Our symposium will focus on mental health issues which impact on outcomes after hip fracture. Dr. Seitz will present his epidemiological research on the impact of dementia in outcomes for older adults with hip fractures. Dr. McGilton will discuss the implementation of models of care for supporting older adults with dementia in rehabilitation. Dr. Iaboni will discuss mood disturbance and other psychiatric symptoms after hip fracture, and will present data about the initiation of antidepressants and other psychotropic medications after hip fracture. The symposium will conclude with a panel discussion about optimizing care for older adults after hip fracture, from the perspective of mental health.

Antidepressants and other psychotropic medications after hip fracture

Andrea Iaboni, MD, DPhil, Assistant Professor, University of Toronto
Dallas Seitz, MD, Assistant Professor, Queen’s University
Kathy McGilton, RN, PhD, Senior Scientist, Toronto Rehabilitation Institute-UHN

Learning Objectives:
1. To review the relationship between hip fracture and depression.
2. To characterize the use of antidepressant and other psychotropic medication after hip fracture.
3. To consider potential benefits and hazards of psychotropic use after hip fracture.

Background: Depression is common in older adults after hip fracture. The benefits and safety of antidepressants post-hip fracture have not been established. Importantly, antidepressants have been linked to falls and fractures. Our aim was to describe antidepressant prescribing practices in community-dwelling older adults after hip fracture.

Methods: We conducted a retrospective cohort study using linked, population-based administrative data from Ontario for the period from April 2003 to March 2012. Our cohort consisted of seniors after hip fracture surgery who returned home from hospital or rehabilitation and who had not been exposed to an antidepressant in the year prior to their fracture (n=25,438). We identified the 90 day incidence of new antidepressant use in this population and compared new users of antidepressants to non-users.

Results: The mean 90-day incidence of antidepressant initiation after hip fracture was 8.7%. The most commonly initiated antidepressant was trazodone (39.3%), followed by SSRIs (36.8%). New antidepressant users were older than non-users (p<0.001), were on more medications at baseline (p<0.001), had higher rates of dementia (p<0.001), more previous falls (p<0.001), and were more likely to have had a rehabilitation admission (p<0.001). New users of antidepressants were at higher risk of exposure to atypical antipsychotic (p<0.001), typical antipsychotic (p<0.001) and benzodiazepine (p<0.001) medications in the 90 days at home after hip fracture compared to non-users.
**Conclusions:** The 90 day period after a hip fracture is associated with a high rate of initiation of antidepressants. The prescription of multiple psychotropic medications in this vulnerable population warrants further investigation.

**Factors Influencing the Implementation of the Patient Centred Rehabilitation Model of Care for Older Adults with Cognitive Impairment**

Kathy McGilton, RN, PhD, Senior Scientist, Toronto Rehabilitation Institute-UHN
Dallas Seitz, MD, Assistant Professor, Queen’s University
Andrea Iaboni, MD, DPhil, Assistant Professor, University of Toronto

**Learning Objectives:**
1. To understand factors influencing rehabilitation care for persons with cognitive impairment.
2. To understand strategies used during implementation of the model of care.
3. To understand the components of the Patient Centred Rehabilitation Model of Care targeting persons with cognitive impairment.

**Background:** In 2011, Bone and Joint Decade Canada released a recommendation for accessible intensive structured rehabilitation programs for older persons with cognitive impairment (CI), i.e. dementia or delirium. In response to this demand, the Patient Centred Rehabilitation Model of Care targeting persons with CI (PCRM-CI) was developed. The PCRM-CI has now been empirically tested within three active rehabilitation units in Ontario demonstrating positive outcomes for older adults’ post-hip fracture. This presentation will highlight the key factors influencing the implementation of the model of care within the three rehabilitation sites.

**Methods:** At each of the three sites, focus groups and individuals interviews were conducted with staff (n = 23) and managers (n = 5) to determine key factors influencing the successful implementation of the PCRM-CI.

**Results:** In order to facilitate successful implementation of the PCRM-CI, important considerations should be made at each stage of the process: prior to implementation, staff’s concerns pre-implementation, and leaders’ commitment and understanding of the model should be adequately addressed. During implementation, provisions should be made to address the need for ongoing education and training. Post-implementation, continued support should be provided to staff to ensure they are able to care for this vulnerable population of older adults.

**Conclusions:** New models of rehabilitation care targeting persons with CI living at home prior to the hip fracture can be implemented in active rehabilitation units. Improving care for this vulnerable population will include a change in the admission criteria and the delivery of care on active rehabilitation units. The PCRM-CI can be implemented in rehabilitation facilities with minimal financial burden. The Advance Practice Nurse plays a significant role in the implementation and sustainability of this model.

**Access to Rehabilitation and Postoperative Outcomes of Older Adults with Dementia who Sustain Hip Fractures**

Dallas Seitz, MD, Assistant Professor, Queen’s University
Learning Objectives:
1. To review relationship between dementia and hip fractures.
2. Examine access to rehabilitation for older adults with hip fractures in Ontario.
3. Understand the association between receipt of postoperative rehabilitation and outcomes for older adults with hip fractures and dementia.

Background: Older adults with dementia frequently experience hip fractures. Rehabilitation following hip fractures is important in order to reduce disability and functional decline. However, older adults with dementia may have restricted access to rehabilitation services following hip fracture. We evaluated the effects of access to postoperative rehabilitation and subsequent outcomes for older adult with dementia who experienced hip fractures.

Methods: We identified all older, community-dwelling adults with dementia who underwent surgery for hip fractures in the province of Ontario, Canada between 2003 and 2011. We categorized individuals into one of 4 possible post-fracture rehabilitation groups: inpatient rehabilitation (IPR); home-care based rehabilitation (HCR); complex continuing care (CCC); or, no rehabilitation. The risks of admission to long-term care (LTC), post-fracture mortality and post-fracture adverse events were then compared across rehabilitation groups after adjusting for potential confounders using multivariable regression.

Results: A total of 11,200 individuals with dementia experienced hip fractures during the study period. Of the total group, 4,494 (40.1%) received no rehabilitation, 2,474 (22.1%) were admitted to CCC, 1,157 (10.3%) received HCR, and 3,075 (27.4%) received IPR. As compared to no rehabilitation, IPR, HCR, and CCC were each associated with a reduced risk of LTC admission within the first 2 years following discharge from hospital, and HCR was associated with the lowest risk of all the types of rehabilitation. When compared to no rehabilitation, all three forms of rehabilitation were associated with reduced risks of mortality, with the greatest effect observed with IPR (hazard ratio: 0.44, 95% confidence interval: 0.41 – 0.47).

Conclusions: Admission to post-fracture rehabilitation for older adults with dementia is associated with a reduced risk of LTC placement and mortality although many individuals with dementia do not receive these services following hip fracture. Improving access to rehabilitation services for this vulnerable population may improve post-fracture outcomes and quality of life.