referral sources will also be theorized. **CONCLUSIONS:** Themes suggesting links between the qualities of therapeutic relationships and modes of clinical reasoning with referral source and legislative sections would lend support to literature suggesting that health professionals practicing in highly competitive or adversarial practices are challenged to consistently provide client-centred practices.
- Poster Category: Best Practices or Organizational Initiatives

## ABSTRACT

- Abstract ID: 255
- Presentation Type: POSTER PRESENTATION
- Title: CHILDREN'S REHABILITATION RESEARCH NETWORK (CRRN)
- Author(s): Cameron, D., Department of Occupational Science and Occupational Therapy, University of Toronto; Myerscough, T., Project Coordinator, CRRN; Polatajko, H.J., Department of Occupational Science and Occupational Therapy, University of Toronto; Rigby, P., Department of Occupational Science and Occupational Therapy, University of Toronto; CRRN is funded by the Ontario Rehabilitation Research Advisory Network (ORRAN)
- Abstract: **PURPOSE:** Research in children's rehabilitation is extensive and involves numerous disciplines and common areas of concern. As the knowledge base grows, it becomes increasingly essential for researchers from various fields to share knowledge, collaborate, and to make connections with all stakeholders, including consumers, families and clinicians. **RELEVANCE:** The Children's Rehabilitation Research Network (CRRN) is well positioned to bring together researchers and other stakeholders with a broad range of expertise to collaborate on research projects that address common areas of interest and concern. This networking process increases knowledge sharing amongst researchers in the field and stakeholders, and fosters stronger links between research and practice. **DESCRIPTION:** CRRN has brought together new teams of researchers and stakeholders by providing seed funding for the development of collaborative research projects. Currently the following four teams have initiated projects with seed funding from CRRN: Quality of Life for Children and Youth with Disabilities; Identifying Multidimensional Priorities and Changing Trajectories; From Fixing to Function; and Transitions to Adulthood. Teams include a broad range of researchers, clinicians, consumers and others with interests and expertise in childhood disability. CRRN has also established a database of researchers and a website that functions as a source of information and a means of networking for all stakeholders. **OBSERVATION/DISCUSSION:** Response to the CRRN initiatives has been highly positive. Project proposals have been submitted by the teams to funding bodies such as CIHR, ONF, and SSHRC involving a combined total of more than fifty researchers from various disciplines and regions of the province and Canada. **CONCLUSIONS:** The CRRN initiatives have successfully brought together researchers and stakeholders in the field of childhood disability to collaborate and share knowledge and resources. As the network and database of researchers and stakeholders continues to grow, we anticipate further innovations in collaborative ventures and greater networking amongst all stakeholders.
- Poster Category: Research at the Patient, Provider, Organizational, System or Policy Levels

## ABSTRACT

- Abstract ID: 208
- Presentation Type: POSTER PRESENTATION
- Title: DISPOSITION OF TRAUMA PATIENTS AFTER DISCHARGE FROM A LEVEL I TRAUMA CENTER
- Author(s): Petrovic, R., Hamilton General Hospital; Cicero, L., Hamilton General Hospital.
- Abstract: **PURPOSE:** To provide an overview of the patient socio-demographic characteristics, clinical outcomes and discharge disposition of the trauma patients admitted to Hamilton General Hospital in 3-year period. **RELEVANCE:** To enhance the knowledge of rehabilitation services and access offered to trauma patients. This allows for the development and planning for the future rehabilitation needs for the Central South/West trauma population. **METHODS:** The Trauma Registry database was used to collect the information on all trauma patients with ISS >12 and 16 years of age and older, admitted to Hamilton General Hospital between 2003-2005. **ANALYSIS:** Descriptive analyses were conducted using SPSS Student Version. **RESULTS:** During the period of three years 1500 patients were admitted to Hamilton General Hospital. 74% were male with mean ISS 22.9 and mean length of stay 16.3 days. 1263 were discharged alive 74.4% male. Mean age was 48.1. 61% of the male population was discharged home comparing to 47% of female population. From the patients discharged to rehabilitation 71% were male and 62% of males were discharged to Nursing home. 30% of admitted patients were older than 65. 40% of female trauma population is older than 65. For most of the patients discharged to Nursing Homes and Rehabilitation services the mechanism of injury was fall (Discharge to rehabilitation-48% and Nursing Home -79%). **CONCLUSIONS:** Using the Trauma Registry set we can come to the conclusion that the female trauma population seems to be older (Mean age 53 for female population and 46 for male) and less likely to go home (35%) after suffering a traumatic injury than males (46%). Further research of socio-demographics of this population may define these gender differences.
- Poster Category: Research at the Patient, Provider, Organizational, System or Policy Levels

## ABSTRACT

- Abstract ID: 247
- Presentation Type: POSTER PRESENTATION
- Title: HIP ABDUCTOR MUSCLE STRENGTH AND HIP ADDUCTION MOMENT PREDICT MEDIAL COMPARTMENT LOAD IN PEOPLE WITH KNEE OA.
- Author(s): \*Sled, E; Khoja, L.; Culham, E.; Motor Performance Laboratory, School of Rehabilitation Therapy, Queen's University. This study was funded by a J. P. Bickell Foundation Medical Research Grant.
- Abstract: **PURPOSE:** To determine the influence of hip muscular and frontal plane biomechanical factors on medial knee joint loading in people with medial compartment knee osteoarthritis (OA). **RELEVANCE:** It has been suggested that strength of the hip muscles and the frontal plane hip moment during gait may influence medial compartment loading of the knee, as measured by the external knee adduction moment. Hip abductor muscle weakness may contribute to drop of the pelvis to the swing side during stance phase of gait, leading to increased knee load. **HYPOTHESIS:** Hip abductor muscle strength and hip adduction moment contribute to the prediction of the knee adduction moment. **METHODS:** Thirty-eight persons (18 men, 20 women; mean age  $63.6 \pm 10.4$  years) with medial compartment knee OA were evaluated. Three-dimensional gait analysis was performed using two optoelectronic cameras and two force platforms. Peak hip and knee adduction moments (% Bw.Ht) were determined in the first 50% of stance phase. Isometric torque of the hip abductor muscles (Nm/kg) was measured using a Biodex Isokinetic Dynamometer. Frontal plane knee alignment (degrees) and OA severity were determined from knee radiographs. Knee pain was measured using the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC). **ANALYSIS:** Stepwise linear regression analysis was performed to determine predictors of the knee adduction moment. **RESULTS:** Fifty-three percent of the variation in the knee adduction moment was explained by knee alignment (22%), hip abductor isometric muscle strength (12.5%), hip adduction moment (12%) and gait speed (6.5%). Age, knee pain and OA severity did not add to the prediction of medial compartment load. **CONCLUSIONS:** Medial compartment knee loading can be influenced by hip biomechanics. Strengthening the hip abductor muscles may help control the pelvis in the frontal plane during stance and minimize load on the medial compartment of the knee.
- Poster Category: Research at the Patient, Provider, Organizational, System or Policy Levels

## ABSTRACT

- Abstract ID: 229
- Presentation Type: POSTER PRESENTATION
- Title: PATTERNS OF FREE-LIVING GAIT AND ITS ASSOCIATION WITH STROKE SEVERITY
- Author(s): \*Prajapati S.K., University of Toronto, Toronto Rehabilitation Institute; Gage, W.H., York University, Toronto Rehabilitation Institute; McIlroy, W.E., University of Waterloo; Toronto Rehabilitation Institute.
- Abstract: **PURPOSE:** The purpose of this study was to: (1) characterize the amount and pattern of gait activity during eight consecutive waking hours among patients with sub-acute stroke and (2) link the quantity of activity to indices of stroke severity. **RELEVANCE:** The amount and pattern of walking activity performed throughout the day likely has important influence on stroke recovery, cardiorespiratory health and risk of future stroke. Yet despite this significance, there is relatively little known about actual activity patterns performed outside of structured therapy sessions. The present study utilizes a novel wireless measurement device, able to quantify specific details of ambulatory activity over extended periods of time. **SUBJECTS:** Five sub-acute stroke inpatients, (4 male; age $\pm$  SD: 62.4 $\pm$ 13.4 years; number of days post-stroke $\pm$  SD: 44.2 $\pm$  36.4), able to independently ambulate without supervision were treated as independent case studies. **METHODS AND MATERIALS:** Participants wore, for 8 hours, a wireless accelerometer mounted on each ankle with a PDA based data logger worn on the waist. They were instructed to carry on their normal daily activities for the entire duration of testing. Stroke severity was measured as: 1) motor impairment (Chedoke MSA), 2) balance (Berg BS) and 3) walking function (gait velocity). **RESULTS:** Individual activity profiles reveal that patients walked for an average of 46.4 min or 9.3% of the total recording time (range 8.6%-17.9%). Additionally, this total reflected an average of 67 walking bouts with an average duration of only 39.5 sec (range 29.8- 56.6 sec). Recorded measures of walking did not appear to be associated with stroke severity. **CONCLUSIONS:** Total volume of walking activity was generally very low, mainly comprised of short duration bouts that likely had modest therapeutic value. Consequently, these results suggest that there may be other factors, beyond stroke severity, that influence volume and pattern of everyday walking activity.
- Poster Category: Research at the Patient, Provider, Organizational, System or Policy Levels

## ABSTRACT

- Abstract ID: 231
- Presentation Type: POSTER PRESENTATION
- Title: POSTURE AND BALANCE IN PATIENTS WITH ANKYLOSING SPONDYLITIS
- Author(s): \*Lombardo SL, York University; Fernandes SJ, York University; McGregor G, University of Western Ontario; O'Shea FD, Toronto Western Research Institute; Inman RD, Toronto Western Research Institute; Gage WH, York University, Toronto Rehabilitation Institute
- Abstract: PURPOSE: To investigate the influence of ankylosing spondylitis (AS) on measures of postural control and gait, and the relationship with clinical impairment. RELEVANCE: Changes in control of balance and gait may provide sensitive indicators of disease progression and effect of treatment. HYPOTHESIS: Patients with AS will demonstrate altered quiet standing and gait initiation characteristics. PARTICIPANTS: Six patients with AS (5 M, 1 F; aged 19 to 57 years; treated by infused tumor necrosis factor inhibitor [Remicade]) volunteered to participate. METHODS AND MATERIALS: Participants performed 2 quiet standing (QS) trials (eyes open), and 10 gait initiation (GI) trials (5 trials leading with left foot, 5 leading with right foot; randomized). Ground reaction forces and moments were recorded using 2 force plates. Net center of pressure (COP) was calculated. Clinical assessments were performed by co-author FO. ANALYSIS: Summary statistics were calculated for QS anterior-posterior (AP) and medial-lateral (ML) root mean squared (RMS) and mean power frequency (MPF) of COP displacement; peak AP and ML COP displacement and mean velocity during GI, and COP movement symmetry (COP<sub>left-lead</sub>/COP<sub>right-lead</sub>). RESULTS: Patient QS COP RMS (AP, ML) was not different from previously reported values among healthy participants; ML MPF was 115% greater than normal controls. Peak ML COP displacement and mean velocity were reduced during GI trials, compared with a representative control participant (male, 25 years old). Clinical impairment (BASDAI, BASFI, lateral flexion) was associated with COP displacement asymmetry during GI, and increased QS COP MPF. CONCLUSIONS: Altered QS and GI characteristics in patients with AS may be related to axial stiffness and/or pain. Reduced ML COP displacement during GI may accommodate axial musculoskeletal impairment and discomfort by limiting accelerations of the trunk. Relationships between altered QS and GI movement characteristics and clinical impairment may be informative in further quantifying AS progression and management.
- Poster Category: Research at the Patient, Provider, Organizational, System or Policy Levels

## ABSTRACT

- Abstract ID: 183
- Presentation Type: POSTER PRESENTATION
- Title: PREVALENCE OF OSTEOPOROSIS IN OSTEOARTHRITIC PATIENTS UNDERGOING TOTAL HIP OR KNEE ARTHROPLASTY
- Author(s): \*Labuda, A.; Papaioannou, A.; Pritchard, J.; Kennedy, CC.; DeBeer, J.; Adachi, JD. All authors affiliated with Hamilton Health Sciences, except Adachi JD (St. Joseph's Healthcare, Hamilton). Funding source: Merck Frosst grant supporting osteoporosis research at Hamilton Health Sciences. Study location: physiotherapy outpatient department, Chedoke Hospital, Hamilton Health Sciences.
- Abstract: **PURPOSE:** To determine the prevalence of osteoporosis in patients undergoing total hip or total knee arthroplasty. **RELEVANCE:** Results may influence the screening practices for osteoporosis in arthroplasty patients pre-operatively, or post-operatively on musculoskeletal rehabilitation wards. **HYPOTHESIS:** There is a need to screen arthroplasty patients for presence of osteoporosis, due to prevalence of this disease. **SUBJECTS:** Cross-sectional study. 364 outpatients, assessed at the Specialized Outpatient Rehabilitation Service's Pre-surgical Arthroplasty Service (SORS) located at Chedoke Hospital, Hamilton Health Sciences. Period of March 2006 to March 2007. **METHODS AND MATERIALS:** Prevalence of osteoporosis was determined by review of a self-reported survey, and defined by (i) self-reported diagnosis of osteoporosis, (ii) history of fragility fracture (defined by a bone fracture occurring as a result of a fall from standing height or less after the age of 50), or (iii) current treatment for osteoporosis using bisphosphonates. **ANALYSIS:** SPSS v.15 was used to describe the population using univariate analyses. **RESULTS:** Of the study cohort, 26% were classified as having osteoporosis, according to our criteria. Of the patients with self-reported osteoporosis or a history of fragility fractures, only 37% and 17% reported current treatment with bisphosphonates, respectively. **CONCLUSIONS:** Osteoporosis is common in the osteoarthritic arthroplasty population, with a prevalence at least equal to that in the general population. Due to the self-reported nature of the study, the prevalence of osteoporosis in this population is likely significantly higher. Results from this study indicate need for further research, specifically in formal assessment for osteoporosis in patients undergoing a joint replacement. **KEY WORDS:** osteoporosis, prevalence, osteoarthritis, fragility fracture, arthroplasty.
- Poster Category: Research at the Patient, Provider, Organizational, System or Policy Levels

## ABSTRACT

- Abstract ID: 110
- Presentation Type: POSTER PRESENTATION
- Title: RELATIONSHIP BETWEEN PRE-OPERATIVE LEVEL OF DISABILITY AND SELF-EFFICACY AND EXPECTATIONS IN CANDIDATES FOR TOTAL KNEE ARTHROPLASTY
- Author(s): Wright, S., Shaked, Y.\*, Workman, K., Murnaghan, J., Razmjou, H., Holland Orthopaedic and Arthritic Centre, Sunnybrook Health Sciences Centre This study was funded by the research funds of the Practice Based Research, Sunnybrook Health Sciences Centre.
- Abstract: **PURPOSE:** This study aimed to examine the relationship between pre-operative level of disability and the level of self-efficacy and expectations for recovery in candidates undergoing a primary total knee replacement. The secondary purpose was to examine the impact of gender on pre-operative characteristics. **RELEVANCE:** Osteoarthritis of the knee is a major cause of long-term disability and evidence shows that both psychosocial and physiological variables affect coping and recovery. Providing educational programs that focus on improving self-efficacy and accelerating referral of the female patients to orthopaedic surgeons may help to reduce the level of disability prior to surgery. **METHODS AND MATERIALS:** The present study was a cross-sectional analysis of baseline data of a prospective longitudinal study of candidates undergoing primary TKA surgery. All patients completed a WOMAC, SF36, an Arthritis Self efficacy Index and a validated Expectation questionnaire 2-3 weeks prior to surgery. **ANALYSIS:** T-Tests, Fisher's Exact tests, and linear regressions were performed. **RESULTS:** 95 consecutive candidates for TKA (71 females and 24 males, mean age: 68, SD:8) participated in the study. Level of self-efficacy and gender explained 33% (p0.05). **CONCLUSION:** Self-efficacy or perception of ability to execute certain functions appears to have an important relationship with pre-operative disability in patients suffering from osteoarthritis of the knee. Women suffering from osteoarthritis of the knee report poorer general health, vitality, social functioning, and self-efficacy and higher bodily pain.
- Poster Category: Research at the Patient, Provider, Organizational, System or Policy Levels

## ABSTRACT

- Abstract ID: 104
- Presentation Type: POSTER PRESENTATION
- Title: ROLLATORS IN COMMUNITY-DWELLING COPD: PATIENT CHARACTERISTICS AND SATISFACTION
- Author(s): K Hill; RS Goldstein; E Gartner; D Brooks\* Respiratory Medicine, West Park Healthcare Centre, Toronto, Department of Physical Therapy, University of Toronto, Occupational Therapy, West Park Healthcare Centre, Toronto Supported by: Ontario Respiratory Care Society
- Abstract: **PURPOSE AND RELEVANCE:** Rollators are prescribed for patients with chronic obstructive pulmonary disease (COPD) experiencing marked disability to increase their functional capacity and reduce dyspnoea. The characteristics of individuals prescribed rollators and their satisfaction with the device is unknown. Therefore the aim of this study was to describe the characteristics of those community-dwelling individuals prescribed rollators and determine their satisfaction with the device. **HYPOTHESIS:** Community-dwelling individuals with COPD are satisfied with the rollator. **METHODS AND MATERIALS:** COPD subjects who had been issued with a rollator by West Park staff within the preceding 5 year period were invited to participate in this study. Following informed consent, 6-minute walk distance (6MWD) and spirometry results were extracted from the medical notes. Subjects were interviewed using the Saint George's Respiratory Questionnaire (SGRQ), the Quebec User Evaluation of Assistive Technology and a standardized satisfaction questionnaire. The order of questionnaire administration was randomized. **RESULTS:** 20 COPD subjects ( $FEV1 = 32 \pm 13\%$  pred; 8 males) completed the study. 70% were using long term oxygen therapy. Exercise capacity and health-related quality of life were poor ( $6MWD = 46 \pm 11\%$  pred, total  $SGRQ = 57 \pm 13$ ). Although all subjects reported that using the rollator improved their quality of life and only 65% used the device everyday, 40% used the device in their home and 40% had been embarrassed using the rollator. Patients were most satisfied with the safety, durability and effectiveness of the device and least satisfied with its weight. **CONCLUSIONS:** community-dwelling COPD patients prescribed rollators have severe disease, poor health-related quality of life and use long term oxygen therapy. Consideration should be given to minimizing the weight of the device and any initial embarrassment.
- Poster Category: Research at the Patient, Provider, Organizational, System or Policy Levels

## ABSTRACT

- Abstract ID: 155
- Presentation Type: POSTER PRESENTATION
- Title: USING THE SIX-MINUTE WALK POST-STROKE: IS THERE A LEARNING EFFECT?
- Author(s): Liu, J., University of Toronto; Drutz, C., University of Toronto; Kumar, R., University of Toronto; McVicar, L., University of Toronto; Weinberger, R., University of Toronto; Brooks, D., University of Toronto; Salbach, N.M., University of Toronto.
- Abstract: **PURPOSE:** To determine whether a learning effect occurs across two trials of the 6-minute walk test (6MWT) among community-dwelling people one year post-stroke and to identify characteristics distinguishing people who demonstrate a learning effect from those who do not. **RELEVANCE:** This project provides clinicians and researchers with insight as to whether a practice trial is required for the 6MWT in individuals in their first year post-stroke. **HYPOTHESIS:** It was hypothesized that a learning effect would be associated with repeated performances of the 6MWT. **SUBJECTS:** Ninety-one individuals living in the community within the first year of stroke. **METHODS:** Secondary analysis of scores on two trials of the 6MWT administered at baseline in a randomized controlled trial. **ANALYSIS:** Learning effect was evaluated using a paired t-test, Pearson correlation coefficient, intraclass correlation coefficient (ICC), and Bland-Altman plot. **RESULTS:** Eighty-three subjects (mean=72 years + 10). Average 6MWT scores for trial one and two were 196 metres (m) + 118 and 197m + 126, respectively. Mean difference in 6MWT performance between the two trials was 0.3m + 35 (n=83, 95% confidence interval [CI] = -7.3m to 7.9m). Pearson correlation coefficient between 6MWT distances was  $r = 0.96$  ( $p < 0.001$ ). ICC was 0.98 (95% CI=0.97-0.99). Bland-Altman plot showed no pattern. Subjects who improved equal to or greater than the minimal detectable change of 29m between trials (14%) were not statistically different from the rest of the study population; however they tended to be younger ( $p=0.052$ ) and more likely to have mild to moderate gait deficits ( $p=0.065$ ). **CONCLUSIONS:** Findings do not support a learning effect across two trials of the 6MWT in individuals one year post-stroke, thus a practice walk does not appear necessary. Further research is recommended to evaluate learning effect within the younger and more acute stroke population, and those with only mild gait deficits.
- Poster Category: Research at the Patient, Provider, Organizational, System or Policy Levels

## ABSTRACT

- Abstract ID: 224
- Presentation Type: POSTER PRESENTATION
- Title: ASSESSING PATIENTS' CAPACITY IN REHABILITATION: THE ACE TOOL CAN HELP
- Author(s): McDonald, M.\*, Toronto Rehab and Bloorview Kids Rehab; Secker, B., Toronto Rehab and University of Toronto
- Abstract: **PURPOSE:** Ontario's Health Care Consent Act requires a clinician proposing a treatment to form an opinion about the patient's capacity to make the treatment decision ("capacity") and to obtain informed consent from the capable patient or, if incapable, from the substitute decision-maker. Thus clinicians are required to assess capacity yet they do not routinely receive training in capacity assessment. Many clinicians are unsure about what constitutes informed consent, capacity or capacity assessment. Given basic rights and freedoms are at stake, clinicians must be able to competently discharge their related legal, professional and ethical responsibilities. This project supports clinicians in discharging these duties by providing key "fast facts," a decision tree, and the structured Aid to Capacity Evaluation (ACE). **RELEVANCE:** In rehabilitation care (versus acute care), clinicians care for greater numbers of patients who are incapable or whose capacity is uncertain. Moreover, capacity assessment in rehab is confounded because capacity may fluctuate or change over time. The tools supporting this project will help rehab clinicians to respect the decisions of capable patients, protect the best interests of incapable patients, and to involve patients in their care decisions to the fullest extent they are able. **DESCRIPTION:** This project reviews the literature, relevant policies and professional guidelines to identify best practices in assessing capacity. Dr. Ed Etchells' ACE tool is presented and supplemented. **OBSERVATION/DISCUSSION:** Rehab clinicians have requested tools to support their capacity assessment role. With these tools they report improved understanding, confidence and competence in undertaking capacity assessment. **CONCLUSIONS:** The tools described provide clear guidance on capacity assessment helping clinicians better care for their patients and involve them to the fullest extent possible in every aspect of their rehabilitation. Future work will involve adding adapted ACE tools for assessing capacity to make placement decisions and to make decisions about participating in research.
- Poster Category: Review of the Literature Poster

## ABSTRACT

- Abstract ID: 137
- Presentation Type: POSTER PRESENTATION
- Title: EFFECTIVENESS OF ASSISTIVE TECHNOLOGIES FOR LOW VISION AND BLINDNESS
- Author(s): Russell-Minda, E.,\* Department of Physical Medicine and Rehabilitation, The University of Western Ontario; Jutai, JW, Aging, Rehabilitation, and Geriatric Care Research Centre, The Lawson Health Research Institute; Strong, G., Centre for Sight Enhancement, University of Waterloo; Hooper, P., Ivey Eye Institute, The University of Western Ontario.
- Abstract: **RESEARCH QUESTION:** The primary goal in creating an evidence-based review of assistive technologies for individuals with visual impairment is to provide an authoritative reference to further potential research and to locate the strongest and most beneficial evidence within the research literature. **RELEVANCE:** To maintain independence in the tasks associated with daily living, many individuals with visual impairment use assistive technologies, or low vision aids such as optical magnifiers, electronic magnification systems (CCTVs), Braille, or canes. **DATA COLLECTION AND ANALYSIS:** A search was conducted of all major medical and other topic-related online databases and journals, from 1980 to 2006. All types of study designs and methods were considered. Two reviewers independently reviewed search results for eligibility, made selections from abstracts, and evaluated study strength with an instrument for assessing study quality. **FINDINGS:** 96 studies satisfied the inclusion criteria. Five RCTs provided moderately strong evidence suggesting the benefits of low vision rehabilitation training (devices and techniques). One RCT, with a moderately strong evidence rating, showed that there was no particular benefit to receiving home visits from a low vision specialist, compared to a “typical” in-clinic rehabilitation program. Strong evidence from one RCT suggests that prism spectacles are no more effective than conventional glasses for individuals with age-related macular degeneration. Across the other assistive technology categories covered in this review, the research evidence is not strong, or absent, making it difficult to make strong recommendations or conclusions. **DISCUSSION:** Very few RCTs implemented effective methods of randomization (some included forms of counterbalancing) or had sample size large enough to compare effect sizes. Lack of controls for potential bias and blinding were also common. Non-randomized studies occasionally rose to high strength of evidence levels, however it was difficult to make strong evidence-based conclusions due to multiple and varied outcome measures across studies. **Acknowledgement:** We gratefully acknowledge the support of CNIB, in the form of a grant from the E.A. Baker Foundation.
- Poster Category: Review of the Literature Poster

## ABSTRACT

- Abstract ID: 106
- Presentation Type: POSTER PRESENTATION
- Title: EFFECTIVENESS OF MULTIFACETED FALL-PREVENTION PROGRAMS FOR THE ELDERLY IN RESIDENTIAL CARE
- Author(s): Cusimano, M., Injury Prevention Research Office, St. Michael's Hospital; \*Kwok, J., Injury Prevention Research Office, St. Michael's Hospital; Spadafora, K., Injury Prevention Research Office, St. Michael's Hospital
- Abstract: **PURPOSE:** This review evaluates the effectiveness of multifaceted intervention programs in reducing the number of falls, fallers, recurrent fallers, and injurious falls among the elderly living in residential care facilities. **RELEVANCE:** The project provides insight for clinicians, researchers, and healthcare providers interested in outcome measures for elderly who have participated in fall prevention programs in nursing homes. **DESCRIPTION:** Comprehensive searches of MEDLINE, PUBMED, and EMBASE up to July 2007, the cited literature lists of each included study, and internet engines were performed to identify eligible studies. Eligible studies for this review were those that had randomised, controlled trials with adequate follow-up study components in their design. Studies included those done with persons in residential care using prevention programs that were multifaceted in that they incorporated two or more intervention strategies (e.g. staff/resident education on fall prevention, environmental modification, exercise programme, medication review). Studies were assessed for quality by the criteria of Downs and Black (1998). The results of the included studies have been reviewed narratively. **Discussion:** Of 21 articles potentially relevant to the topic, five studies met the inclusion criteria and all were reasonably well conducted. 3 of the studies significant reductions in the number of recurrent fallers, 2 of the 5 studies reported significant reductions in the number of falls, 1 reported significant reductions in the number of fallers and one other reported a reduction in the number of injurious falls in those who received multifaceted prevention programs compared to control groups. None reported on adverse events, costs or sustainability of the interventions. **Conclusions:** Multifaceted programs that encompass a wide range of intervention strategies have shown some evidence of efficacy, however, more well-designed research is required that assesses effects on injurious falls, quality of life, cost-effectiveness and sustainability. Investigating adverse outcomes should be given priority in future research.
- Poster Category: Review of the Literature Poster

## ABSTRACT

- Abstract ID: 138
- Presentation Type: POSTER PRESENTATION
- Title: LOW VISION AND DRIVING: A SYSTEMATIC REVIEW OF ASSESSMENT AND REHABILITATION
- Author(s): Russell-Minda, E.,\* Department of Physical Medicine and Rehabilitation, The University of Western Ontario; Jutai, JW, Aging, Rehabilitation, and Geriatric Care Research Centre, The Lawson Health Research Institute; Strong, G., Centre for Sight Enhancement, University of Waterloo; Hooper, P., Ivey Eye Institute, The University of Western Ontario.
- Abstract: **RESEARCH QUESTION:** A systematic review on visual impairment and driving was conducted to help clarify the variable aspects related to the visual requirements for driving (assessment), legal concerns, use of bioptics and other devices, effects of common eye conditions on driving, and driver education and training programs (rehabilitation). **RELEVANCE:** For individuals with visual impairment, holding a driver's license and maintaining the ability to continue driving is significantly associated with leading an independent life. The skills needed for driving are often complex and demanding, involving visual, cognitive, and physical processes. In the absence of strong evidence, licensing and testing authorities have imposed somewhat arbitrary visual acuity and visual field standards. In addition, the testing and licensing of drivers, based on performance and visual functions, is not always consistent across jurisdictions or regions. **DATA COLLECTION AND ANALYSIS:** Literature searches were conducted on online databases and other sources for the years 1980 – 2006. All types of study designs and methods were considered. Selected studies were assessed using a study quality instrument and ranked according to strength of evidence using systematic review methods. **FINDINGS:** 87 studies that met the inclusion criteria were selected. The evidence base is poor in areas for rehabilitation assessment techniques such as predictive validity of visual acuity, contrast sensitivity, and visual field testing. The evidence base is strong in areas that include driver self-regulation and the effects of interventions of training programs on driving performance, but poor regarding the use and effectiveness of bioptic telescopes and field enhancement devices for driving. **DISCUSSION:** The findings indicate the need for more research on actual, real-world driving experiences relative to simulated driving environments, driver rehabilitation programs and low vision aids, and more attention to public policy on licensure and low vision. **Acknowledgement:** We gratefully acknowledge the support of CNIB, in the form of a grant from the E.A. Baker Foundation.
- Poster Category: Review of the Literature Poster

## ABSTRACT

- Abstract ID: 202
- Presentation Type: POSTER PRESENTATION
- Title: ORGANISING HEALTH CARE SERVICES FOR PERSONS WITH AN INTELLECTUAL DISABILITY – A SYSTEMATIC REVIEW
- Author(s): Balogh, R., Graduate Department of Rehabilitation Science at University of Toronto. Ouellette-Kuntz, H., Department of Community Health and Epidemiology at Queen's University. Colantonio, A., Toronto Rehab Institute, Department of Occupational Science and Occupational Therapy at University of Toronto Bourne,L., Department of Public Health Sciences at University of Toronto
- Abstract: **PURPOSE:** To assess the effects of organisational interventions for the mental and physical health problems of persons with an intellectual disability **RELEVANCE:** Organisational interventions are used to reconfigure the structure or delivery of health care services. They may prove useful to decrease disparities in health outcomes between the general population and persons with an intellectual disability. **METHODS:**A systematic review of the literature was conducted to assess the effects of organisational interventions for the mental and physical health problems faced by adults with an intellectual disability. Only randomized controlled trials, controlled clinical trials, controlled before and after studies and interrupted time series of organisational interventions were included. Two reviewers independently extracted data and assessed study quality. Study characteristics and results were summarized in tables and meta-analyses were performed when appropriate. **RESULTS:** Eight studies met the inclusion criteria. In general the studies were of moderate methodological quality. The included studies investigated interventions dealing with the mental health problems of persons with an intellectual disability, none focused on physical health problems. Three of the studies identified effective organisational interventions and the remaining five showed no evidence of effect. Only two studies were similar enough to analyse using a meta-analysis. In the pooled analyses, 25 participants received assertive community treatment and 25 received standard community treatment. Changes in measures of function, caregiver burden and quality of life were non-significant. **CONCLUSIONS:** We conclude that there are currently no well designed studies focused on evaluating the organisation of the health services of persons with an intellectual disability and concurrent physical problems. There are very few studies of organisational interventions targeting mental health needs and the results of those that were found need corroboration. High quality health services research aimed at improving the lives of persons with an intellectual disability is possible and long overdue.
- Poster Category: Review of the Literature Poster

## ABSTRACT

- Abstract ID: 248
- Presentation Type: POSTER PRESENTATION
- Title: SYSTEMATIC REVIEW OF HIP FRACTURE REHABILITATION PRACTICES IN THE ELDERLY
- Author(s): \*Chudyk, A., University of Western Ontario; Jutai J., Lawson Health Research Institute; Petrella R.J., Lawson Health Research Institute; Speechley M., University of Western Ontario. This work has been funded by the Canadian Institutes of Health Research (Grant No#: MIA79781)
- Abstract: **PURPOSE:** To address the need for a research synthesis on the effectiveness of the full range of hip fracture rehabilitation interventions for older adults and make evidence-based conclusions. **RELEVANCE:** This review examines all practices within the hip fracture rehabilitation continuum. **SUBJECTS:** Studies that contained hip fracture patients as their study population and focused on the effect of rehabilitative practices on physical outcomes were included. Articles that contained a study population younger than 50 years old or focused on dietary interventions were excluded. **METHODS AND MATERIALS:** Medline, PubMed, EMBASE, CINAHL and Cochrane Central Register of Controlled Trials were searched from 1980 to 2007 for studies published in the English language. The terms "rehabilitation" and "hip fracture" were exploded in order to obtain related search terms and categories. **ANALYSIS:** Only studies with an Oxford Center for Evidence-Based Medicine Levels of Evidence of I (RCT) or II (Cohort) were reviewed. The methodological quality of both types of studies was assessed using a modified version of the Downs & Black Checklist. **RESULTS:** There were 55 studies that met our selection criteria: 30 RCTs, and 25 NRCTs. They were distributed across 6 categories for rehabilitation intervention (care pathways, early rehabilitation, interdisciplinary care, occupational and physical therapy, exercise, intervention not specified) and 3 settings (acute care hospital, post-acute care/rehabilitation, post-rehabilitation). **CONCLUSIONS:** There is strong evidence for the effectiveness of some rehabilitation approaches, including the role of high intensity OT during acute care and the efficacy of home-based care over inpatient facilities. There is little support for early supported discharge, and intensive physical therapy and home-based physical therapy over standard care, following acute hospital discharge. In general, because outcome measures and methods for characterizing rehabilitation interventions are not well standardized, it is difficult to make evidence-based conclusions about best practices in hip fracture rehabilitation in the elderly.
- Poster Category: Review of the Literature Poster

## **ABSTRACT**

- Abstract ID: 141
- Presentation Type: POSTER PRESENTATION
- Title: COGNITIVE STRATEGIES WITHIN KNOWLEDGE OF PERFORMANCE FEEDBACK IN PEDIATRIC ABI.
- Author(s): Levac, DE. McMaster University.
- Abstract: Purpose and Relevance: Acquired brain injury (ABI) is a leading cause of disability in Canadian children and youth. A major focus of physiotherapy interventions for this population is the learning and relearning of motor skills and activities. Although therapists are encouraged to use evidence-based motor learning principles in practice, the use of established principles of motor learning has not yet been studied in this population. The content and timing of extrinsic feedback is a motor learning principle relevant to pediatric ABI. Specifically, knowledge of performance feedback, in which information about movement patterns relevant to goal accomplishment is conveyed to the child, is vital to learning complex and functional tasks. Cognitive strategies are thinking processes and learning tools that may promote successful motor performance. The use of cognitive strategies to enhance knowledge of performance feedback may particularly benefit children and youth with central nervous system dysfunction (such as ABI) who rely on extrinsic feedback to correct movement patterns and promote successful task accomplishment. Description: This poster will describe the rationale and methods for a pilot randomized controlled trial (RCT). This RCT will test the use of cognitive strategies versus regular knowledge of performance feedback in out-patient physiotherapy interventions to improve motor performance in children and youth with moderate to severe sub-acute ABI. Outcome measures include valid and reliable measures of motor performance, motor skill transfer, and self-efficacy. Discussion: Examples of specific cognitive strategies and their potential use in practice will be presented. This poster will promote reflection regarding motor learning principles and how these can best be incorporated into pediatric physiotherapy practice. Conclusion: The pilot RCT presented in this poster may be undertaken as part of PhD work to be completed by the abstract submitter.
- Poster Category: Graduate Student Research/Coursework

## ABSTRACT

- Abstract ID: 182
- Presentation Type: POSTER PRESENTATION
- Title: CORTISOL IN DEPRESSED AND NON-DEPRESSED PATIENTS WITH CORONARY ARTERY DISEASE
- Author(s): \*Dowlati, Y., University of Toronto, Sunnybrook Hospital; Herrmann, N., Sunnybrook Hospital; Oh, P., Toronto Rehabilitation Institute; Van Uum, S., University of western Ontario; Koren, G., University of Toronto; Lanctot, K., University of Toronto, Sunnybrook Hospital
- Abstract: Purpose: Elevated plasma cortisol levels have been detected in association with both cardiovascular risk factors and major depression. While traditional single or 24-hour measurements of cortisol may not reflect ongoing elevations, cortisol deposition in hair may reflect long-term HPA activity and be better linked with outcomes. Our purpose was to evaluate levels of cortisol in hair in depressed and non-depressed coronary artery disease (CAD) patients. Relevance: Depression occurs in 18%-45% of CAD patients and these symptoms are associated with decreased rehabilitation outcomes. Unfortunately, 20% to 40% of patients do not respond to current treatments. Understanding the unique reasons for excess depressive symptoms in this population can guide subsequent treatment development. Hypothesis: We hypothesize that levels of cortisol in hair will be higher in depressed versus non-depressed CAD patients. Methods: 20 mg hair samples of 3 cm length (about 3 months of growth) will be collected from 18 depressed (DSM-IV criteria) and 18 non-depressed CAD patients from the Toronto Rehabilitation Institute Cardiac Facility at baseline and completion of rehabilitation. Results: Cortisol levels will be compared in depressed versus non-depressed and correlated with depressive symptoms (CES-D scores) both cross-sectionally and longitudinally. As secondary outcomes, the association between cortisol and neuropsychological functions (Stroop, Trail Making Test Part B, and the California Verbal Learning Test) and subjective indices of stress and trait anxiety (Perceived Stress Scale and Spielberger anxiety scales) will be assessed. Conclusion: Hair cortisol is the first long-term biological measure of HPA activity, which may be particularly relevant in patients with CAD. As prolonged elevation of glucocorticoids has been hypothesized to exert effects on different regions of the brain specially hippocampus, resulting in neuropsychological deficits, such as deficits in verbal memory, these findings may have clinical significance.
- Poster Category: Graduate Student Research/Coursework

## ABSTRACT

- Abstract ID: 249
- Presentation Type: POSTER PRESENTATION
- Title: EXPRESSIVE ARTS AS A REHABILITATION STRATEGY FOR ADOLESCENTS WITH ABI
- Author(s): Agnihotri, S., University of Toronto; Keightley, M.L., University of Toronto; Gray, J., York University; Colantonio, A., University of Toronto and Toronto Rehabilitation Institute; Polatajko, H., University of Toronto; Cameron, D., University of Toronto; Healy, H., Bloorview Research Institute; Wiseman-Hakes, C., University of Toronto; Rumney, P., Bloorview Research Institute; Parker, J., Trent University; Bridger, L., Consumer and Wellness Innovator. Financial Support: Ontario Neurotrauma Foundation and Dean's New Staff Fund, Faculty of Medicine, University of Toronto
- Abstract: **PURPOSE:** A pilot study was conducted to evaluate the feasibility of expressive arts theatre skills training to facilitate social integration for youth recovering from acquired brain injury (ABI) including Fetal Alcohol Spectrum Disorder. **RELEVANCE:** This study provides new treatment insight for clinicians and program directors interested in the potential of expressive arts therapy to improve social and community integration by facilitating skills required for successful social communication and emotional self-awareness. **DESCRIPTION:** Participants took part in a camp experience, facilitated by theatre artists and occupational therapists, and engaged in various projects, such as mask work, drumming and story-telling. At the end of the program, participants delivered a public presentation which reflected the group's progress over the course of the program. Data collected reflected a mixed qualitative and quantitative approach. Qualitative data was obtained through focus groups that were conducted post-program with participants, caregivers and facilitators, as well as a Creative Tool Box created by the participant throughout the program. Quantitative measures included pre-post assessments designed to capture social and community integration for youth (Emotional face labeling, CAPE, Bar-On EQ-i, ABAS-II, COPM ). **OBSERVATION/DISCUSSION:** Initial analysis of the qualitative data reflects improved communication in the social and home setting for youth with ABI. Single-subject quantitative data analysis revealed improvements in identification of facial expressions as well as improved performance and satisfaction with leisure activities as identified by the COPM. **CONCLUSIONS:** Preliminary results suggest that a combination of directed group activities and self-reflection within a creative learning context may improve social communication for youth with ABI. However, this study is a pilot project and further research needs to be conducted with a larger number of participants, more sensitive quantitative assessment measures of community integration and appropriate control conditions.
- Poster Category: Graduate Student Research/Coursework

## ABSTRACT

- Abstract ID: 194
- Presentation Type: POSTER PRESENTATION
- Title: MEASUREMENT OF WALKING FUNCTION IN CHRONIC INCOMPLETE SPINAL CORD INJURY
- Author(s): Flett, H.M.\*1,2, Craven, B.C 1,5, Popovic, M.R., 1,3,6, McIlroy, W.E., 1,3,4, Verrier, M.C., 1,2,3 1. Toronto Rehabilitation Institute 2. University of Toronto, Department of Physical Therapy 3. University of Toronto, Graduate Department of Rehabilitation Science 4. University of Waterloo, Department of Kinesiology, Faculty of Applied Health Sciences 5. University of Toronto, Department of Medicine 6. University of Toronto, Institute of Biomaterials and Biomedical Engineering \* Funded by the Ontario Neurotrauma Foundation
- Abstract: **OBJECTIVE:** To determine the association between ASIA Lower Extremity Motor Scores (LEMS) and Sensory scores (total pinprick score) and walking function as assessed by a battery of six measures in individuals with chronic incomplete spinal cord injury (ISCI). **PARTICIPANTS:** Twenty subjects, ages 22-77, C2 to T11 ISCI (AIS C & D) 2-27 years post-injury participating in a clinical trial. **METHOD:** Measurements included LEMS and total pinprick scores (/112). Walking function was assessed using a battery of measures consisting of FIM Locomotor Score, Assistive Device Scores, 10-metre Walk Test (10mWT), Timed Up & Go, 6-minute Walk Test (6MWT), and the Walking Mobility Scale. **RESULTS:** Sixteen subjects walked at least 10 metres, 3 were community walkers and 1 had a normal walking speed. Fifteen out of 16 ambulatory subjects had a LEMS threshold >20. No non-ambulatory subjects achieved threshold. LEMS correlated with walking speed ( $r=0.58$ ). No relationship was found between walking speed and pinprick score. Walking speed during 6MWT was not significantly different from 10mWT speed ( $p = .08$ ) and distance walked did not significantly differ in each 2-minute time interval of 6MWT. **CONCLUSIONS:** The battery of walking measures captured different constructs of walking function in this sample. LEMS is strongly associated with walking function in ISCI, while total pinprick scores are not. In addition, the 6MWT may be a redundant measure of walking performance since the yield does not differ from 10mWT. Given the "purported" importance of sensory input to functional walking, a more sensitive and comprehensive sensory assessment should be developed.
- Poster Category: Graduate Student Research/Coursework

## ABSTRACT

- Abstract ID: 184
- Presentation Type: POSTER PRESENTATION
- Title: MEASURING THE RELIABILITY OF GAIT ANALYSIS DURING STAIR ASCENT AND DESCENT IN HEALTHY CHILDREN AND ADOLESCENTS
- Author(s): Yae, K.,\* University of Toronto; Soegandi, J., University of Toronto; Lillie, M., University of Toronto; Cheong, K., University of Toronto; Kim, K., University of Toronto; Reynolds, C., University of Toronto; Zabjek, K., University of Toronto, Bloorview Kids Rehab;
- Abstract: Purpose: To estimate the number of trials necessary to reliably assess gait during stair ascent/descent. Relevance: This initial work will guide the future development of protocols and clinical assessments of gait during the ascent and descent of stairs in children and youth living with a disability. Method: Twelve able-bodied children and adolescents (ages 8 to 18 years) participated in an intra-session, test-retest reliability study. Participants performed 10 repetitions of stair ascent/descent on a set of six standard-sized steps with and without an aircast. Data for the kinematic variables of interest were captured using a 7-camera Vicon MX system and processed using Vicon Workstation software. Statistical analysis of ICC trends for both variables was performed using Statistical Package for the Social Sciences (SPSS) 14.0 software. Results: The reliability of the ML displacement of the centre of mass (COM) and the percent time spent on the stance limb was dependent on the condition. For the percent-stance time variable, the no-aircast ascent and descent conditions did not achieve a reliable measure after 10 trials (ICC = 0.683 and 0.792, respectively) while the with-aircast ascent and descent conditions achieved a reliable measure after three (ICC = 0.804) and six (ICC = 0.805) trials, respectively. For the COM variable, the no-aircast conditions showed decreasing ICC trends with repeated trials, going from ICC=0.880 to 0.639 after eight trials for ascent and from ICC= 0.728 to -0.175 after seven trials for descent. The with-aircast ascent and descent conditions achieved a reliable measure after six (ICC = 0.811) and four (ICC = 0.808) trials, respectively. Conclusion: Multiple repetitions of stair ascent/descent are necessary to achieve a reliable measure of difference in left and right percent-stance time and medio-lateral COM displacement.
- Poster Category: Graduate Student Research/Coursework

## ABSTRACT

- Abstract ID: 124
- Presentation Type: POSTER PRESENTATION
- Title: STRATIFICATION OF FALL RISK IN THE ELDERLY: VALIDATION OF THE AMERICAN GERIATRICS SOCIETY FALL ASSESSMENT ALGORITHM.
- Author(s): Muir, S.W.,\* University of Western Ontario; Berg, K., University of Toronto; Chesworth, B., University of Western Ontario; Speechley, M., University of Western Ontario.
- Abstract: **PURPOSE:** The American Geriatric Society (AGS) best-evidence fall prevention guidelines lack published prospective validation. This study investigated the AGS assessment algorithm in identifying and stratifying fall risk in community dwelling older adults. **RELEVANCE:** The key falls prevention challenge in the elderly is the successful identification of people at risk as evidence clearly supports fall reduction through the treatment of modifiable risk factors. **HYPOTHESIS:** The AGS algorithm will identify the majority of people who fall as "at-risk" and will stratify participants into four levels of risk. **SUBJECTS:** A sub-sample from the 'Project to Prevent Falls in Veterans' (PPFV). The mean age was 80.1 years and 65.63% male. **METHODS AND MATERIALS:** In Phase II of the PPFV, 128 people were randomly assigned to a comprehensive geriatric assessment. Baseline data included history of falls (3, 6 and 12 months), gait, and balance assessment using the Berg Balance Scale. Prospective falls data was collected monthly for one year. **ANALYSIS:** Counts and frequency values were calculated for each arm of the algorithm using the three time frames for past history of falls on the outcomes of 'Any fall' and 'Injurious Fall'. Test for Trend was performed to evaluate if fall risk increased across the four risk levels created by the algorithm. **RESULTS:** A history of falls in the previous 12 months was the most effective time frame to reference in the initial screening question. The Test for Trend indicated that the average risk for all falls increases linearly from low (no history of falls) to high risk group (history of 2 or more falls). The low risk group still has a fall risk of 29%. **CONCLUSIONS:** The AGS algorithm demonstrated predictive validity to identify for further investigation 50% of people who sustain a future fall and created 4 distinct risk groups.
- Poster Category: Graduate Student Research/Coursework

## ABSTRACT

- Abstract ID: 236
- Presentation Type: POSTER PRESENTATION
- Title: SUSTAINED HEAD IMPACTS AND NEUROCOGNITIVE FUNCTION IN MINOR HOCKEY PLAYERS
- Author(s): \*Reed, N.P., University of Toronto; Duggan, C.T., University of Toronto; Taha, T., University of Toronto; McAuliffe, J., Nipissing University; Mihalik, J., University of North Carolina at Chapel Hill; Montelpare, W., Lakehead University; Guskiewicz, K., University of North Carolina at Chapel Hill; Fought, B., Brock University; McPherson, M., Lakehead University; Keightley, M.L., University of Toronto.
- Abstract: **PURPOSE:** This prospective study explores the relationship between sustained head impacts and neurocognitive function within Bantam-aged (13-14 years) minor hockey players. Additionally, this study aims to describe the recovery of neurocognitive function and the resolution of post-concussion symptoms within a single youth hockey player following a hockey-related concussion. **RELEVANCE:** Head injuries and concussion are common in the sport of hockey, in which deficits in neurocognitive function can result. Despite growing public interest, what remains to be explored is the relationship between sustained head impacts and neurocognitive function within the minor hockey player population. **DESCRIPTION:** Data was collected from 13 players of a Bantam boys representative level hockey team. Objective data on sustained head impacts was collected using telemetric accelerometers implanted within the players' helmets. Neurocognitive function was assessed using a series of neurocognitive and post-concussion measures. **DISCUSSION:** Descriptive characteristics of sustained head impacts and neurocognitive function were generated for each player. Findings suggest a relationship between the magnitude of sustained head impacts and specific neurocognitive domains. Results from the case study of a single concussed youth hockey player revealed increased post-concussion symptoms, decreased performance in visual memory functioning and attentional deficits following concussion. **CONCLUSIONS:** This study acts as an initial step towards better understanding sustained head impacts and related neurocognitive impairments that may limit the on and off ice occupational performance of minor hockey players. Results from the case study are discussed regarding time of return-to-play and the potential impact on recovery and occupational performance. The current study attempts to both inform the development of rehabilitative treatment protocols for concussed youth athletes and to expand the scope of occupational therapy into the world of sport. The findings of this study act as a stimulant for further research directed towards the subject of sports-related concussion in youth athletes.
- Poster Category: Graduate Student Research/Coursework

## ABSTRACT

- Abstract ID: 207
- Presentation Type: POSTER PRESENTATION
- Title: THE RELATIONSHIP BETWEEN KYNURENINE AND MEMORY IN CARDIAC REHABILITATION PATIENTS.
- Author(s): Swardfager, W., University of Toronto, Sunnybrook Health Sciences Centre, Toronto Rehabilitation Institute; Herrmann, N., University of Toronto, Sunnybrook Health Sciences Centre; Oh, P., University of Toronto, Toronto Rehabilitation Institute; Lanctôt, K.L., University of Toronto; Sunnybrook Health Sciences Centre, Toronto Rehabilitation Institute.
- Abstract: **PURPOSE:** Cognitive deficits are prevalent in patients with coronary artery disease (CAD) and they are associated with reduced quality of life and mortality. In some patients, these deficits persist following acute coronary events but predictors of longitudinal variation are not known. Kynurenine and its metabolites are known to have adverse psychoactivity profiles, possibly due to neurotoxicity. Kynurenine is synthesized from tryptophan in vivo by the indolamine-2,3-dioxygenase (IDO) enzyme. Elevations in the plasma ratio of kynurenine to tryptophan (K/T) have been observed in CAD, reflective of periferal IDO activation. This study will assess the clinical significance of the K/T ratio in persons with CAD by investigating its potential relationship with verbal memory. **RELEVANCE:** This pathophysiological marker may have implications for the pharmacological management of cognitive symptoms in a cardiac rehabilitation setting. **HYPOTHESIS:** Higher K/T ratios will be associated with poorer verbal recall scores over the course of 1 year. **METHODS:** Patients will be observed longitudinally as they progress through 1 year of cardiac rehabilitation. Verbal acquisition and recall (California Verbal Learning Test, 2nd Ed.) will be assessed at baseline, 6, and 12-months. Blood samples will be taken at each visit to assay K/T levels. Persistent elevation in K/T will be assessed for correlations with the persistence of cognitive deficits. **RESULTS:** When baseline K/T ratios were assayed in 15 patients, patients in upper K/T tertiles showed trends towards lower short ( $p=.062$ ) and long ( $p=.069$ ) delayed verbal recall scores in one-way ANOVA models. **CONCLUSIONS:** These preliminary results warrant continuation of recruitment. These results may lead to a better understanding of cognitive deficits in patients with CAD, and implicate management strategies by focusing on a pathway of possible pathoetiological significance.
- Poster Category: Graduate Student Research/Coursework