

**KAUFMAN PRIZE SESSION, CGS  
SUNDAY, OCTOBER 26, 0830-1145 HOURS  
PORTAGE ROOM**

- 0830 **The Continuing Under-Treatment of Older Men with Localized Prostate Cancer**  
*Kevin Schwartz*
- 0845 **Alleviating Breathlessness: A Critical Appraisal of the Literature on the Management of Dyspnea in Palliative Care**  
*Michelle Gibson*
- 0900 **Use of Anticholinergic Medications by Individuals with Dementia**  
*Jenny Basran*
- 0915 **Patterns of Benzodiazepine Use and Risk of Injuries in the Elderly**  
*Gillian Bartlett*
- 0930 **A Prospective Study of Determinants and Clinical Correlates of Declining DHEAS Levels in Older Men and Women: The Rancho Bernardo Study**  
*Cara Tannenbaum*
- 0945 **What Characterizes the Ideal Geriatric Day Hospital (GDH) Patient? A 6-month Retrospective Chart Audit and Prospective Survey of GDH Referrals**  
*Costa Apostolides*
- 1000 **Short- and Long-Term Outcome after Intravenous Recombinant Tissue Plasminogen Activator (IV-RT-PA) for Acute Stroke in Patients 80 years of Age or Older**  
*Mikael Mouradian*
- 1015 **Semmes Weinstein Monofilament Test in the Elderly**  
*Ryan Thompson*
- 1030 **Optimal Initial Therapy for Stable Multi-vessel Coronary Artery Disease in the Elderly: A Decision Analysis**  
*Sudeep Gill*
- 1045 **The Effects of Endurance and Strength Training on Measures of Heart Rate Variability in Healthy Elderly Female Subjects**  
*Kenneth Madden*
- 1100-1130 **Break**
- 1130-1145 **Award Presentation and Closing**

**SCIENTIFIC MEETING ABSTRACTS**

**A NEW CLERKSHIP IN GERIATRIC MEDICINE FOR THIRD YEAR MEDICAL STUDENTS: BUILDING A LEARNING EXPERIENCE**

Gustavo Duque<sup>2</sup>, Susan Gold<sup>2</sup>, Najmi Nazerali<sup>1</sup>, Allen Huang<sup>1</sup>, Howard Bergman<sup>2</sup>

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The dramatic raise in the number of older people in Canada predicted for the first half of the 21st century underscores the need to include in the medical curricula a specific period in Geriatric Medicine. The goal of the undergraduate medical curriculum in Geriatric Medicine is to provide the foundation for competent, compassionate care of older patients, particularly the frail elderly. Recent curriculum changes at McGill University include a mandatory 4 week clerkship for third year medical students. The basis of the Clerkship in Geriatric Medicine is the assessment and management of frail elderly who have a combination of complex acute and chronic medical problems and functional disabilities. It includes the understanding of the need for continuity of care across settings and the transition from hospital to the community. Our main purpose is to offer students a learning experience based in self-reflection, access to technology, interactive learning and permanent feedback. To accomplish

these objectives didactic sessions are mostly electronic-based with two main components: an interactive CD-rom that includes the contents and bibliography (knowledge) and an electronic portfolio to assess students' acquisition of skills and attitudes. We expect that implementation of this model of clinical clerkship will prepare future physicians, not only for practice of Geriatric Medicine, but also in different medical and surgical specialties, and will enhance the attitudes, knowledge and skills practitioners need to care for older people.

**THE DURABILITY OF KNOWLEDGE GAINED BY EXPERIENTIAL LEARNING IN FIRST YEAR MEDICAL STUDENTS AT UWO**

Laura Diachun, Jackie Esbaugh, Barbara Kudo  
*University of Western Ontario, London, ON*

*Background:* We evaluated the durability of knowledge change associated with experiential learning encounters compared with didactic teaching strategies used in delivering geriatric content to first year medical students. Durability of change in knowledge and attitude at one year were primary outcome measures.

*Methods:* First year medical students (n=64, 59% male) were randomized to a didactic lecture (n=31), or a participatory learning encounter (n=33), receiving the same core content.

Knowledge of and attitudes towards geriatric medicine were evaluated at session completion and one-year post session using a modified and previously validated Palmore's Facts on Aging Quiz. Information about previous geriatric experiences, professional values and aspirations, interest in geriatric medicine, professional values and their recollection of their first year experience was obtained.

**Results:** Follow up was completed on 100 students (didactic and experiential group=64, those attending neither first year session (n=36). The treatment and control groups were not significantly different by age, gender, or experience with the elderly. The experimental group scored significantly higher on tests of knowledge initially but at one year this difference did not achieve statistical significance (e=17.2, d=17.1, ni=15.9). The experiential group was more likely to feel their perspective on aging had been challenged (p=0.002). Both experimental and didactic groups demonstrated a decline in interest in geriatrics (p=0.008). Those who attended neither session had greater negative bias towards the elderly (p=0.02) and were the least likely to prefer working with the elderly. Gender differences were found.

**Conclusions:** Experiential geriatric curriculum is associated with improved knowledge, enjoyability and altered perspective on aging. Despite lack of measured change in attitude, students noted new appreciation of the elderly. Although we did not demonstrate that change in knowledge was durable at one year, this may be attributed to the short period of intervention. Student comments were extremely positive and will be shared.

#### THE INFLUENCE OF AGE AND COMORBIDITY UPON 30-DAY MORTALITY AFTER RADICAL PROSTATECTOMY

Shabbir M.H. Alibhai, Murray D. Krahn, John Trachtenberg, Neil Fleshner, Gary Naglie

University of Toronto, Toronto, ON

**Background:** Few men over age 70 currently undergo radical prostatectomy (RP), partly due to the perception of increasing peri-operative risk with age. Previous studies have demonstrated increased short-term mortality with advancing age. These studies have not adjusted for the presence of comorbid medical illnesses.

**Methods:** We examined 30 day mortality after RP for all men diagnosed with prostate cancer in Ontario between 1990 and 1999. Multivariate logistic regression models were built incorporating patient age, comorbidity (Charlson-Deyo Index and Diagnosis Count), and year of surgery.

**Results:** 11,011 of 55,765 patients (19.7%) with newly diagnosed prostate cancer underwent RP. Patients who underwent RP were younger and had less comorbidity than patients who did not undergo RP. Thirty-day mortality rates post RP were 0.0%, 0.2%, 0.6%, and 0.7% for men aged 40-49, 50-59, 60-69, and 70-79, respectively. Only seven men aged 80 or older underwent RP; one (14.2%) died within 30 days post RP. Increasing age, but neither comorbidity nor year of surgery, was associated with 30 day mortality (odds ratio for age, 1.10 per year, p<0.001). Restricting the sample to patients with no comorbidity did not attenuate the relationship between age and 30 day mortality.

**Conclusions:** There is a small increase in 30 day mortality post RP with increasing age. Although the possibility of residual confounding from comorbidity cannot be eliminated, the risk of undergoing RP for 70-79 year old men remains low and is lower than previously published estimates.

#### THIRD MILLENNIUM TELE-LEARNING FOR STAFF IN DEMENTIA CARE

Peter McCracken, Carol Wilson, Judy Quach

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It has been stated that by 2031, one in four Albertans will be over the age of 65. The cost of providing care to institutionalized

seniors will be more daunting than ever before, especially when the high prevalence of dementia in the group is acknowledged. With already a shortage of trained individuals in dementia care, non-professional staff now provide the bulk of institutional care to such patients. Supporting such formal caregivers in the future with educational initiatives will become essential to maintain quality dementia care services in the future.

We targeted two long-term care facilities specifically designed to manage the functional and behavioral needs of patients with dementia. Both sites feature a unique approach to housing and care, aiming to provide residents with a homelike environment, and the opportunity to participate actively in daily activities. Their staffing consists of a registered nurse manager, one licensed practical nurse (LPN), and six resident care companions per shift.

A telehealth link was utilized to deliver a one-year period of monthly educational sessions to these resident care companions. These non-professional staff were approached to agree voluntarily to participate. Entry would entail attending all sessions as well as completing short pre and post session questionnaires.

To measure the outcome of the educational initiatives, the pre and post questionnaires were based on the actual content of each presentation. Visual analogue scales and multiple choice questions were completed to gauge individual knowledge and understanding of each topic. Results will reflect the success/failure of this innovative approach.

#### OUTCOMES ANALYSIS OF A PHARMACIST-DIRECTED SEAMLESS CARE SERVICE

Neil J. MacKinnon, Ann Nickerson, Nancy Roberts, Lauza Saulnier

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**Background:** An issue that contributes to drug-related problems in older adults is the lack of continuity of care between practice settings. While several seamless care pilot projects have been implemented in recent years across Canada, there remains a need for more rigorous evaluations of these services. Our objective was to determine the impact of a pharmacist-directed seamless care service at the Moncton Hospital on economic, clinical and humanistic outcomes.

**Methods:** This randomized controlled trial was conducted with a nine-month recruitment phase (Sept 2000 to June 2001), with a six-month follow-up period. Family practice patients at the Moncton Hospital who met the inclusion criteria were recruited to participate in the study. The intervention pts received in-depth pharmaceutical care from the clinical pharmacist prior to discharge, while the control patients received the hospital's standard of care. The ECHO model was used to evaluate the service. Economic (ER visits, readmissions, and MD office visits), clinical (drug-therapy problems and adherence/compliance), and humanistic (health-related quality of life and satisfaction) outcomes were measured.

**Results:** Recruitment targets were met with 134 patients in the intervention group (mean age=67.3 years) and 119 in the control group (mean age=61.8 years). The service had a marginal effect on economic outcomes. An average of 3.73 drug-therapy problems were found per intervention patient. Adherence/compliance improved significantly in the intervention group according to three different measures six-months post discharge. Satisfaction surveys indicated that physicians, nurses, patients and community pharmacists all saw value in the service. Health-related quality of life (as measured by the SF-36) showed a significant increase in the role physical domain in the intervention patients.

**Conclusions:** This pharmacist-directed seamless care service has enhanced collaboration with hospital and community health-care providers, improved medication-taking behaviour in

## Abstracts

patients, and positively influenced clinical and humanistic outcomes in patients while having a marginal impact on economic outcomes.

### **FRAILITY IN ELDERLY HEMODIALYSIS PATIENTS AT A LARGE UNIVERSITY HOSPITAL DIALYSIS CENTRE**

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University of Toronto, Toronto, ON

**Background:** The number of patients being started on chronic hemodialysis has increased dramatically over the last 10 years, with the greatest increases in the elderly. The purpose of this study was to describe the health status of elderly chronic hemodialysis patients at a large university-affiliated dialysis centre.

**Methods:** We identified all current chronic hemodialysis patients  $\geq 65$  years of age registered at the University Health Network in the year 2000. Consenting patients were interviewed to assess their self-rated health, functional status and physical activity.

**Results:** We identified 181 elderly hemodialysis patients. The mean age was 74.4, with 43.7%  $\geq 75$ , 62.4% were male and 19.9% were living alone. Of the 134 patients that were interviewed, 64.2% rated their health as fair or poor and 38.1% rated their health as somewhat or much worse than the year before. Only 37.9% were fully independent in all 10 basic activities of daily living and only 9.4% were fully independent in all 8 instrumental activities of daily living. When patients were asked to indicate their maximal physical activity, 18.0% specified sitting, 19.5% specified very light exertion (e.g., personal care) and 15.8% specified light exertion (e.g., slow walking). Only 28.7% indicated any interest in starting a physical activity program.

**Conclusions:** A large proportion of elderly hemodialysis patients is frail and has little engagement or interest in physical activity.

### **IMPROVING OUTCOMES IN GERIATRIC REHABILITATION: THE ROLE OF SUCCESSFULLY TREATING ILLNESS**

Frank D. Knoefel, Louise Patrick  
University of Ottawa, Ottawa, ON

**Background:** The literature has shown that a number of variables affect rehabilitation outcome, including: admission functional status, age, cognitive function, and mood. Our previous work had identified medical complexity as a further important variable in geriatric rehabilitation. This study investigates the impact of the treatment of illness on geriatric rehabilitation outcome.

**Methods:** A prospective, multivariate, within-subject design was chosen for the study. All patients admitted to the Geriatric Rehabilitation unit of the SCO Health Service in Ottawa, Ontario in the period April 1999 to April 2001 were included. The Functional Independence Measure (FIM) was calculated for all patients on admission and discharge. Medical complexity was measured using the Cumulative Illness Rating Scale (CIRS), and cognition and mood were measured using the MMSE and short-form GDS. To measure the impact of the successful treatment of illness in these patients, the relationship between the CIRS discharge and the FIM discharge was calculated using a regression analysis, after covarying the contributions of age, the MMSE, the GDS, the Length of Stay, and the admission FIM and CIRS scores.

**Results:** 470 frail geriatric patients with mean age of 81 years were admitted in the period of the study. Complete data were available for 352 of them. The average FIM admission was 64.6, and discharge was 86.0, the MMSE was 25.0 and the average GDS was 3.9. The average total CIRS score on admission was 11.8 and at discharge was 9.6. Using the regression analyses, this study found that the level of improvement in cumulative ill-

ness is a significant predictor of rehabilitation outcome, even after eliminating the effect of the other known variables ( $B=-4.14$ ,  $T=0.000$ ).

**Conclusion:** The successful treatment of cumulative illness, as measured by the CIRS, maximizes the rehabilitation potential of frail elderly patients.

### **THE UTILITY OF CALCANEAL ULTRASOUND IN ASSESSING BONE MINERAL DENSITY (BMD) IN SEVERELY COGNITIVELY IMPAIRED SENIORS**

Angela G. Jubly  
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**Background:** Osteoporosis prevalence rises with age. BMD is one of many risk factors. Lack of BMD measurement may be a reason for under-treatment in seniors. The current gold standard is dual-energy X-ray absorptiometry. This requires transportation to a radiological facility, patient agility (on/off the table) and cooperation (lying still) for a 20 minute procedure. For those with severe cognitive impairment this is not a realistic option, hence, BMD is seldom measured. The objectives of this study were to evaluate: 1) utility of calcaneal BMD measurement in the cognitively impaired; 2) prevalence of osteoporosis (based on calcaneal BMD); 3) prevalence of osteoporosis treatment

**Methods:** Family members provided proxy consent. Calcaneal ultrasound was measured using a Sahara clinical bone sonometer (Hologic) which measures speed of sound, ultrasound attenuation, and calculates BMD (based on US age, sex, race matched controls).

**Results:** Forty residents (33 women) participated. Average MMSE was 10 (range 0-25). 100% cooperated with calcaneal ultrasound measurement (taking <5 minutes) including those bed and wheelchair bound. 18 (all women) had osteoporotic T-scores  $>-2.5$  (-2.6 to -3.7); 19 (13 women) had osteopaenic T-scores -1.0 to -2.5, and 3 (2 women) had normal scores. Of the osteopaenic group, 100% had at least one osteoporotic risk factor in addition to age ( $>75$ ) and institutionalisation. Calcium supplementation occurred in 17% of osteoporosis group, 47% of osteopaenic, 33% of the normal groups. 1 participant (with a normal BMD) was on HRT. 16% were taking etidronate, all in osteopaenic group.

**Conclusions:** Calcaneal ultrasound is acceptable, and easily administered in these cognitively impaired patients. Treatment guidelines (based on BMD and risk factors), suggest all participants should have been on calcium, Vitamin D and anti-resorptive therapy. The high prevalence of a low BMD in addition to other risk factors strengthens the need for targeted therapy.

### **USE OF COMPLEMENTARY AND ALTERNATIVE MEDICINES BY INDIVIDUALS WITH DEMENTIA**

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High rates of use of complementary and alternative medicines (CAMs) have been reported in certain populations of older individuals (J Gerontol 2002, 57:M223-7). The rate of use among those with cognitive impairment is uncertain. As herbals/ vitamins have been studied for the treatment of dementia and prescribed medications are of modest benefit, the rate of use may be high. Published reports of the utilization of CAMs by those with dementia have been derived from select samples of sufferers - a clinic (Alz Dis Assoc Disord 1996, 10:63-67) and a caregiver support group (J Am Geriatr Soc 1995, 43:747-50). Data from the clinical examination of the second wave of the Canadian Study of Health and Aging (1996-97) was used to examine the frequency of CAM use in an older population-based sample ( $n = 1081$ ). Overall 34.7% were consuming a CAM. Most (83.5%) CAM users were taking a vitamin preparation (48.5% a multivitamin). CAM use was significantly ( $p < 0.001$ ) higher in those with

normal cognition (41.2%) compared to those with cognitive impairment no dementia (37.8%) or dementia (27.8%). Of those with dementia the frequencies of use of select products were: multivitamin 12%, vitamin B12 6.9%, folate 3.3%, vitamin E 2.2%, vitamin C 2%, Ginseng 0.7%, Ginkgo 0.2%. Only the use of vitamin B12 and folate were more common among dementia subjects compared to those with normal cognition. Logistic regression showed that normal cognition (OR 1.9), female sex (1.4), and residing in BC (2.3) or the Prairies (1.8) increased the probability of CAM use. The rate of CAM use, especially non-vitamins, among those with dementia was lower than anticipated.

#### **ALCOHOL MISUSE, GENDER AND DEPRESSIVE SYMPTOMS IN COMMUNITY-DWELLING SENIORS**

Phil St. John, Patrick Montgomery, Suzanne L Tyas  
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**Background:** Alcohol misuse in seniors has been well studied in clinical samples and in small communities, but relatively few studies on alcohol misuse are population-based.

**Objectives:** 1. To describe the characteristics of seniors who score one or more on the CAGE questionnaire; and 2. To determine if depressive symptoms are associated with alcohol misuse after accounting for sociodemographic factors.

**Methods:** Secondary analysis of the Manitoba Study of Health and Aging, a survey of community-dwelling seniors sampled from a representative population registry. Participants were initially interviewed in 1991-2 and reinterviewed in 1996-97, at which time the CAGE questionnaire was administered. Data from time 2 were used; 1028 persons were included in the analyses. Sociodemographic characteristics were self-reported. The CAGE questionnaire, Center for Epidemiologic Studies - Depression (CES-D) scale and the Mini-mental status examination (MMSE) were administered by trained interviewers. Bivariate analyses and logistic regression models adjusted for age, gender and education were constructed.

**Results:** Men were more likely to score positive on the CAGE questionnaire. In bivariate analyses, depressive symptoms were not associated with alcohol misuse. However, after adjusting for gender and age, there was a strong association. Poor self-rated health and impairments in instrumental activities of daily living (IADLs) were also associated with alcohol misuse.

**Conclusions:** Male gender, depressive symptoms, and poor functional status are associated with alcohol misuse. Attention to depressive symptoms and functional status may be important in the care of seniors who misuse alcohol. Conversely, physicians should enquire about alcohol use in seniors with functional impairment or depressive symptoms.

#### **HOSPITAL UTILIZATION OUTCOMES IN AN ACUTE CARE FOR ELDERLY (ACE) UNIT**

Roger Wong

*University of British Columbia, Vancouver, BC*

**Background:** There is increasing evidence that Acute Care for Elders (ACE) units are associated with positive clinical outcomes among hospitalized elderly patients during their acute medical illnesses.

**Objectives:** To describe the average length of stay (ALOS), discharge disposition and readmission rate, and to analyze the impact of patients' age, gender and physician service, in a 21-bed ACE unit.

**Methods:** Retrospective analysis of hospital electronic data-

base of 312 patients (479 consecutive admissions) admitted to the ACE unit from January 5 to April 26, 2001 in a Canadian teaching hospital.

**Results:** Most patients in the ACE unit (96% ACE admissions) were 75 years or older with mean age of 83.5±6.5 years. On average, ACE patients stayed 5.2 days in the ACE unit, which was shorter than off service elderly patients in another acute medical unit (ALOS 7.0 days). Patients' age, gender, patient grouping designation, or attending physician service did not contribute to significant differences in ALOS. There was no significant correlation between age and ALOS in the ACE unit ( $r = 0.04$ ). By the end of the study period, 50.3% of ACE patients admitted to the ACE unit were discharged from the unit, and among these discharges, 74% returned home. During the study, 34.9% of admissions to the ACE unit were readmissions, mostly with primary medical diagnoses identical to preceding admission(s). There was no significant association between age ( $r = 0.10$ ), gender, patient grouping designation, attending physician service (Goodman-Kruskal's  $\lambda = 0, 0$  and  $0.05$  respectively) and readmission rate.

**Conclusions:** The ALOS of elderly patients in an ACE unit was short with the majority of discharged patients returning home, although about a third of all ACE admissions were readmissions. Patients' age, gender and attending physician service did not independently or significantly predict their ALOS or readmission rate.

#### **CAN FALL PREVENTION ON ADMISSION TO LONG-TERM CARE FACILITIES PREVENT ADVERSE OUTCOMES?**

Mireille Norris

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**Background:** A systematic review of fall prevention in LTC was performed. The objective was to review the evidence on screening for fall risk and fall prevention in long term care facilities to determine whether screening on admission to LTC facilities could prevent adverse outcomes related to falls.

**Methods:** The strength of the evidence was evaluated using the evidence-based methods of the Canadian Task Force on Preventive Health Care (CTFPHC). Studies included in this review included randomized controlled trials of fall prevention in LTC and hip protectors, Cochrane systematic review on hip protectors and case-controlled studies of screening for falls' risk. The findings were validated through an iterative process involving peers from the Department of Epidemiology at the University of Toronto, Providence Center and the CTFPHC.

**Results:** Long-term care facilities should enquire from residents or/and caregivers about a previous history of fall on admission, so that residents with a previous history of fall can be identified as such. After a fall, a resident should be assessed and an individual care plan should be initiated to prevent further falls. Comprehensive geriatric assessment by a nurse practitioner is effective in preventing hospitalization, multidisciplinary intervention is effective in reducing further falls and hip protectors are effective in preventing hip fractures among residents at high risk for fall. Non-targeted exercise programs are not an effective means of preventing falls in LTC settings.

**Conclusions:** Education of nursing staff and nursing home administrators is needed so that evidence-based fall prevention policies can be implemented in Canadian LTC facilities and successfully reduce the adverse events associated with falls in this population.