

**communications  
to the  
Autumn Meeting  
of the  
British Geriatrics Society**

**4 - 6 October 2006  
Harrogate International Centre  
Harrogate, Yorkshire**



**programme of  
abstracts**

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Thursday 5 October 2006

**PLATFORM PRESENTATIONS**

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1

**ACE INHIBITION IMPROVES EXERCISE CAPACITY IN FUNCTIONALLY IMPAIRED OLDER PEOPLE WITHOUT HEART FAILURE**

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**Introduction**

Muscle function declines with age and is a major source of disability in older people. Recent evidence suggests a possible role for the renin angiotensin system in modulating muscle function. We therefore devised a study to examine the effect of angiotensin converting enzyme (ACE) inhibition on muscle function in older people without heart failure.

**Methods**

In a double blind randomized controlled trial participants aged  $\geq 65$  years with mobility or functional impairment were randomized to receive either Perindopril 4 mg or placebo for 20 weeks. The primary outcome was the change in 6 minute walking distance (6MWD) over 20 weeks. Secondary outcomes were muscle function (Sit-to-Stand and Timed-Get-Up-and-Go tests); daily activity levels (accelerometry); self reported function (Nottingham extended activities of daily living) and quality of life (EuroQol).

**Results**

One hundred and thirty participants, mean age 78.7 (SD 7.7) years were randomized and 95 completed the trial. At 20 weeks, the mean 6MWD in the Perindopril group had improved by 31.4 metres (95% CI 10.8 to 51.9) relative to placebo group ( $p=0.003$ ). EuroQol 5D improved by 0.087 in the Perindopril group relative to the placebo group ( $p=0.046$ ). There were no significant between group differences for the other outcomes.

**Conclusion**

ACE inhibition improves exercise capacity and maintains health related quality of life in functionally impaired older people without heart failure.

2

**PREDICTORS OF QUALITY OF LIFE IN PATIENTS WITH CHRONIC HEART DISEASE**

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**Introduction**

Cardiac rehabilitation improves exercise capacity and quality of life in patients with chronic heart disease (CHD). We investigated factors that most likely to predict impaired quality of life in patients with CHD prior to an outpatient cardiac rehabilitation programme.

**Methods**

189 (129 male) cardiac patients (after angioplasty, myocardial infarction, and coronary bypass graft) mean age 61 years, range 36-84 from consecutive series of outpatient referrals were recruited to 6-weeks comprehensive cardiac rehabilitation programme (CR). Prior to the CR programme quality of life was assessed by the Quality of Life Myocardial Infarction questionnaire (QLMI), anxiety and depression was screened using the Hospital Anxiety Depression (HAD) scale.

**Results**

41 (22%) of the patients had anxiety score and 40 (21%) had depression score  $> 11$ . Predictors of impaired quality of life in patients with CHD are: anxiety [ $t = -5.00, p < 0.001$ ], depression [ $t = -6.23, p < 0.001$ ], age [ $t = -2.13, p < 0.03$ ], female gender [ $t = -1.97, p < 0.001$ ]. Total adjusted  $R^2 = 0.47$ . Further analysis revealed 1% of the variance contributed by female gender, 2% by age, 11% by anxiety and 7% by depression.

**Conclusion**

Impaired quality of life in patients with chronic heart disease was associated with anxiety, depression, younger age and female gender. Cardiac rehabilitation programmes should consider incorporating specifically tailored (e.g. cognitive behavioural therapy) in those patients identified with mood disorders.

3

**CHRONIC DISEASE IN ELDERLY LIFE-SENTENCE PRISONERS**

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**Introduction**

There are 1,400 prisoners over 60 years of age in England and Wales. A significant proportion will enter advanced old age in prison. Since April 2006 the National Health Service (NHS) has had responsibility for prisoners' care but little is known about the health of older long term prisoners. We have undertaken a cross sectional population based observational study examining the chronic health needs of this group.

**Methods**

All life-sentence prisoners over 55 years in two local category B prisons were eligible for the study. Semi-structured health interviews were conducted by one investigator (NM) who had access to prison medical records, self administered health questionnaires and admission demographic and health data. Standardised methodology was used to grade disease severity.

**Results**

181/183 (99%) eligible male prisoners consented to be interviewed. Mean age was 64 years (range 55 to 82). Mean length of sentence served was 8.3 years. 150(83%) were smokers of whom 5(2.8%) had requested nicotine replacement therapy. 131(73%) had hypertension, 110(61%) ischaemic heart disease, 116(64%) hypercholesterolaemia and 78(43%) chronic lung disease. 107(59%) were prescribed 4 or more medications.

**Conclusions**

Chronic disease is common in older life-sentence prisoners yet opportunities for disease monitoring and prevention, proactive risk factor modification or lifestyle change are limited in prisons. This has significant implications for older prisoners' health as well as resource implications for the NHS.

4

**A PROSPECTIVE ASSESSMENT OF SPONTANEOUS RECOVERY FROM STROKE-RELATED VISUAL FIELD DEFECTS\***

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**Introduction**

Although there is little evidence to support spontaneous recovery following established stroke-related visual field deficit, a few patients report late improvement. Therefore, formal orthoptic assessment has been carried out at intervals over one year post stroke to assess change in stroke patients visual field deficit.

**Methods**

Patients with confirmed visual field deficit three months post stroke were offered further assessments at three monthly intervals for one year. A qualified orthoptist performed assessments using the Humphrey Visual Field analyser with the Estermann binocular driving field and the 30-2 threshold.

**Results**

Twelve patients (seven males), median age 66.5 yrs (range 37-71 years) have been recruited. Six patients have been reviewed on at least 3 further occasions; two of these have had almost complete visual recovery and a third has had partial recovery; a fourth patient has had marginal visual improvement; vision has not changed in two patients. Two other patients show no improvement after two reviews. Four patients have dropped out; one had shown marginal improvement.

**Comment**

This small study confirms late spontaneous vision improvement in some individuals with established stroke-related visual field deficit. Further work should determine the true frequency of this occurrence and the characteristics of patients who show improvement. This could aid research into the restoration of field defects by computer-based training (Hopman et al Stroke 2003; 34:801-5)

*\* Supported by Chest Heart and Stroke, Scotland*

5

**COGNITIVE IMPAIRMENT IN RECENTLY ADMITTED ELDERLY MEDICAL INPATIENTS – A STUDY IN SEVEN HOSPITALS**

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**Introduction**

Cognitive impairment (CI) is present in around 30% of medical inpatients over the age of 65. Detection and documentation of such CI is essential. Using cognitive tests, we aimed to determine the prevalence of CI, including delirium, in recently-admitted older medical patients. We compared these findings with CI documented in routine care. Seven hospitals participated.

**Methods**

Testing was performed by doctors and other trained assessors between 9am and 5pm on the same two dates in all hospitals, on patients over 65 admitted to general medical or geriatrics wards during the preceding 48 hours. Cognitive tests included the Orientation-Memory-Concentration test, Mini-Mental State Examination, and the Confusion Assessment Method. Routine care documentation of CI was assessed by searching casenotes.

**Results**

198 (56%) of the total of 353 patients admitted were assessed. Of those not assessed the main reasons were: discharged (33%), too unwell (26%), refused (12%), unable to communicate (7%), no proxy (5%). The prevalence of CI was 40% and of delirium 17%. Doctors and other assessors showed identical rates of CI detection, but differed in delirium detection rates (24% vs 10%, respectively). Routine care failed to document CI in 52% of patients.

**Conclusions**

CI, including delirium, is extremely common in older medical inpatients. Overall CI can be detected by simple screening tests but delirium detection shows more variability, consistent with previous studies. Routine care remains unacceptably poor in detecting CI and delirium.

6

**OBESITY MARKERS AND HYPERTENSION IN THE OLDEST OLD**

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**Introduction**

Obesity and increased salt intake are linked to hypertension, the most important risk factor for stroke, cardiovascular disease and vascular dementia. The inter-relationship between blood pressure, salt/sodium and anthropometric-related factors has not been well researched in very old people.

**Methods**

Anthropometric and sodium-related variables were measured and analyzed by tertiles of systolic blood pressure in a cross-sectional study of 590 elderly and very elderly persons (mean age 87 years) from the Belfast Elderly Longitudinal Free-living Aging Study (BELFAST).

**Results**

After adjustment for age and sex, subjects in the highest tertile of systolic blood pressure had higher serum sodium (odds ratio [OR] 1.42, 95% confidence interval [CI] 1.14-1.86), higher waist-hip ratio (OR 1.68, 95% CI 1.09-2.58), waist (OR 1.47, 95% CI 1.05-2.02), weight (OR 1.40, 95% CI 1.09-1.79) and skin fold thickness (OR 1.30, 95% CI 1.05-1.61) compared with those in the lowest tertile. BMI >25 was associated with the highest tertile of diastolic blood pressure (OR 1.35, 95%CI 1.00-1.82). These findings were replicated in subjects characterized as clinically hypertensive (= or >140/90 mmHg) versus those with reference blood pressure (= or <120/80 mmHg).

**Conclusions**

The BELFAST study of elderly people shows consistent associations between blood pressure in the hypertensive range and higher BMI, waist-hip-ratio, weight and serum sodium. These results suggest that maintaining an ideal body weight could have important effects on hypertension control even in the oldest age groups.

7

**CAN GRIP STRENGTH BE USED AS A NOVEL MARKER OF THE METABOLIC SYNDROME?**

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**Introduction**

The objective of this study was to determine whether there is a relationship between grip strength and features of the metabolic syndrome.

**Methods**

A cross-sectional study within a cohort design was used and data collected on grip strength, fasting glucose, triglycerides and HDL cholesterol, blood pressure, waist circumference and 2 hour glucose after an oral glucose tolerance test in a population based sample of 2677 men and women born 1931 – 1939.

**Results**

In men and women combined, a standard deviation (SD) decrease in grip strength was significantly associated with higher: fasting triglycerides (0.05 SD unit increase [95%CI 0.02, 0.09],  $p=0.006$ ); blood pressure (odds ratio [OR] 1.13 [95%CI 1.04, 1.24],  $p=0.004$ ); waist circumference (0.08 SD unit increase [95%CI 0.06, 0.10],  $p<0.001$ ); 2 hour glucose (0.07 SD unit increase [95%CI 0.03, 0.11],  $p=0.001$ ) and HOMA resistance (0.05 SD unit increase [95%CI 0.01, 0.09],  $p=0.008$ ) after adjustment for gender, weight, age, walking speed, social class, smoking habit and alcohol intake. Furthermore lower grip was significantly associated with increased odds of having the metabolic syndrome according to the ATPIII (OR 1.18 [95%CI 1.07, 1.30],  $p<0.001$ ) and IDF definitions (OR 1.11 [95%CI 1.01, 1.22],  $p=0.03$ ).

**Conclusions**

Our findings suggest that impaired grip strength is associated with the individual features and the overall summary definitions of metabolic syndrome. We propose that grip strength could be used as a novel marker in the clinical setting.

8

**HOW OLDER PEOPLE THINK THEY MIGHT MAINTAIN INDEPENDENCE IN DAILY LIVING ACTIVITIES**

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**Introduction**

With an ageing population it is important that people are enabled to maintain their independence. Assistive devices and adapted activity are known to improve independence, but older people may not be aware of such possibilities, and whether they would be prepared to consider them when difficulties arise in daily activities is not known.

**Methods**

A questionnaire was administered as part of the longitudinal Hertfordshire Ageing Study. For six commonly encountered problems in daily life, respondents were asked if they had acquired specific assistive devices, or made stated alterations to their lifestyle, or would do so if needed.

**Results**

284 participants aged 72 – 82 years completed the questionnaire. 93% reported that they would consider using a walking stick, but only 57% envisaged using a powered scooter; 90% would look for gadgets in the shops to help with problems arising from poor grip, but only 57% would ask others to do the task for them. There were marked gender differences; men were more likely to get a scooter or gadgets than women, but women were more likely to ask for help with tasks.

**Conclusion**

The responses showed that some means of maintaining independence were more acceptable than others and that there were marked gender differences. This pilot work suggests trends which could affect uptake of assistive devices by older people with consequent impact on the level of care input required.

9

**THE RELATIONSHIP BETWEEN PATTERNS OF PHYSICAL ACTIVITY AND PHYSICAL PERFORMANCE IN OLDER PEOPLE**

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**Introduction**

Physical activity questionnaires have been used to compare activity participation with functional outcomes in older people. To our knowledge, there have been no studies of the relationship between patterns of activity participation and objectively measured physical performance (PP) in this age group.

**Methods**

Men (n=235) and women (n=290) aged 63-73 years taking part in the Hertfordshire Cohort Study, were asked to complete a physical activity questionnaire. Participants underwent tests of PP; grip strength, timed up and go test (TUG), 3m walk, chair rises, quadriceps strength, and one legged standing balance. A cluster analysis was performed to identify types of people according to their patterns of activity. The resulting activity patterns were compared with the physical performance measures.

**Results**

Clustering of activity participation classified men into three broad types of activity participation; "Keep Fit", "Indoors" and "Inactive" and two types of women; "Keep Fit" and "Indoors". No relationship was found between the patterns of activity participation and physical performance in men. In women, the "indoors" activity cluster was significantly associated with poorer physical performance (grip strength p=0.0003, TUG P=<0.0001, 3m walk p=0.0001, chair rises p=<0.0001, quadriceps strength p=0.0003 and balance p=0.05).

**Conclusions**

Lower activity participation is associated with poorer physical performance in women, but there was no relationship between activity participation and physical performance in men. Gender differences in body composition could explain these differences between men and women.

10

**STROKE SCALES IN ACUTE STROKE TRIALS: WHICH ONE TO USE?**

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**Introduction**

Clinical stroke trials routinely use different scales to assess patients. Most trials use National Institute of Health Stroke Scale (NIHSS), and some use Scandinavian Stroke Scale (SSS). There are no published studies comparing the two, or establishing which has more prognostic power.

**Methods**

This is baseline data collected from the Stroke Oxygen Pilot Study (SOS). Baseline demographics ascertained within 24 hours of admission included clinical classification, coexisting morbidity, NIHSS and SSS. Patients were assessed in hospital a week later and at six months by postal questionnaire. Mortality and disability data were collected.

**Results**

One hundred and forty four patients were included initially, and 125 a week later. There were 62 males (50%), mean age 72.3 years; 32 TAC (22%), 58 LAC (40%), 50 PAC (35%), and 4 POC (3%). Nineteen died (13%). At presentation mean SSS was 35 (2-58, median 38), at one week 40 (4-58). Mean NIHSS at presentation was 8 (0-29, median 5), a week later 6 (0-27, median 3). The change in both scales was highly correlated (r=0.765, p<0.001). Both scales were reasonable predictors of mortality with area under receiver operating curves (AUROC) of 0.76 for SSS (CI 0.63-0.88), and 0.73 for NIH (0.59-0.87).

**Conclusions**

There is a strong correlation between changes in the SSS and NIHSS scores between baseline and week one in acute stroke patients. Both scales are similarly predictive of mortality.

11

**ETHNIC DIFFERENCES IN STROKE RISK FACTORS AND STROKE SUBTYPE - FIRST RESULTS FROM THE SOUTH LONDON ETHNICITY AND STROKE STUDY**

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**Introduction**

Previous studies have demonstrated a more than two-fold increase in stroke incidence in the United Kingdom African and African-Caribbean population compared with Caucasians. The South London Ethnicity and Stroke Study was set up to address the causes of this increased incidence.

**Methods**

Consecutive, prospective recruitment of black and white strokes presenting to three district hospitals in South London was performed. All cases underwent standardised clinical assessment, data collection and stroke subtyping by one individual.

**Results**

600 black and white stroke cases were recruited. Black stroke cases had increased hypertension (OR 3.25(2.15-4.91)  $p < 0.001$ ) and diabetes (OR 2.58(1.77-3.78)  $p < 0.001$ ), were younger (OR 0.96(0.95-0.98)  $p < 0.001$ ) and had less smoking (OR 0.31(0.21-0.45)  $p < 0.001$ ) and atrial fibrillation (OR 0.29(0.18-0.45)  $p < 0.001$ ) compared to whites. The black stroke cohort had increased cerebral small vessel disease (SVD) (OR 2.98(2.22-4.01)  $p < 0.001$ ) but less large vessel atherosclerotic disease (OR 0.51(0.34-0.75)  $p = 0.001$ ) and cardio-embolic disease (OR 0.55(0.41-0.74)  $p < 0.001$ ) compared to whites. The black stroke cohort comprised 418 African-Caribbeans and 182 Africans. African-Caribbean strokes were older (OR 1.06(1.03-1.08)  $p < 0.001$ ) with increased male sex (OR 3.07(1.76-5.37)  $p < 0.001$ ) and smoking (OR 6.13(3.53-10.63)  $p < 0.001$ ) compared to Africans. The African stroke cohort had increased primary intracerebral haemorrhage (PICH) (OR 2.17(1.29-3.68)  $p = 0.004$ ) compared to African-Caribbeans.

**Conclusions**

Increased hypertension, diabetes and SVD may contribute to the increased incidence of stroke in blacks. Africans are younger and have increased PICH compared to African-Caribbeans.

12

**AGE DOES NOT PREDICT EARLY OUTCOME FOLLOWING ACUTE STROKE IN TREATED HYPERTENSIVE PATIENTS**

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**Introduction**

Ageing and acute stroke are associated with impaired Cardiac Baroreceptor Sensitivity (BRS). Haemodynamic parameters including beat-to-beat blood pressure (BP), heart rate variability (HRV) and BRS are good long-term prognostic indicators following acute stroke. However, the predictive value of such parameters compared with age for early (2 week) outcome in previously treated hypertensive stroke patients is unknown.

**Methods**

Ninety-one (50 male, mean age 72.2) pre-existing treated hypertensive stroke patients from the COSSACS study were recruited. ECG, beat-to-beat BP recordings, BRS and HRV were recorded within 48 hours of ictus. 2-week death and dependency (mRS  $\geq 2$ ) was assessed.

**Results**

Baseline differences for beat-to-beat SBP (1.6 mmHg, CI =7.8 to 11.1,  $p = 0.74$ ), DBP (1.2 mmHg, CI -5.4 to 7.8,  $p = 0.72$ ), HRV (15.4 ms, CI -7.0 to 37.7,  $p = 0.17$ ) and cardiac BRS (4.2 ms/mmHg, 95% CI -1.2 to 9.5,  $p = 0.12$ ) were similar between independent and dependent/dead groups at 2 weeks, though age was significantly different 7.6 years ( $p = 0.005$ ). Regression modelling adjusting for baseline variables showed decreased HRV and increased beat-to-beat SBP and DBP, but not BRS and age, independently predicted an adverse outcome at 2 weeks.

**Conclusions**

Acute (<48 hours) non-invasive haemodynamic assessment of beat-to-beat BP and HRV predicts 2-week death/dependency, independent of stroke severity and disability. Age did not predict short-term outcome.

13

**CARDIOVASCULAR PARAMETRES AND OUTCOME OF ACUTE STROKE: SIGNIFICANCE OF NT-PRO BNP AND RELATIONSHIP WITH CLINICAL SEVERITY**

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**Introduction**

While Brain Natriuretic Peptide (BNP) is associated with increased post stroke mortality, the prognostic role of NT-proBNP is unknown. We investigated its prognostic value in relation to other variables.

**Methods**

Prospectively we studied 114 previously independent patients (59 female, median age 74 years) admitted to a DGH acute stroke ward. We measured NT-proBNP in the acute phase in addition to cardiovascular and neurological assessment.

**Results**

At six weeks 6 were dead, 67 alive and dependent and 41 were independent. NT-proBNP (pmol/l) was higher in patients with IHD:543v123:p<0.001, AF:424v175:p=0.04 and CCF:812v219:p=0.02). NT-proBNP was higher in dead (2157) & dependent (176) versus independent group (78)-p <0.001. Multivariate analysis revealed NT-proBNP above 42 to be the only significant variable to predict death/dependency, RR 4.64, 95% CI-2-10.74. There were no differences in ischaemic and haemorrhagic strokes. Severe strokes had higher concentrations of NT-proBNP, p=0.003. Logistic regression revealed that Scandinavian stroke scale (SSS) was more significant (p <0.001) than log NT-proBNP for poor outcome. The latter also retained its independent significance (p=0.002).

**Conclusion**

Severe strokes are associated with higher concentration of NT-proBNP. In addition to SSS, NT-proBNP has a prognostic value in acute stroke.

14

**PREVALENCE AND IMPACT OF URINARY INCONTINENCE 5 YEARS POST-STROKE**

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**Introduction**

Urinary incontinence is an important consequence of stroke, but reported prevalence rates are highly variable. Little data exist regarding the prevalence of incontinence in longer-term stroke survivors, and few studies have assessed impact in terms of quality of life (QoL).

**Methods**

From a cohort of 195 consecutive patients admitted with acute stroke, we identified 94 who were alive at five years. QoL was assessed using the Stroke Adapted Sickness Impact Profile – 30 (SA-SIP30), the Short Form – 36 (SF-36) and the Leicester Impact Scale (LIS). Depression was assessed using the 12-item General Health Questionnaire (GHQ-12).

**Results**

48 patients consented to follow-up (mean age 73 years; 38% female). 26 (54%) reported post-stroke urinary incontinence at five years, four (8%) had pre-stroke incontinence. 13 (50%) patients experienced daily or more frequent incontinence. There was no significant difference in SF-36 or SA-SIP30 scores between patients with and without post-stroke incontinence. The LIS showed that incontinence had an impact on daily activities and feelings in 11 (41%) and 14 (55%) patients, respectively. Patients with severe (weekly or more frequent leakage, n=15) urinary incontinence had significantly higher GHQ-12 scores than those with less severe or no symptoms (p=0.02).

**Conclusions**

The prevalence of incontinence five years post-stroke is high. This study suggests that incontinence has some impact on patients' QoL and may be related to mood.

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**LOW BODY MASS INDEX IS ASSOCIATED WITH INCREASED ORTHOSTATIC HYPOTENSION AND OSTEOPOROSIS MAJOR FALLS AND FRACTURE RISKS**

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**Introduction**

Low Body Mass Index is associated with increased all-cause mortality compared with Normal and Overweight groups. We investigated the relationship between BMI and haemodynamic changes on orthostatic stress. We re-evaluated the relationships between Orthostatic Hypotension (OH) with systolic hypertension and finally, BMIs' relationship with Osteoporosis.

**Methods**

We underwent a 7 year longitudinal study, of all patients that underwent Head-Up-Tilt (HUT), for unexplained syncope or falls. Automated non invasive beat-to-beat digital artery photoplethysmography (Finomed TNO Amsterdam) was used. Changes in blood pressure on HUT, (standardised conditions), were recorded with BMI. Analyses of a subgroup that underwent 24 hour Ambulatory-Blood-Pressure-Monitors or Dual-Energy -X-ray-Absorptiometry (DEXA) scan was performed.

**Results**

2,222 patients underwent HUT. Systolic and diastolic blood pressure reductions on HUT were significantly greater the lower the BMI ( $p < 0.0005$ ,  $p = 0.001$  respectively).

592 patients (26.6%) had both HUT and DEXA. Logistic regression revealed that each unit increase in BMI reduced the likelihood of OH by 4% and osteoporosis by 20%.

603 patients had both HUT and ABPM. For patients with OH, the median systolic BP (181.5 +/- 28.99 SD), this was significantly greater than the OH negative group (124.0 +/- 14.14 SD) ( $p = 0.001$ ).

**Conclusion**

Low BMI is associated with an increased risk of OH and osteoporosis (major falls / fracture risks). OH is also associated with systolic hypertension. These may account in part for the associated increased mortality with low BMI.

**POSTER PRESENTATIONS**

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WITHDRAWN

17

**MEDICAL AND NURSING APPROACH TO OLDER INPATIENTS WITH DELIRIUM: AN AUDIT BASED ON THE BRITISH GERIATRICS SOCIETY GUIDELINES**

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**Introduction**

Delirium is a syndrome frequently seen in older people admitted to hospital. Delirious patients are vulnerable to complications, loss of function, independence, and persistent cognitive impairment. Physical and pharmacological restraint results in an increased risk of complications. In the context of current NHS policy focused on rapid inpatient assessment and early discharge, these patients risk suboptimal management.

**Methods**

The management of patients aged 65 years and above with delirium on elderly and medical wards in two West Yorkshire hospitals was audited against 2003 BGS guidelines. Data was collected from medical and nursing notes, medication charts and by observing the patient.

**Results**

Audit was complete for 79 patients; average age 83.5 years. FBC and U&Es were the only investigations performed in all patients. A carer history was not recorded in 43.2%. 19% were not cognitively assessed. Cranial CT rates equated to glucose measurement at 41.1%. There was access to visual clues in 67.4%. 63.2% were physically restrained and 30.5% were sedated to control delirium related behaviour. Use of pharmacological restraint did not relate to the ward area where the patient was nursed (p=0.26). 18% of patients had no diagnosis recorded.

**Conclusions**

Compliance with BGS delirium guidelines in this audit was suboptimal. Investigation and diagnosis was inadequate with overuse of restraint in this patient group. Management of delirium requires urgent attention to avoid preventable complications in a changing NHS.

18

**AN AUDIT OF PRESCRIBING FOR SECONDARY PROPHYLAXIS FOR OSTEOPOROSIS IN PATIENTS WITH A HISTORY OF WRIST FRACTURE**

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**Introduction**

The National Institute for Health and Clinical Excellence (NICE) recommends secondary prevention in women with a history of fragility fracture. Wrist fractures are ideally suited to audit and may occur years before more devastating fractures.

**Methods**

Patients with wrist fractures who attended our Accident and Emergency (A&E) from January to March 2005 were identified. GPs for those aged  $\geq 65$  were contacted in April 2006 to ascertain prescriptions for secondary prophylaxis for osteoporosis. These patients were audited against the NICE guidelines.

**Results**

182 patients attended A&E with wrist fractures. Of the 45 aged  $\geq 65$  years, 35 were female, (15 aged 65-74, 20 aged over 75). Only 5 (14%) were on bisphosphonates with calcium and vitamin D, 3 (9%) on calcium and vitamin D alone and 27 (77%) were not on any form of secondary prevention. Dual energy X-ray absorptiometry (DEXA) scan results were available for only 2 (13%) of the younger group, of which one had a T-score below -2.5 SD.

**Conclusions**

This audit shows that patients with wrist fracture are not being commenced on secondary prophylaxis for future fracture nor are they being referred appropriately for DEXA scan. The very low numbers with current prescriptions suggest that improved methods of case finding and follow up need to be implemented in our area in order to meet NICE guidance recommendations.

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**USING A SENTINEL ADVERSE INCIDENT AUDIT ON A MEDICINE FOR THE ELDERLY WARD TO DRIVE QUALITY IMPROVEMENT INITIATIVES**

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**Introduction**

Adverse events commonly affect older people in hospital. The existing IR1 system deters reporting of some events. Anonymous, ward-level reporting and feedback may increase the number of events recorded and give impetus for ward-level quality improvement activities.

**Methods**

Prospective collection of adverse incidents over a 12 month period using an anonymous, ward-based reporting system on a single female Medicine for the Elderly ward. Members of the multidisciplinary team reported incidents using an A4 sized form using free text. Staff were asked not to report incidents on the new system if they had already reported using the IR1 system. Incidents were collated by the ward SpR and fed back to the ward team at three monthly intervals.

**Results**

268 patients, mean age 85.2 years were admitted between November 2004 and October 2005. 72 reports were received using the sentinel audit, along with 147 IR1 reports. No incidents were reported using both reporting routes. 37/72 (51%) of incidents using the test system were reported by medical staff. Commonest reported problems were prescribing errors, delays in investigations and results, lack of casenote entries or discharge data, inappropriate therapy, delayed diagnosis and unplanned readmission. Several quality improvement initiatives were started at ward level based on these data.

**Conclusion**

A simple, anonymous adverse incident report can provide additional information to IR1 reports, and can be used to drive quality improvement activities.

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**OUTCOMES OF CARDIAC ARREST CALLS ON ELDERLY MEDICAL WARDS**

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**Introduction**

Cardiopulmonary resuscitation (CPR) is standard practice for patients who suffer a cardiac arrest in hospital and do not have a do not attempt resuscitation (DNAR) order. Survival following CPR is reported to be poor. This audit looked at use of proformas and at outcomes from cardiopulmonary resuscitation in an increasing frail elderly population in hospital.

**Methods**

Cardiac arrest calls to 5 elderly wards at a Leeds Teaching Hospital over 9 months were identified using records in switchboard. Patients were identified through ward records, notes were retrospectively audited.

**Results**

26 cardiac arrest calls were made, 24 patients were identified. Age range 72 – 96. Of these, 3 patients were peri-arrest, 2 had respiratory arrests and 19 had cardiorespiratory arrests. 11/24 patients had a resuscitation decision made prior to the arrest, 6/11 had a proforma filled in. 5 patients who had resuscitation attempted had a DNAR order in their notes, 4/5 on a proforma. Cardiorespiratory function was regained in 7 (29%), 4 (16%) patients survived until discharge, of these 2 were peri-arrest when the crash team arrived and 1 had had a respiratory arrest.

**Conclusion**

Survival until discharge was associated with early intervention. Use of early warning scores or outreach teams may be helpful. Use of proformas did not seem to aid communication about patient's resuscitation status, this may be because they are not routinely used on all wards.

21

**FRAGILITY FRACTURES PAST AND PRESENT – WHO GETS A DEXA AND WHO GETS TREATED?**

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**Indication for audit**

In 2003/2004 we audited local practise in the identification of osteoporosis in patients with fragility fractures. Best practice was RCP guidelines (1999). We have compared clinical outcomes to those that would have resulted if the new NICE guidelines (published 2005) were applied to the same group of patients.

**Method**

All adult out-patients attending Frenchay Hospital with a fragility fracture from 1/11/03 until 14/12/04 completed a questionnaire recording age, sex, fracture site and osteoporosis risk factors. The questionnaires were reviewed and DEXA scans arranged where appropriate. DEXA results were collected and treatment recommended for those with T score <-1 (RCP guidelines).

**Results**

225 patients were included, 211 female, 14 male. 109 DEXA scans were obtained. There were 45 female patients aged 65-75. Bisphosphonates were recommended for 40 (25 osteopenic, 15 osteoporotic). 28 female patients were aged >75. Bisphosphonates were recommended in 24 (12 osteopenic, 12 osteoporotic).

**Practice change and discussion**

Since January 2005 NICE advises that females >75 with fragility fractures should receive a bisphosphonate without a DEXA. Those 65-75 should have a DEXA and a bisphosphonate if T<-2.5.

Retrospectively applying NICE recommendations to this patient group would have resulted in: 28 fewer DEXAs, 6 over 75-year-olds being treated unnecessarily and 25 under 75-year-olds would not have received treatment previously advised.

This has clinical, resource and cost implications.

22

THE INCIDENCE AND NATURE OF  
DRUG-RELATED ADMISSIONS IN  
OLDER PEOPLE

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**Introduction**

Advances in drug therapies and evidence-based care have resulted in increased prescribing and more drug-related problems. Elderly patients are particularly at risk. This study examined the incidence and nature of drug-related problems in older patients admitted to hospital.

**Method**

Patients aged 65 years or over were screened by the ward pharmacist following admission to the Acute Receiving Unit. Those with suspected drug related admissions (DRA's) were identified. A review panel convened regularly to discuss each case. Criteria suggested by Hallas et al were used to classify adverse drug reactions and drug therapeutic failures into definite, probable or possible causes of admission.

**Results**

827 adults were admitted over a 12-week study period. 460 were aged 65 or over (55.6%). 11.7% were identified as having a drug-related admission, (54% definite, 24% probable, 22% possible). 81% of DRA's were due to an adverse drug reaction and 19% were due to a drug therapeutic failure. In 29.6% of DRA's, more than one drug was implicated. The most frequently implicated categories of drugs were diuretics and non-steroidal anti-inflammatory drugs. Commonest adverse effects included postural hypotension, renal impairment and gastrointestinal bleeds.

**Conclusion**

Drug-related problems are a frequent cause of admissions in the elderly. DRA's are more common in patients on multiple drugs or on specific drugs. Educating prescribers and patients and practising "appropriate prescribing could reduce the number of admissions.

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TRIMETHOPRIM USE IN UTIS: ARE WE  
TAKING THE PEE?

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**Introduction**

Urinary Tract Infection (UTI) is the principal initial diagnosis in many elderly patients. The length of stay of patients with this diagnosis is excessive given the ease which this condition should be treated with antibiotics. This may be due to an incorrect initial diagnosis, or possibly inappropriate antibiotics used in treatment algorithms. The aim of this audit was to assess the effectiveness of our local antibiotic policy which states trimethoprim should be first-line treatment of UTI.

**Method**

Patients in a large district general hospital in Surrey with a UTI were followed prospectively having been identified from admission lists and computerised microbiology results.

**Results**

355 cases identified. 292 (82 %) were female with age range 39-99, 84% over 75. 141 community-acquired and 223 hospital-acquired. Commonest pathogen in both cases was E.coli followed by Proteus. 137 (61%) of hospital infections were resistant to trimethoprim, 65% of these required antibiotic change before improvement, in comparison to 25% trimethoprim resistance in community. 4.3 extra days were required in hospital as a result. Significant number of the hospital isolates were also resistant to both ampicillin (64%) and cephradine (57%).

**Conclusion**

There were high levels of resistance to first-line antibiotics in hospital-acquired infections, with multi-drug resistance an increasing concern. Inappropriate first line antibiotic usage has led to increased cost and length of stay in hospital. Antibiotic policies need review to ensure effective treatment of patients.

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**PARTICIPATION IN CLINICAL TRIALS FOR ACUTE STROKE BY OLDER PEOPLE**

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**Introduction**

Stroke is predominantly a disease of older people. Randomised Controlled Trials (RCTs) are important in advancing our understanding of stroke treatments. Many RCTs exclude older people and therefore results cannot always be extrapolated to this population. Due to co-morbidities, inconvenience and cost, it is possible that older people are less willing to participate.

**Methods**

We audited all acute stroke admissions between 1st May 2003 and 31st April 2006 to determine the proportion eligible for ongoing RCTs. We recorded the number of patients who accepted or declined inclusion, according to type of RCTs. Patients were dichotomised by age (<70years, ≥ 70years) for analysis.

**Results**

1281 patients were admitted with acute stroke. Median age: 75 years (IQR 24 years), the majority (n=887, 69.2%) were ≥70 years. 269 patients (21%) were eligible for a RCTs; 20.4% (n=181) of older patients, and 22.3% (n=88) of younger patients. Overall, 240 (89.2%) of those eligible to participate, consented to do so. There was no significant difference in the proportion of those patients ≥70 years who participated compared to those patients <70 years (89.5% vs 88.6%, p=0.719).

**Conclusions**

Participation in RCTs in stroke patients is high amongst eligible patients, irrespective of age. Older patients with acute stroke are no less likely to participate in RCTs than younger patients and, if eligible, should be offered this opportunity.

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**MANAGEMENT OF FAECAL INCONTINENCE (FI) IN OLDER PEOPLE: DATA FROM THE NATIONAL AUDIT OF CONTINENCE CARE FOR OLDER PEOPLE**

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**Background**

A pilot audit of continence care for older people (1) highlighted areas of concern over its management. A national audit was undertaken.

**Aim**

To describe current care for older people with FI across the NHS.

**Methods**

A validated web based audit tool (2) was utilised by most centres. Each site returned data on 10 patients with FI. Comparative data were returned to sites. We report national data.

**Results**

Data returned by 131 general practices, 193 hospitals and 27 homes.

	Primary Care (n=999)	Secondary Care (n=1799)	Care Homes (n=261)
Age (years, mean)	81	82	84
	%	%	%
Documented cause/type of FI	49	27	31
Documented specific treatment plan	57	36	76
Advice on general health	31	7	12
FI chart	11	23	33
Bowel training	13	7	13
Toileting schedules	18	16	52
Pharmacological interventions	27	25	27
Method of containment - Pads	70	74	97
Method not documented	29	31	15

**Conclusions**

A documented treatment plan for the patient's bowel problem was more commonly found in care homes. The patient's goal for treatment was recorded in over half of care home residents but only in one fifth of primary care and hospital patients. Pads were by far the main method of management. The audit has highlighted a need for improvement in continence management.

**References**

1. J Eval Clin Pract 2005 11(6):525-32.
2. J Eval Clin Pract 2005; 11(6):533-43

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**HOW GOOD IS COMMUNICATION WITH OLDER PEOPLE ABOUT THEIR CONTINENCE PROBLEM? : DATA FROM THE NATIONAL AUDIT OF CONTINENCE CARE FOR OLDER PEOPLE**

**S Raje<sup>1</sup>, S Milan<sup>2</sup>, P Peel<sup>2</sup>, J Potter<sup>2</sup>, M Pearson<sup>2</sup>, A Wagg<sup>1,2</sup>**

1. Department of Geriatric Medicine UCLH 2. Clinical Effectiveness and Evaluation Unit, Royal College of Physicians of London

**Introduction**

“Good Practice in Continence Services (DH, 2000)” emphasised the importance of communication with patients and carers. A pilot audit of continence care for older people (1) highlighted areas of concern over poor communication. A national audit was undertaken

**Aim**

To describe the current state of communication with older people and their carers regarding continence care across the NHS.

**Method**

A validated web based audit tool (1) was utilised. Each site returned data on 20 and 10 patients with urinary incontinence (UI) and faecal incontinence (FI) respectively. Comparative data were returned to sites.

**Result**

Data were returned by 141/131 general practices, 198/193 hospitals and 27 homes for UI/FI respectively.

	Primary Care		Secondary Care		Care Homes	
	UI	FI	UI	FI	UI	FI
	Percentage					
Documentation of						
Continence care plan	51	51	41	38	89	88
Discussion with patient regarding management	46	40	21	17	41	23
Discussion with carer regarding management	20	29	12	13	32	35
Care plan given to						
Patient	13	14	5	4	10	8
Carer	6	13	4	4	23	27

**Conclusion**

There was a care plan in half of primary care patients and 90% of care home residents. In less than half the cases, management of UI/FI was discussed with patients or carers. This may be a deficiency in practice or documentation and requires further evaluation.

**References**

1. J Eval Clin Pract 2005 11(6):525-43.

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**DO COGNITIVELY IMPAIRED OLDER PEOPLE BENEFIT FROM INTERDISCIPLINARY FALLS ASSESSMENT?**

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**Introduction**

The PROFET study demonstrated the effectiveness of interdisciplinary assessment in cognitively intact community dwelling older patients. The Liverpool Falls Service offers comprehensive falls assessment to all fallers over the age of 60, discharged home from the accident and emergency department.

**Methods**

542 patients who attended our service between January and June 2005 were studied. Patient characteristics, case mix and subsequent re-attendance at the accident and emergency department during the 3-9 month follow-up period after assessment were recorded. Recurrent fallers were examined further, identifying the components of the falls service they had accessed.

**Results**

542 patients were seen for initial assessment by the falls service in the six months period identified. Fifteen percent of patients had cognitive impairment. Forty six patients, (8.4%) attended the accident and emergency department with a further fall in the follow up period, 24/46(52%) were still being investigated. Of those falling following discharge, 7/22(32%) had cognitive impairment, 6/7(86%) of those with cognitive impairment had an identified gait problem. None were able to participate in a physiotherapy programme.

**Conclusion**

A large proportion of patients re-attending the accident and emergency department had cognitive impairment. These patients were less successful in participating in some components of the falls service. Perhaps interdisciplinary falls assessment is not the most effective means of preventing falls in this group.

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**IMPACT OF REFERRAL PATHWAYS AND INCREASED CAPACITY ON RESPONSE TIMES FOR A TIA CLINIC: RESULTS FROM A 2 YEAR AUDIT CYCLE**

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**Introduction**

Patients with transient ischaemic attacks (TIA) should be seen within 7 days in a neurovascular clinic. The results of a completed audit cycle at a weekly TIA clinic (providing one stop carotid ultrasounds) are presented. Changes implemented include referral pathways designed to improve appropriateness of referrals (October 2005) and increased clinic capacity (December 2005).

**Methods**

Data were collected both retrospectively (for 2004) and prospectively in 2005-2006. Clinic letters and results were accessed to obtain the date of the event, date of referral, date seen, demographics, diagnosis, results of tests and follow up information.

**Results**

From January 2004 to March 2006, 190 patients (mean age 72.4 years; 49.5% male) were seen. A diagnosis of TIA was made in 82 (43.2%) while 58 had minor strokes. Of 108 patients (59.3%) scanned, 53 had CT abnormalities. Carotid stenosis of above 70% was found in 9 patients (5% of 117 patients scanned). 6 patients had carotid endarterectomies. For 2004, mean wait from the incident TIA was 17.78 days (waiting time from referral date not available). In 2005, the wait from date of referral was 7.97 days (delay from TIA was 14.2 days). Referrals increased after the pathway was introduced with 69 patients seen in 6 months in contrast to 121 in the preceding 21 months. From 8/12/05, the clinic capacity was increased to 4 patients. Delay from the date of referral fell to 6.71 days.

**Conclusions**

The introduction of referral pathways has led to increased demand on our service. Clinic capacity has been successfully increased to ensure compliance with national standards.

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**DO TRAINEES IN OTHER MEDICAL SPECIALTIES RECEIVE SUFFICIENT EDUCATION IN ELDERLY MEDICINE?**

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**Introduction**

Older patients present to all medical subspecialties and also represent a large proportion of the acute unselected take. It is therefore important that all trainees receive some training in Geriatric Medicine regardless of their subspecialty. Our aims were to establish to what extent this occurs and to identify gaps in postgraduate education.

**Methods**

We reviewed the curricula for all 27 adult medical specialties published on the Joint Committee on Higher Education (JCHMT) website, focussing on anything pertaining to the needs of older patients within each specialty.

**Results**

The curriculum for General Internal Medicine (GIM) includes relevant topics such as dementia, falls, stroke and Parkinson's disease. The cardiology curriculum includes syncope in older people. Endocrinology and diabetes, metabolic medicine, neurology and audiology curricula include training in Geriatric Medicine as relevant to their specialty. However, 13 specialties including clinical pharmacology, gastroenterology, renal and respiratory medicine have not included anything specific for older people.

**Conclusion**

Specialist Registrars in GIM have some Geriatric Medicine included on their curriculum. However, training in aspects of Geriatric Medicine within other specialties varies considerably. Absence of relevant training is of particular concern for the many trainees undergoing single specialty accreditation without GIM. There is a role for the BGS in highlighting these deficiencies to the JCHMT and ensuring adequate Geriatric Medicine training as relevant to each specialty.

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**AN OBSERVATIONAL STUDY LOOKING AT OSTEOPOROSIS ASSESSMENT AND TREATMENT IN OLDER PATIENTS WHO HAVE SUSTAINED A HIP FRACTURE**

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**Aims**

Currently fracture sufferers nationally are not being assessed or treated for osteoporosis. Osteoporosis guidelines differ in their secondary prevention recommendations. The Scottish Intercollegiate Guideline Network (SIGN) advocate bone densitometry in all fracture patients and anti-resorptive treatment only if evidence-based criteria are confirmed. The National Institute of Clinical excellence (NICE), however, recommend treatment in females, older than 75 years, without bone densitometry confirmation. We aimed to determine locally the rate of referral for bone densitometry, the numbers achieving SIGN criteria for anti-resorptive therapy, and the rate of osteoporosis treatment in patients with hip fracture

**Methods**

A retrospective review of the 1217 patients older than 65 years (mean age 82.9 years, 78% female) who had sustained a hip fracture in Tayside between April 2003 and July 2005 was performed

**Results**

Only 105 (8.6%) hip fracture patients underwent bone densitometry (mean age of 77.8 years, 80.0% female). Of these 86 (81.9%) met SIGN criteria for anti-resorptive treatment. Of females older than 75 years, this figure was 90.6% (48/53). 74.3% of all patients referred for bone densitometry were treated with an anti-resorptive agent. Only 12.7% of fracture patients who did not undergo bone densitometry received treatment.

**Conclusion**

Osteoporosis investigation and treatment is currently sub-optimal in hip fracture patients locally. Almost all females, older than 75 years, with a hip fracture met evidence-based criteria for anti-resorptive treatment, supporting the NICE guidance.

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**EPLEY MANOEUVRE (PARTICLE REPOSITIONING MANOEUVRE) IN ELDERLY PATIENTS WITH VERTIGO/DIZZINESS: OUR EXPERIENCE IN THE DAY HOSPITAL**

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**Introduction**

Vertigo/dizziness in the elderly is associated with significant negative impact on the health related quality of life (HRQL). The Epley Manoeuvre (EM) is an effective treatment and can restore HRQL in benign paroxysmal positional vertigo (BPPV) but there is less evidence for non-specific episodic dizziness (ED). We looked at the effectiveness of our practice in the day hospital.

**Methods**

Retrospective analysis of patients who had EM over a 17-month period. Patient groups were classified with diagnosis of BPPV or ED on clinical grounds. Patients were followed up at 60-days and the outcome was defined in four categories as complete cure (CC), good response (GR), minimal response (MR) and no response (NR).

**Results**

17 patients (5 males; 12 females) with a median age of 80 years (62-94) had EM. 81% patients with BPPV and 17% patients with ED had CC or GR (Table). A number of our patients had co-morbidities. There were no adverse events. Patients who had CC or GR felt overall improvement in their HRQL (59%).

Patients	BPPV	ED
	11	6
CC	3 (27%)	0 (0%)
GR	6 (54%)	1 (17%)
MR	1 (9%)	2 (33%)
NR	1 (9%)	3 (50%)

**Conclusion**

EM is an effective treatment in the elderly for BPPV but less effective in ED. EM is safe and can be effectively performed in a day hospital. Successful EM has a positive impact on HRQL.

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**CODING THE GERIATRIC GIANT SYNDROMES: HOW GOOD ARE WE?**

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**Introduction**

Information on hospital activity is coded and used to provide data for service planning, allocation of resources, clinical audit and research. Little is known about the completeness of coding for the geriatric giant syndromes (GGS) (instability, immobility, incontinence and intellectual deterioration).

**Methods**

A single researcher conducted a case-note review (CNR) of 82 patients discharged from an acute Elderly Care ward at Southampton General Hospital. Presence or absence of four GGS and eight medical conditions was noted. Discharge summaries (DS) and hospital coding (HC) for each patient were reviewed and compared with the CNR.

**Results**

The CNR identified 39 cases of instability (falls). Only 16 (41.0%) of these were recorded in the DS and, of these, only 3 (18.8%) were captured by the HC. In contrast, 23/27 (85.2%) cases of pneumonia were recorded in the DS and 91.7% of these were also captured by the HC. Forty patients had at least one GGS noted in the DS; 16 (40.0%) were captured by the HC. Of the fifty-seven patients with at least one medical condition noted in the DS, 52 (91.2%) were captured by the HC ( $p < 0.0001$  for difference in HC capture rates between GGS and medical conditions).

**Conclusion**

Geriatric giant syndromes were poorly recorded in both the DS and HC; the situation was better for medical conditions. A problem list bookmark approach may improve the completeness of DS and HC.

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**ARE ELDERLY PATIENTS TAKING BISPHTHOSPHONATES CORRECTLY?**

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**Introduction**

As bisphosphonates are poorly absorbed and can cause gastrointestinal side effects, a strict dosing regimen is recommended. SIGN guidelines suggest that bisphosphonates are inappropriate in patients who are unable to comply with this, for example, those who are confused and do not have a resident carer. We assessed whether patients are taking bisphosphonates correctly.

**Methods**

Prospective 5 month evaluation of our patients. We asked if patients knew they were on the drug, documented if medication was self-administered or supervised and if they were taking the bisphosphonate in accordance with BNF protocols. Cognitive function was measured using a 10-part abbreviated mental test.

**Results**

Of 70 patients, 64(91%) were female-median age 82 years. 17(24%) patients were unaware they were on a bisphosphonate, of whom 13 were significantly cognitively impaired-median AMT 5. 47/70(67%) were self-medicating; 18 of the 47(38%) were taking the drug correctly-median AMT 10. 29 from this group were unable to take the drug correctly-median AMT 8. 23/70(33%) were supervised with medication; 20 of the 23(87%) were unable to take the drug correctly-median AMT 6.

**Conclusion**

The majority of our patients are taking bisphosphonates incorrectly, this can limit treatment benefit and increase the risk of side effects. This study highlights the importance of education and opportunistic re-education of carers, staff and patients on correct bisphosphonate administration. As prescribers, we should be aware of the importance of appropriate bisphosphonate prescription.

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**NONAGENARIANS AND EMERGENCY GENERAL SURGERY: ARE WE MAKING RIGHT DECISIONS?**

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**Introduction**

Emergency surgery in elderly is generally perceived to carry high mortality. At Torbay hospital we observed a significant number of very elderly patients managed under general surgery over the years. This study evaluates the outcome of emergency general surgery in nonagenarians.

**Methods**

Clinical records of 101 patients aged 90 and over, who had emergency general surgery between October 1999 and September 2005, were reviewed to collect the following data: demographics, comorbidity, preadmission quality of life (QOL), details of operation and anaesthesia, postoperative course and length of stay ( LOS). The preadmission QOL was estimated retrospectively based on 'WHO Performance Status'. Chi-square test was used where appropriate.

**Results**

Median age 94.5 years, 60% female. Cardiovascular diseases were the commonest comorbidity. 63% underwent abdominal operations and 13%, peripheral vascular procedures. 64% developed complications and there were 37 deaths. The mortality rate varied from 18% with nil comorbidity, to 53% with 2 or more conditions (p<0.05). Patients with WHO performance status 0-1 had mortality of 22% and with 4 had 54% mortality. Median LOS was 8 days.

**Conclusions**

The outcome of emergency general surgery in nonagenarians depends on comorbidity and the mortality rates are only moderately different from actuarial data. Age should not deter the clinicians from offering emergency surgical treatment if comorbidity is minimal. Knowledge of preadmission QOL helps decision making, counseling, and comparing the postoperative improvement in QOL.

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**RANDOM VS FASTING BLOOD GLUCOSE MEASUREMENT AT DAY HOSPITAL**

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**Introduction**

New patients attending Stobhill Day Hospital frequently had routine random blood glucose (RBG) testing performed. No guidelines recommend this as a screening test for diabetes. We studied the outcome of our unintended screening programme and assessed the feasibility of checking fasting specimens in this high risk population.

**Methods**

The results from all new patients attending over a three month period were examined retrospectively. Abnormal RBG results were reviewed. The next 30 non-diabetic new patients who required blood tests were asked to attend fasting. Day hospital staff documented any complaints from these patients.

**Results**

108 new patients attended, mean age 80 years. The majority (59%) had a RBG, 29 (53%) of which were elevated (including 4 known diabetics). 12/25 (48%) subsequently had a fasting BG of which 2 were > 6.1 but none >7.0. Neither of these patients was followed up further. Of the 30 fasting patients 1 had a FBG >7.0 on 2 occasions. 1 patient forgot to come fasting and the remaining 28 had FBG results <6.1. There were no reported problems.

**Conclusion**

Almost half of all abnormal random values were not followed up and subsequent abnormal FBG results were not confirmed.

The use of RBG measurements in asymptomatic patients attending Day Hospital cannot be justified based on these results. Fasting specimens should be checked and this appears to be tolerated well. We have since changed our practice.

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**RISK FACTORS FOR FALLS IN OLDER PERSONS ATTENDING OPHTHALMOLOGY CLINICS**

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**Introduction**

Visual impairment (VI) is a risk factor for falling (Lord SR. JAGS 2001; 49:508-15). The National Service Framework for Older People recommends that fallers with ≥2 risk factors be referred to a specialist falls service. Older people with VI can benefit from targeted home safety review (Campbell AJ, BMJ 2005;331:817) and correction of reversible causes of VI (Harwood RH, Br J Ophth 2005;89:53-59).

**Methods**

100 randomly selected patients (≥75 years) attending ophthalmology clinics were screened for history of falls in previous 12 months, medication use, postural dizziness, cognitive impairment (Abbreviated Mental Test Score <7/10), balance impairment (>4 steps for 180 degree turn) and fear of falling (≥5/10 on visual analogue scale 0-10).

**Results**

Of those screened, 77% had visual acuity of ≤6/12 in one or both eyes. The following risk factors were identified: ≥4 medications (55%), fear of falling (31%), postural dizziness (23%), balance impairment (22%), cognitive impairment (6%). Of those with a history of falls (29%), only 38% sought medical attention; 34% had fallen more than once.

**Conclusions**

Potentially modifiable risk factors are common in older persons with VI. Much of this was unaddressed since a minority with a history of falls had sought medical attention. Older persons attending ophthalmology clinics should be considered at high risk for falls. Screening this group and targeting intervention appropriately may be an effective means of falls prevention not previously considered.

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**FEASIBILITY OF USING ASPIRIN AS A PRESCRIBING INDICATOR FOR VASCULAR DISEASE PROPHYLAXIS**

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**Introduction**

Aspirin is prescribed for vascular disease and its benefits have been demonstrated in myocardial infarction (ISIS-2) and stroke (IST, CAST). ACE inhibitors (ACE-I) and statins are of proven benefit in cardiovascular, cerebrovascular and peripheral vascular disease and in patients with vascular risk factors (HOPE, SSSS, WOSCOPS). It may be feasible to use aspirin as an indicator for prescribing ACE-I and statins for vascular disease prophylaxis.

**Methods**

Review of drug charts and casenotes from Gerontology wards on a particular day. Aspirin (including dose), ACE-I and statin use, indications and contraindications for aspirin / ACE-I / statins use were recorded and the pattern of their use was analysed.

**Results**

118 patients (mean age 78.9 years) were reviewed. 60 (51%) were taking aspirin. 72 (61%) had indication for aspirin, of these 52 (72%) were taking it. In patients taking aspirin, 6 (10%) had no indication, and 2 (3%) had atrial fibrillation but no other vascular risk factor. 52 (87%) of those taking aspirin were indicated for both ACE-I and statin. Of these, 16 (31%) were taking both, 19 (37%) were taking one of the two, while 17 (33%) were taking neither. Contraindications were rarely documented (2 cases).

**Conclusions**

Using aspirin as an indicator for prescribing ACE-I and statins would increase their appropriate prescription 3-fold, but would cause inappropriate prescription of ACE-I and statins in 13% of cases.

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### HOT BATHS, BOILING FAT AND GAS HOBS – A STUDY OF BURN INJURIES IN OLDER PATIENTS ADMITTED TO A REGIONAL BURNS UNIT

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#### Introduction

With an ageing population, increasing numbers of older people may sustain burn injuries. This study aims to look at the epidemiology of older patients admitted to a regional burns unit.

#### Methods

A retrospective case-note study of all patients aged 65 and over admitted to Whiston Burns Unit over the past 2.5 years was performed. Details regarding age, sex, place, activity during and source of injury were collected.

#### Results

707 adult burn injuries were admitted during the period studied. 10% (73/707) were aged 65 and over. 55% (40/73) were male and 45% (33/73) female. Age ranged from 65 to 99 years (mean 76 years). Most injuries occurred indoors 89% (65/73) with 77% (56/73) being in their own home. The place of injury included kitchen 33% (24/73), bathroom 15% (11/73), living room 14% (10/73), bedroom 10% (7/73) and garden 5% (4/73). The activities at time of injury included preparing food 30% (22/73), washing/bathing 16% (12/73), DIY/household 10% (7/73) and sleeping/resting 7% (5/73). There were a wide variety of source of injury, commonest being bathing immersion 16% (12/73), fat (non-burning) 8% (6/73) and gas hob 7% (5/73).

#### Conclusion

Older patients formed 10% of all adult burn admissions studied. Hopefully this study will help raise awareness of burn injuries in older people to target primary and secondary prevention. More research of burns in older patients would be desirable.

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### USE OF THE MEDICAL EARLY WARNING SCORE (MEWS) IN PRIORITISING THE WORK OF A HOSPITAL-AT – NIGHT TEAM

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#### Introduction

The Modified Early Warning Score (MEWS) is based on 5 physiological parameters. MEWS has proved useful in identifying medical and surgical patients developing critical illness [Subbe CP et al. Quarterly Journal of Medicine 2001; 94:521-526.]

#### Objective

To evaluate the use of MEWS in older patients in deployment of the "Hospital at Night" team

#### Methods

MEWS parameters are recorded twice daily, and at other times as clinically indicated, on all patients in a Geriatric Medicine Assessment ward; a score of 4 or more "triggers" a call for prompt medical assessment. We have carried out a retrospective analysis of all Hospital Emergency Care Team (HECT) assessments, 9pm to 9am, over 6 months to determine the usefulness of MEWS in prioritising HECT deployment.

#### Results

Sixty-six patients, average age 80 years, were reviewed by the HECT. Thirty-one had a "trigger" MEWS of 4 or more, 5 of whom (16%) died within 48 hours. One of thirty-five patients (3%) with low MEWS, who were reviewed by HECT in response to requests by concerned ward nursing staff, died within 48 hours. Patients with higher MEWS scores had more clinical interventions carried out by HECT. There was no difference in mortality between the two groups at 7 days or at 28 days following the index HECT assessment.

#### Conclusion

The MEWS system provides an objective means of prioritising the overnight clinical review of ill older patients.

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**THE VALUE OF THE LOEB CRITERIA AND URINE DIPSTICK IN URINARY TRACT INFECTION IN ELDERLY PATIENTS**

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**Introduction**

There is no global consensus regarding diagnostic criteria for urinary tract infection (UTI). In American nursing homes, the Loeb criteria (Loeb et al. Infect Control Hosp Epidemiol 2001; 22:120-124) have been recommended as a useful diagnostic tool. This retrospective audit study examined the diagnostic value of Loeb criteria and dipstick.

**Methods**

Fifty patients, admitted with a diagnosis of UTI to one ward and so treated, were assessed using a proforma. Data relating to clinical and laboratory diagnosis were collated from medical and nursing notes and analysed to determine the validity of the Loeb Criteria and dipstick

**Results**

Of the 50 patients (median age 81.5 years; age range 63 – 97 years), 8 out of 14 catheterised patients had confirmed UTI (100,000 CFU/ml on culture); all 8 had positive dipstick (Sensitivity – 100%; Specificity – 0) and 7 of them met the Loeb Criteria (Sensitivity – 87%, Specificity – 67%). 22 of the 36 non - catheterised patients had confirmed UTI; 19 of them had positive urine dipstick (Sensitivity -95%, Specificity – 0), while 8 of them met the Loeb Criteria (Sensitivity – 36.4%, Specificity – 64.3%). Overall, the Loeb Criteria was 50% sensitive and 65% specific, while the dipstick was 96% sensitive and 0% specific.

**Conclusion**

The Loeb criteria have poor diagnostic value in predicting UTI in hospitalized elderly patients. In contrast to previous studies, urine dipstick was highly sensitive but not specific.

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**MEDICATION PRESCRIBING AND ADMINISTRATION IN PARKINSON'S DISEASE IN AN ACUTE HOSPITAL**

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**Introduction**

Many Parkinson's Disease (PD) patients have complex drug regimes and require medications to be given on time. This study explored prescribing and administration practice surrounding PD medication in an acute hospital, and patients' experience of receiving PD medication.

**Method**

This exploratory study focused on every day clinical practice using a combined quantitative and qualitative research approach. A retrospective review of medication prescribing and administration using hospital records was performed and patients' experiences explored using semi-structured interviews.

**Results**

79 PD patients were admitted between August and December 2003. Medication prescribing was incorrect in 43% on admission, 33% at 24 to 48hours and 26% on discharge. Inaccurate times were written in most cases.

Medication administration was incorrect in 51% on admission and 35% at 24 to 48hours, (median of 5 doses omitted per hospital stay). 'No reason', 'Drug not available' and 'Nil by mouth' were the main reasons.

Two thirds of the 19 interviewees noted inaccuracies in drug times. Themes that emerged included negative thoughts, feelings of anxiety, loss of control, concerns about staff knowledge, prompting about timings, inflexible drug trolley rounds and some decline in physical function.

**Conclusions**

This study found that the quality of prescribing and administration of PD medications in hospital was sub-standard causing mainly psychological effects. More education is required. Specific guidance has been developed for 'unavailable' drugs and advice on managing 'Nil by Mouth' PD patients.

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**IS COMPREHENSIVE GERIATRIC ASSESSMENT POSSIBLE ON A SHORT STAY ELDERLY CARE WARD?**

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**Introduction**

We report on a project involving daily multi-disciplinary team meetings in a short stay elderly care ward. The following previously overlooked problems were identified and actioned – cognitive impairment, depression, falls, polypharmacy, incontinence and nutritional deficiency. Resuscitation decisions were discussed.

**Methods**

100 consecutive people admitted to an elderly care ward were assessed. Data was collected by the medical team on admission to the ward.

Results (preliminary data 50 patients)

The average age was 80.4 years (range 63-95yrs), 60% were female. In this cohort 32% were living at home with others, 32% were supported by a care package, 28% were living alone with no formal support, 6% were in institutional care. 28% had possible cognitive problems (defined as admission AMTS  $\leq$  7). 28% of people reported feeling sad. Almost two thirds said that they had fallen (64%). Polypharmacy ( $\geq$  5 medications on admission) was present in half of patients (52%). 24% reported problems with continence. Nutritional screening revealed at least 20% were at risk (BMI  $<$ 20 , MUST  $\geq$  1). None of the patients were aware of the single assessment process. Everyone had resuscitation discussions documented with the majority of people electing not to have resuscitation (62%). Data on predicted and actual length of stay will be presented.

**Conclusions**

Even on a short stay geriatric assessment unit, comprehensive geriatric assessment is possible without impacting adversely on length of stay.

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**DEVELOPING AN “ACUTE STROKE RESPONSE” TEAM TO ADMINISTER THROMBOLYTIC THERAPY FOR ACUTE ISCHAEMIC STROKE**

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**Introduction**

A multidisciplinary team was developed to provide acute stroke thrombolysis at John Radcliffe Hospital, Oxford.

**Methods**

A protocol modelled after that used in the National Institute of Neurological Disorders and Stroke was developed for Oxfordshire. Ambulance services(AS) are asked to “fast-track” patients with symptom onset of acute stroke within the previous 2 hours. The Emergency Department(ED)staffs are asked to triage such patients as a life threatening condition. Once the (ED)/(AS) identified a possible candidate for thrombolysis therapy, the acute stroke team is informed. By arrangement with radiology department the patient is given priority for CT scanning. If it is decided that the patient is for treatment, he/she is moved to the resuscitation unit in ED. Arrangements were made with the stroke unit for providing bed immediately for all patients undergoing thrombolysis. All patients treated are entered into the Safe implementation of thrombolysis in stroke registry.

**Results**

The first patient was treated on 13th June 2005. Thirteen patients were treated in the 1st year, the median time for stroke onset to hospital presentation was 75 minutes, door to CT time was 35 minutes and the door to treatment time was 65 minutes. No symptomatic intracranial haemorrhage occurred. The mean National Institute of Health Stroke Scale (NIHSS) was 17.

**Conclusions**

Acute stroke thrombolysis protocol was safely implemented and the results compare favourably with those reported from other centres.

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**QUALITY OF NEUROVASCULAR CLINIC REFERRAL LETTERS**

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**Introduction**

The ABCD score devised by Rothwell et al (2005) enables identification of patients at high risk of early stroke following transient ischaemic attack (TIA). Use of this score to prioritise neurovascular clinic referrals offers the possibility of more effective stroke prevention.

**Method**

All suspected TIA referrals to neurovascular clinic at Mayday Hospital from February to May 2006 were reviewed to determine if all information required to calculate the ABCD score was included in the referral letter. Where information was insufficient we tried to obtain it from case notes and by telephoning patients.

**Results**

Of 174 patients referred 86 were new suspected TIAs; of these 50 (58.14%) were referred by GPs, 33 (38.37%) from A&E and 3 (3.49%) from other outpatient clinics. In 29 cases (33.72%) a complete ABCD score could be calculated, while in 57 (66.2%) one or more component was missing. All letters included the patient's age, in 44 (51.16%) BP was omitted, in 2 (2.32%) clinical features were not clearly described and 25 (29.07%) did not mention duration of symptoms. Based on referral letter alone 19 patients (22.09%) had an ABCD score of > 4.

**Conclusion**

Referral letters contain insufficient information to calculate ABCD score. A standard proforma and education of referrers is needed to accurately identify patients at high risk of early stroke and manage them appropriately.

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**CONSERVATIVE CARE FOR PATIENTS WITH ESTABLISHED RENAL DISEASE**

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**Introduction**

The median age of patients starting renal replacement therapy (RRT) in the UK is 65. RRT does not always prolong or enhance life. The conservative care programme (CCP) in the Royal Infirmary of Edinburgh educates and facilitates treatment choices of patients with established renal disease, supporting those who choose not to dialyse.

**Methods**

Data collected were patient demographics, source of referral, treatment choices, survival and place of death of patients referred to the CCP between 1/1/2005 and 30/4/2006.

**Results**

63 patients were referred to the CCP, 46% were male. Median age was 79.5 years (IQR 75.6-84.4). 54 patients (86%) were referred from outpatient services, the remainder were inpatients. Median eGFR was 13.1 ml/min (IQR 9.7-15.1). 35 patients (56%) had home visits. In 14 cases (22%) relatives had separate contact. 9 (14.3%) were clear they did not want RRT, 12 (19%) decided after discussion that they wanted RRT, 35 (55.6%) decided after discussion not to have RRT and 7 (11.1%) remained undecided. Median follow-up was 167 days (range 4-500, IQR 73-297). 26 patients (41.3%) died, median survival from referral was 103 days (range 7-468, IQR 14-136). 7 died in the renal ward, 14 in other hospital settings, 4 at home and 1 in a hospice. 9 (35%) died in a location of their choice, the remainder's wishes were unknown.

**Conclusion**

The CCP allows patients greater control over their treatment choices.

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**WHAT INFLUENCES CPR DECISION MAKING ? - A REGIONAL SURVEY**

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**Introduction**

Clinicians often find making CPR decisions challenging and the process may be avoided. We used three fictional clinical vignettes of older people in hospital to gauge opinion about factors that influence decision making.

**Methods**

Questionnaire sent to Consultants and Specialist Registrars in Geriatric and General Internal Medicine within Yorkshire.

**Results**

Of forty seven completed responses; co-morbidity, delirium, dementia, malignancy and advanced age appeared to be negative pointers whilst perceived good pre morbid status and quality of life were positive factors contributing to “for CPR” decisions. There was limited documented involvement of family or carers. Delirium and patient anxiety appeared to discourage discussion about CPR but an assessment of capacity for decision making was rarely mentioned. Approximately 1/4 of clinicians would not make a CPR decision before discussion with the patient.

One third of responders elected not to predict outcome of CPR. Of those who did, up to one half of responders over estimated the likely success of CPR in each vignette, some quoting 30% chance of hospital discharge.

**Conclusion**

There is agreement about perceived negative and positive features that contribute in CPR decision making but estimation of outcome is extremely variable. Doctors should ensure good clinical practice by thoroughly assessing cognition, co morbidity and capacity in older people and involving them in decision making wherever possible.

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**HOW WELL PROTECTED ARE A POPULATION OF ELDERLY HOSPITAL INPATIENTS AGAINST TETANUS?**

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**Introduction**

Tetanus is a rare disease with a case fatality rate of over twenty five percent and a high morbidity. A high proportion of cases occur in elderly people because of no or incomplete vaccination.

**Methods**

We interviewed in-patients on acute Geriatrics wards.

Patients who were orientated and able to recall past events were included.

Interview questions:

- ◆ Have you received tetanus immunisation?
- ◆ When was the last dosing you received?
- ◆ History of falls?
- ◆ Have you received a tetanus prone wound in the last 10 years?

**Results**

n=31

26% were unsure of their tetanus status and were excluded. However these patients represent an important subgroup as some or all may be potentially unprotected against tetanus.

Male = 35%  
 Female = 65%  
 100% of males had been vaccinated.

50% of those males vaccinated had not received a tetanus toxoid booster in the previous ten years and 75% in this subgroup had falls outside and tetanus prone wounds. 67% of females had been vaccinated. 60% of those females vaccinated had not received a recent booster. In unvaccinated females 40% were recurrent outside fallers.

**Conclusions**

Only 35% were potentially immunised against tetanus. Current Department of Health guidelines recommend tetanus immunoglobulin for tetanus prone wounds in unvaccinated patients and whose tetanus toxoid booster dose was more than 10 years previously.

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TIA IN SOUTH ASIANS –  
DISREGARDED, NEGLECTED OR  
APPREHENSIVE?

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**Introduction**

It is becoming increasingly evident that the prevalence of TIA and stroke is at least 40-70% higher in the South Asian (SA) population compared to the indigenous Caucasians when adjusted for age (DoH 2001). Census data from 2001 quantifies that SA comprise approximately 15% of the Sandwell population of 280,000. We aimed to assess the risk factor profile and the number of patients who did not attend (DNA) their appointment.

**Methods**

A retrospective cohort analysis was conducted on all patients attending TIA/minor stroke clinic at Sandwell General Hospital (SGH) over one year. Baseline demographic data and risk factors were analysed for all patients classified according to their ethnic background.

**Results**

321 referrals were received, only 21 (6.5%) were from SA background. Age adjusted prevalence of hypertension, diabetes and hypercholesterolaemia were significantly higher (p<0.05) in SA compared to Caucasians. 33% of SA patients DNA their clinic appointment compared to 7% of Caucasians (p<0.001).

**Conclusions**

The data reflects the evidently low number of SA patients attending the TIA/minor stroke clinic, and the higher rate of DNAs. Vascular risk factors were more common in this group, probably reflecting the higher prevalence of metabolic syndrome in SA. More attention is needed to optimize primary and secondary prevention, and initiatives are required to ensure cultural compliance. Addressing these issues promptly should reduce the risk of further cerebrovascular events in this ethnic group.

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EXERCISE TRAINING FOR CHRONIC  
HEART FAILURE: A SYSTEMATIC  
REVIEW AND META-ANALYSIS

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**Introduction**

Chronic heart failure is a significant cause of morbidity and reduced quality of life especially in the elderly. We searched the literature to establish the effectiveness of exercise training in chronic heart failure in terms of mortality, exercise capacity and health related quality of life

**Methods**

Multiple databases from 1974 to 2006 were searched. Studies of exercise-based interventions randomized against usual care in patient with chronic heart failure were selected. Changes in peak oxygen consumption and distance walked on six minute walk test were outcomes of capacity. Data on mortality and exercise capacity were pooled in separate meta-analyses

**Results**

Twenty three studies representing 1413 patients were included. Most trials were small, of short duration and poor methodological quality. 82% were male and 97% had NYHA class II-III. Exercise training showed no significant change in mortality { RR 0.77, 95% CI 0.53 – 1.13}. Peak oxygen consumption improved by 1.97ml/kg/min {Weighted Mean Difference (WMD) random effects 95% CI 1.36 2.82} and the 6-minute walk test by 37.3 metres {WMD random effects 95% CI 12.1-60.6}. Quality of life improved in nine of the fifteen studies that examined this outcome.

**Conclusion**

Exercise training shows improvement in exercise capacity in patients with stable mild-moderate heart failure. Limited information exists in elderly patients and in severe disease. More research is required before these findings can be generalized to all patients with heart failure.

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**WHOLE BODY VIBRATION: A NEW FORM OF EXERCISE SUITABLE FOR THE ELDERLY?**

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**Background**

Whole body vibration (WBV) exercise has recently been proposed as an intervention for sarcopenia. Its effect on older people is unknown.

**Aims**

- ◆ To assess the acceptability and tolerability of WBV in the elderly.
- ◆ To measure the effect of vibration on lower limb strength and anabolic hormone levels.

**Method**

Randomised, controlled cross-over trial with 20 healthy volunteers (median age 70, range 66-85; 55% female). Volunteers stood on a vibrating plate (frequency 30Hz, displacement 3mm) for five one-minute intervals, separated by one-minute rest periods. The control intervention involved standing on the plate without vibration. Acceptability was measured on a Likert scale (1-10). Mean ground reaction force (MGFR) generated by a sit-to-stand test were measured with a force platform immediately before, immediately after, and then one and two hours after the intervention. Plasma cortisol, growth hormone, IGF-1 and testosterone were measured at the same intervals.

**Results**

All patients tolerated both interventions. Median acceptability scores for vibration and control were 9 and 10 respectively (p=0.004).

After WBV, median serum IGF-1 rose from 160 to 210 ng/ml (p<0.001) and cortisol from 153 to 180 ng/ml (p<0.001). There were no significant differences in MGFR nor testosterone (p= 0.51) or growth hormone (p= 0.40) levels.

**Conclusion**

WBV exercise was well tolerated in healthy elderly volunteers, and increased circulating cortisol and IGF-1 levels. Future studies should evaluate whether these effects translate into tangible health benefits.

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**PREVALENCE OF VITAMIN D INSUFFICIENCY IN A COMMUNITY DWELLING POPULATION IN THE WEST OF IRELAND**

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**Introduction**

Vitamin D deficiency is an established risk factor for osteoporosis, falls and fractures. We looked at a population of middle aged and older women attending for routine bone density scans and 25-OHD(25-hydroxy vitamin D) levels to assess for hypovitaminosis D and to determine whether 25OHD levels and BMD are linked to lifestyle factors.

**Methods**

A total of 104 consecutive community dwelling females aged 48 years and over attending for bone mineral density measurements were each given a questionnaire on diet, sunlight exposure and lifestyle habits. 25OHD and parathyroid (iPTH) levels were measured in each patient and all patients had a peripheral instantaneous x-ray imager (PIXI) scan performed initially. Only patients with abnormal PIXI scans went on to have DEXA scans.

**Results**

The prevalence of hypovitaminosis D as defined by a vitamin D concentration of <50nmol/l was 51 patients out of 68 who consented to have blood sampled. This amounts to a prevalence of 75% vitamin D deficiency in the population studied. There was no association between 25OHD levels and BMD at the lumbar or femoral level.

**Conclusions**

There was a surprisingly high prevalence of hypovitaminosis D in this healthy population of community dwelling females. This is a significantly higher figure than has been found in previous international studies. The results may help to improve focus strategies regarding improvement of vitamin D levels and fracture prevention in both clinical settings and at population level .

### A COMPARISON OF EPLERENONE AND SPIRONOLACTONE IN OLDER PATIENTS WITH SEVERE HEART FAILURE

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#### Introduction

Spironolactone reduces the risk of death and hospitalization in patients with severe heart failure. Eplerenone, a selective aldosterone blocker, has similar benefits. Spironolactone can provoke life threatening hyperkalaemia, especially in patients with renal impairment. This study compares the relative effects of spironolactone and eplerenone on potassium levels in older patients with heart failure.

#### Methods

A total of 42 consecutive patients with heart failure (NY Heart Association, Grade 3 or 4) were randomly assigned to spironolactone 25mg or eplerenone 25mg. Electrolytes were measured and Glomerular Filtration Rate (GFR) was estimated (using modified MDRD equation) at baseline, day 5, day 14 and day 28.

#### Results

Twenty patients (14 female, median age 79.1, range 66-91) were randomized to Spironolactone, and 22 (14 female, median age 78.3, range 66-88) to Eplerenone.

During the study, 8/20 patients on spironolactone (40%) developed serum potassium >5 mmol/l, 3 of whom (15%) rose to >6 mmol/l. Three of six patients on spironolactone with baseline GFR < 40 ml/min developed hyperkalaemia. Of those taking eplerenone, serum potassium rose to >5mmol/l in 4/22(18%). None of this group developed serum potassium >6 mmol/l ( $p=0.09$ , eplerenone vrs spironolactone; Fisher exact test). Of 5 patients on eplerenone with baseline GFR <40 ml/min, none developed hyperkalaemia.

#### Conclusions

In this study of older patients with heart failure, eplerenone appears less likely to cause severe hyperkalaemia than spironolactone, even in those with significant renal impairment.

### WHY DO DOCTORS CHOOSE A CAREER IN GERIATRIC MEDICINE?

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#### Introduction

The introduction of Modernising Medical Careers could have an impact on recruitment to Geriatric Medicine. We undertook a survey to determine factors influencing Geriatric Medicine as a career choice and whether these might be used to influence recruitment.

#### Methods

A questionnaire was distributed to all UK members of the BGS. It was enclosed with the March 2005 Newsletter, the Spring meeting delegate pack and made available online. Non-responders were re-contacted by post and/or email.

#### Results

1036 responses were received (response rate 56.4%). 4% decided on Geriatric Medicine as students, 3.8% of consultants and 8.6% of registrars as pre-registration house officers. 39% of consultants and 7% of registrars chose Geriatric Medicine whilst a middle grade in another speciality. The strongest influences on choice were clinical aspects of the speciality (34.1%) and inspirational seniors (26.2%). 4.7% of respondents felt experience as a medical student influenced their decision. 10.1% were influenced by the perception that it may be less important to undertake research in Geriatric Medicine. 9.2% of consultants and 10.1% of registrars subsequently regretted their career decision

#### Conclusions

Geriatric Medicine seems to be a career choice of increasing maturity and encouraging young doctors to make a career choice early in their training may adversely affect recruitment to the speciality. Few doctors have regrets about choosing Geriatric Medicine as a career, and these were rarely about core aspects of the speciality.

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**CAN WE ENHANCE MEDICAL STUDENTS' 'ATTITUDES' TO OLDER PEOPLE DURING THEIR CLINICAL ATTACHMENT IN ELDERLY CARE MEDICINE?**

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**Introduction**

Self-assessment and reflection are important parts of continuing professional development and help doctors determine where their learning and skills need to be focused. We introduced medical students to self-assessment during their 4th year clinical attachment in Ageing and Health and also tried to capture their 'attitude' to older people.

**Methods**

In this pilot study 136 consecutive 4th year medical students entering their Ageing and Health rotation completed a self-assessment of their history-taking and examination skills, knowledge and use of drugs and understanding of multiple pathology in older patients. Students also rated their 'attitude/enthusiasm' for clinical attachment in Elderly Care Medicine using a linear Likert scale with 0 being the lowest and 10 being the greatest value. Students further self-rated at the end of their 4 week clinical attachment.

**Results**

Analysis of 88 anonymous matched self-assessments suggested that history and clinical examination skills and knowledge of drug use and multiple pathology had significantly improved at clinical attachment completion. 'Attitude/enthusiasm' to Elderly Care Medicine was significantly enhanced. In regression analysis, 'attitude,' although initially related to self-rated history-taking skill, was later, related to knowledge of multiple pathology and student examination skill.

**Conclusions**

This study suggests that medical students' perception of their history-taking and clinical examination skills, knowledge of multiple pathology and drug use is improved after clinical attachment in Ageing and Health. It also suggests that 'attitude/enthusiasm' are enhanced.

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**CAN WE CHANGE FOURTH YEAR ABERDEEN UNIVERSITY MEDICAL STUDENTS' ATTITUDES TOWARDS CARE OF THE ELDERLY?**

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**Introduction**

The ever-increasing numbers of elderly patients has important implications on future medical workforce. The need for geriatricians will increase and medical specialities will expect an increase in elderly patients. We therefore feel that the important aims of undergraduate education in Geriatric Medicine (GM) are not only to improve students' attitudes towards elderly patients but also promote GM as a potential medical career.

**Methods**

A modified validated UCLA questionnaire evaluating attitudes towards the elderly (Reuben et al. JAGS 1998; 46:1425-30) was administered to fourth year Aberdeen University medical students. Paired T-test was then used to compare their mean UCLA scores before and after their 2-week attachment in Woodend Hospital.

**Results**

We surveyed 85 students but matched data for pre- and post-attachment scores were available for only 40 students. There was no significant change in their attitudes towards the elderly pre- and post-attachment with mean scores of 3.87 and 3.94 (p=0.101) respectively. However, a marked difference was noted in their willingness to consider GM as a career (as indicated on a Likert scale) with mean pre- and post-attachment scores of 2.65 and 3.13 (p<0.0001) respectively.

**Conclusion**

Our GM program did not change students' attitudes towards elderly patients. However, their attitudes towards considering a career in GM changed significantly. Further studies will have to be carried out to determine other factors influencing medical students' decisions about considering GM as a career.

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### THE PROGRESSION OF MOBILITY DISABILITY IN PEOPLE WITH MUSCULOSKELETAL PAIN

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#### Introduction

The progression of disability among people with musculoskeletal pain is not well understood. This prospective study examined determinants of decline in ability of doing any of three locomotor activities.

#### Methods

A community age-sex stratified "Somerset and Avon Survey of Health", was used. Those reporting lower joint pain, comprised 4,359 at baseline 1995, were studied and recalled eight years later where 2,207 individuals were found eligible for interviews and 1,284 took part (58%). This study includes 1011 individuals, aged 45+ and have responded to the locomotor items (walking, climbing and carrying) at baseline and at follow up. Multivariate logistic model was used to examine the effect of several potential risk factors in increased disability.

#### Results

Progression in disability was experienced by 26% of participants. Progression was significantly associated with women, odds ratios (OR): 1.7 (95% C.I.: 1.2, 2.6), age; OR: 2.0 (1.1, 3.9) and 4.3 (95% C.I.: 2.0, 9.3) for ages 65-74 and 75-84 respectively compared to 45-54. Heart conditions and cataract were other predictors, ORs: 2.2(1.0, 4.7) and 2.7 (1.3, 5.3) respectively. A significant trend of increasing risk by deprivation area was also reported showing highest risk for the most deprived area.

#### Conclusions

Women and older people with musculo-skeletal pain have higher risk of worsening mobility. Cardiovascular disease and visual impairment are potentially useful markers for clinical assessment. Further investigation on area level deprivation effect is required.

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### IS GROWTH IN EARLY LIFE ASSOCIATED WITH PHYSICAL PERFORMANCE IN OLDER PEOPLE?

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#### Introduction

Recent studies have shown that individuals who grew less well in early life have lower grip strength in later life. Our objective was to see if this association with early life growth was also shown with other measures of physical performance (PP).

#### Methods

We studied 349 men and 280 women, of known birth weight and weight at 1 year, who were taking part in the Hertfordshire Cohort Study. Participants underwent tests of PP; grip strength, quadriceps strength, chair rises, one-legged standing balance, timed up and go test (TUG), and a 3m walk. Size and growth in early life were related to the PP measures.

#### Results

Grip strength was positively associated with weight at one year in men ( $r = 0.21$ ,  $p0.0001$ ) and birthweight and weight at one year in women ( $r=0.13$ ,  $p0.03$ ,  $r = 0.22$ ,  $p0.0002$  respectively). Quadriceps strength was positively associated with weight at one year in women ( $r =0.17$ ,  $p0.02$ ). Poor balance was related to lower birthweight in men ( $OR = 0.7$ ,  $p0.02$ ), but not in women. Early growth was not associated with chair rises, TUG and 3m walk.

#### Conclusions

Early growth is associated with muscle strength in men and women and balance in men. There was no relationship between early growth and the other PP measures in men or women. Developmental influences appear to be important for muscle strength but not other measures of physical performance.

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**SCREENING FOR RISK FACTORS FOR FALLS IN THE COMMUNITY SETTING**

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**Introduction**

Screening for individuals at high risk of falls in the primary care setting requires an accurate understanding of the prevalence of falls and co-occurrence of falls risk factors.

**Methods**

We sent a postal questionnaire to all people  $\geq 70$  registered in 5 general practices in Nottingham and Derby, excluding those in care homes, those already known to a falls prevention programme and those with terminal illnesses. The questionnaire included eight self reported items.

**Results**

Number of individuals aged 70+ registered at the practices: 3651; 492 met exclusion criteria. 1653/3159 questionnaires were returned (response rate = 52%). Respondents' characteristics:  
 Median (IQR) age 77 (73-81.5), 55% women  
 Risk factors (95% CI):  
 Fall in previous year: 24% (23.5-26.1)  
 > 4 drugs: 29% (28.3-31.3)  
 Previous stroke: 9% (8.9-10.4)  
 Parkinson's: 1.5% (1.5-2.0)  
 Unable to rise from chair without using arms to push up: 44% (42.9-46.5)  
 Dizzy on standing: 33% (32.2-35.4)  
 Need mobility aid: 30% (29.3-32.3)  
 Confined to house: 16% (15.7-17.8)  
 28% had no falls risk factors, 25% one risk factor and 47% had two or more risk factors.

**Discussion**

The reported prevalence of falls in the previous year is lower than in published studies. A large proportion of people in the community have two or more risk factors for falls. This either requires population based interventions, or a large scale intervention programme. We are conducting a RCT of intervention in the high risk group.

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**ASSESSING THE CONTENT OF THERAPY IN A FALLS PREVENTION PROGRAMME USING BEHAVIOURAL MAPPING**

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**Introduction**

Multidisciplinary interventions are effective in reducing falls; such programmes are often delivered in the geriatric day hospital, but little is known about which activities take place. The aim of the study was to observe patients attending a day hospital falls prevention programme to determine the proportion of the available patient day spent in therapeutic activities.

**Methods**

Participants were observed at ten minute intervals (five minute intervals during therapy sessions) using behavioural mapping. Behavioural mapping involves observing patients closely, and the recording activities that take place according to a pre-determined code.

**Results**

Eight patients attending the day hospital, median age 81.5 years, were observed on 23 weekdays (giving a total of 35 patient days). 13% of time was spent in therapeutic activities. 27% of the patient day was spent sitting alone and unoccupied. Social interaction was high with 27% of patient time spent socialising. The remainder of the day was spent undergoing assessment (6%), and carrying out non-therapeutic (10%) and essential activities (16%) During therapy sessions strength and balance activities were the most dominant and only just under 3% of therapy sessions were spent in non-therapeutic activities.

**Conclusion**

A relatively small proportion of the day is spent in therapeutic activities, but a large proportion of the day on social interactions. Further work evaluating the outcomes of the programme and the generalisability of these results is underway.

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### ASSESSMENT OF HIP PROTECTOR COMPLIANCE AT HOME IN PATIENTS AT HIGH RISK OF FALLS RECENTLY DISCHARGED FROM HOSPITAL

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#### Introduction

Hip protectors can prevent some fractures but compliance is variable among those at risk [Parker et al. BMJ 2006; 332:571-76]. Most studies have assessed compliance by telephone or diary record or fail to describe methodology. We have carried out post-discharge home visits to assess External Hip Protector (EHP) compliance in patients at high risk of falling.

#### Methods

Multidisciplinary assessment and the Cannard score [Nursing Times 1996; 92:36-7] were used to assess falls risk in patients admitted to a mixed geriatric/orthopaedic rehabilitation ward. At-risk patients were issued with EHPs (Medistox). Ward-compliant patients at high risk, who had capacity to give detailed consent to both hip protector use and follow up, were reviewed at home between one month and 3 months after discharge.

#### Results

Of 334 patients assessed, 32 (9 males), average age 80 years, median MMSE 23, median Cannard score 16, fulfilled all the follow up criteria. A home visit was completed in 23 cases, the average time after hospital discharge being 10 weeks. Five 5 patients (22%) were wearing their external hip protectors when assessed at home. There were no significant differences in age, sex, MMSE, Cannard score or fracture history between compliant and non-compliant individuals.

#### Conclusion

Compliance with hip protectors at home was only 22% in this study. This was surprisingly low given that the patients were a highly selected group of at-risk individuals who were educated in terms of their falls risk.

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### EFFECTS OF PROTECTED MEALTIMES ON NUTRITION AND STRENGTH OF ELDERLY PATIENTS IN HOSPITAL -A PILOT STUDY

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#### Introduction

Older peoples' nutrition can decline during hospitalisation due to lack of assistance while eating and interruption of meals by procedures and ward rounds. We performed a pilot study to find effects of Protected Mealtimes.

#### Methods

Patients of two Elderly Medical wards who were not undernourished, on normal diet, who could feed themselves and stayed in at least 2 weeks participated. During Protected Mealtimes(lunch-1215hr to 1315hr and evening meal-1700hr to 1800hr) ward staff concentrated only on helping patients to eat: other routine activities stopped. The following parameters were checked weekly: body weight, mid-arm circumference, hand grip, and protein and calories intake.

#### Results

First, data were collected on 17 patients: the controls. Four months later protected mealtimes were implemented in the same two wards and data were collected from 22 eligible patients: the intervention group. Results were similar in both the groups for daily calorie (1275 vs. 1121) and protein (50gm vs.44gm) intake. Overall weight losses (0.25kg/week vs. 0.19kg/week) were also similar. The control group lost an average mid-arm circumference of 0.2 cm/week compared to 0.03 cm/week gain in the intervention group ( $p=0.056$ ), although both groups had similarly decreased grip strength (0.60 kg vs. 0.53kg).

#### Conclusions

Protected Mealtimes did not improve nutrition or strength in this pilot study. The protection of mealtimes has consequences for medical care. We have identified the parameters necessary to undertake a worthwhile equivalence trial.

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### STUDY OF ADVERSE EVENTS IN ELDERLY HOSPITAL INPATIENTS

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#### Introduction

There is increasing concern over adverse events (AE) resulting from healthcare. This study aimed to investigate the frequency and nature of adverse events in a large NHS hospital.

#### Methods

A retrospective two stage Case Note Review using a screening instrument followed by a detailed review form was conducted on a random sample of 1050 hospital admissions. A multivariate logistic regression model was used to analyse the effect of age on AE and a subgroup analysis of patients  $\geq 75$  years was undertaken. 10% of the sample was independently reviewed to assess inter-rater reliability.

#### Results

Data was obtained for 1006 admissions. 332 (33%) patients were  $\geq 75$  years of which 45 (13.5%) had at least one AE. 7 (16%) were considered highly preventable. In 40 (89%) of the 45 admissions the AE led to an increased length of stay or a subsequent admission. In 4 the AE contributed to patient death; one was highly preventable. There was a statistically significant raised risk of experiencing an AE and patient age (OR=1.03,  $p < 0.001$ ) and the length of hospital stay (after adjusting for the effect of AE on hospital stay, OR=1.025,  $p < 0.001$ ).

#### Conclusions

Adverse events are more common in patients  $\geq 75$  years than younger patients, and a significant proportion of them are preventable.

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### FACTORS INFLUENCING THE RECRUITMENT OF ELDERLY PATIENTS TO CLINICAL TRIALS

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#### Introduction

Clinical research requires high levels of patient participation to obtain meaningful results. Rates of attrition can affect the outcome of trials. The inability to obtain consent in confused patients is well known.

#### Methods

A study of baseline demographics, complications and discharge information was conducted in nonagenarians admitted to the medical admissions unit in February, May and August 2005. Factors influencing patient's ability to give consent or to obtain assent from carer/family were recorded.

#### Results

226 patients were admitted, 32 records were unobtainable. The 102 patients not recruited had a lower median abbreviated mental state score of 4 (participants median score was 8). This group included more men (38% v 26%), with a higher mortality rate in hospital (24% v. 13%) but a similar median age of 92.

Reasons for lack of consent/assent

Confused	36 (35%)
Moribund/ severe inter-current illness	22 (21%)
Stroke disease	8 (8%)
Early discharge	9 (9%)
Unable (logistical/rapid transfer)	18 (18%)
Unknown	8 (8%)
Refusal	1 (1%)

#### Conclusions

Inability of frailer unwell patients to consent or researchers to gain assent from relatives, together with rapid patient throughput, precludes full data collection and limits the generalisability of study outcomes. Lengthy cumbersome information sheets in the COREC format even for non-invasive studies, are off-putting to vulnerable patients and their families, whose input would be immensely valuable. This remains a challenge to the research community.

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### INPATIENT HOSPITAL CARE FOR OLDER PEOPLE

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#### Introduction

Do frail older people in acute hospital care in the UK get comprehensive geriatric assessment (CGA) and does CGA associate with better outcomes, like it does in the trials? To explore this question, we have examined the possibility of measuring frailty and CGA in older hospital inpatients and relating these measures to outcome.

#### Methods

In a prospective cohort study in 123 acute hospital inpatients aged >65 years we measured frailty using a simple 3 point scale (Rockwood et al 1999), counted the assessments performed and the number of different professionals involved in management. The cohort was followed up at 3 and 6 months after admission and the relationships between Frailty, CGA and outcome explored by cross tabulation.

#### Results

123 patients aged  $\geq 65$  were recruited and followed for 6 months. Frail patients had significantly lower AMT and ADL scores ( $7.7 \pm 1.8$  and  $14.7 \pm 4$  vs  $9 \pm 0.8$  and  $19.5 \pm 0.5$ ,  $P < 0.001$ ), received more assessments ( $4.8 \pm 0.9$  vs  $4.3 \pm 0.6$ ,  $P < 0.01$ ) and experienced more readmissions during 6 months follow-up (%61 vs %39,  $P < 0.05$ ). Having 5 or 6 assessments compared to 4 or less, was associated with fewer readmissions during 6 months follow up ( $P < 0.05$  Mann Whitney).

#### Conclusions

In an inpatient hospital population with a high prevalence of frailty a wide range of "comprehensiveness" of assessments, interaction between frailty and outcome and interaction between assessment and outcome was observed.

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### A COMPARISON OF OLDER PATIENTS COMMENCED ON ANTICONVULSANTS VERSUS NO TREATMENT AFTER FIRST SEIZURE

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#### Introduction

Commencement of regular anti-convulsant therapy after first seizure in older adults is influenced by perceived risk of further seizures. We analysed differences between those selected for treatment versus those observed without therapy.

#### Methods

Prospective data collection, patients aged  $\geq 60$  years referred to first seizure service 1999- 2005. Seizure recurrence rates compared between groups commenced on anti-convulsants following first seizure against those not initially treated. Compared baseline characteristics, seizure aetiology, investigation findings and seizure recurrence in both groups.

#### Results

Mann-Whitney U and chi-squared test utilised

	Treated	Untreated	p-value
Number	61	58	
Male (%)	67	53	ns
Median Age	72	68	ns
Median time to assessment (days)	1	28	<0.0001
Admitted/ inpatient	48	16	<0.0001
Idiopathic	10	35	<0.0001
Provoked	17	10	ns
Remote Symptomatic	33	13	0.0008
Epileptogenic lesion	36	20	0.012
Epileptiform EEG	18	12	ns
Seizure injury	6	10	ns
Recurrence first 12 months	29	21	ns
Recurrence any stage	32	27	ns
Median time to recurrence (days)	83	116	0.027

#### Conclusions

Seizures requiring, or occurring during admission were more likely to be treated. Remote symptomatic aetiology and epileptogenic lesion more frequent in treated group. These are high risk patients with ongoing recurrence at earlier interval despite treatment. Comprehensive evaluation of first seizure patients assessing aetiology, co-morbidity and structural brain lesions will successfully identify those at higher risk of recurrence.

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**ARE PATIENTS WITH PARKINSON'S DISEASE AT RISK OF QTC PROLONGATION AND SUDDEN DEATH?**

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**Introduction**

Sudden death has been well documented in patients with Parkinson's disease (PD). In this observational study we looked at whether patients with Parkinson's disease were at risk of QTc prolongation and in turn sudden death.

**Methods**

We selected the case records of all patients with a definite diagnosis of PD who died between January 2000 and December 2003, 68 in total. The control group comprised 76 patients without PD who died in the last 12 months. Patients were excluded if an ECG was not available or if another cause of QTc prolongation was established.

QTc intervals were calculated using Bazetts formula. Mean QTc intervals were calculated and comparisons made using Student's t test.

**Results**

40 of the 68 PD patients were included. 17 males (average age 77) and 23 females (average age 81). 36 of the control group were included. 13 males (average age 82) and 23 females (average age 84).

QTc intervals were significantly prolonged in both PD groups (440ms vs 421ms, for males ;  $p < 0.05$  and 449ms vs 408ms, for females ;  $p < 0.0001$ )

**Conclusion**

The results of this preliminary study lend support to the hypothesis that patients with PD are at risk of QTc prolongation and thus sudden cardiac death. Further prospective studies are planned to address this matter in more detail.

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**IS THERE A RELATIONSHIP BETWEEN HANDEDNESS, SIDE OF ONSET OR WORST AFFECTED SIDE AND THE USE OF CUEING METHODS IN PATIENTS WITH PARKINSON'S DISEASE?**

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**Introduction**

Parkinson's Disease (PD) begins unilaterally, often in the arm. The relationship between handedness and side of onset / worst affected side is unknown. Preliminary research suggests that side of onset / worst affected side may be related to visuo-spatial problems and inability to use visual cues.

**Methods**

A questionnaire was posted to all 338 patients from one PD nurse specialist's patient database. It asked about handedness, side of onset of symptoms, worst affected side, the duration of their diagnosis, whether freezing episodes were experienced and if any prompts were useful to initiate movement again.

**Results**

221 (65%) questionnaires were returned; 39 patients reported bilateral symptoms initially and were excluded as vascular parkinsonism. Thus 182 patients showed no correlation between handedness (10% left handed) and side of onset / worst affected side. Side of onset usually remained the worst affected side (79% of patients).

106 (58%) patients experienced freezing episodes and 75 used cues. Movement, cognitive and verbal cues were equally preferred to visual cues (8% of total cues used). There was no correlation between handedness, side of onset, worst affected side and cueing methods used to start moving again.

**Conclusions**

There was no correlation between side of onset / worst affected side and handedness. Cueing methods in patients experiencing freezing episodes did not appear to be linked with handedness, side of onset or worst affected side.

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### AMYLOID LOAD IN MILD COGNITIVE IMPAIRMENT COMPARED TO ALZHEIMER PATIENTS AND NORMAL SUBJECTS: AN 11C-PIB PET STUDY

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#### Background

11C-PIB is a thioflavin based radiotracer that binds to beta-amyloid plaques. Detection of increased amyloid deposition in MCI patients is likely to predict those patients who will later convert to clinical AD.

#### Objective

To measure the prevalence of increased amyloid load in amnesic MCI cases compared to age matched controls.

#### Methods

9 amnesic MCI patients (CDR 0.5), 12 AD patients (MMSE15-26), and age matched control subjects underwent detailed clinical evaluation, T1 and T2 MRI scans and 90 minute 11C-PIB PET with online arterial sampling. Using spectral analysis, 75 minute impulse response function parametric images of 11C-PIB binding were generated. Individual cortical regions were analysed using probabilistic atlas.

#### Results

The 12 AD cases showed significantly increased 11C-PIB binding ( $p < 0.001$ ) in the anterior cingulate(2.5x) posterior cingulate(2.5x) frontal (2.3x) temporal(2.1x) parietalassociation(2.4x) and occipital(1.8x) cortices. 4 out of the 9 MCI patients showed normal 11C-PIB uptake compared to healthy controls. The other five MCI patients showed AD patterns of 11C-PIB binding with increases of 2.4x in anterior cingulate, 2.7x in posterior cingulate, 2.3x in frontal 2.2x, in temporal, 2.3x parietal and 2x in occipital cortices.

#### Conclusions

Patterns of amyloid binding in amnesic MCI were either normal (40%) or resembled Alzheimer's disease (60%). Despite these low numbers (9) this finding suggests that 11C-PIB-PET may be able to predict those MCI patients who will convert to AD.

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### THE TIMED UP AND GO (TUG) TEST IN A MEMORY CLINIC POPULATION

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#### Introduction

In cognitively intact individuals the Timed Up and Go (TUG) test is predictive of falls risk. The TUG test was carried out on all individuals on their first visit to a memory clinic.

#### Methods

Consecutive new patients were asked about falls in the previous year and had a TUG test. TUG performance was correlated with age, falls history, neuropsychological scores and eventual diagnosis.

#### Results

Data were analysed on 316 patients (54% female), mean age 75.2 years. Median TUG was 10.7s (25th-75th centiles 9-14s). 104 subjects reported a fall in the past year. TUG was slower in fallers; 13.0 vs. 11.1s,  $p < 0.01$ . Those who had fallen were older (78.2 vs 73.9 years,  $p < 0.01$ ) which may account for this difference. Median MMSE score was 20 (25th-75th centiles 17-24). TUG varied with age  $r = 0.38$ ,  $p < 0.01$  and MMSE score  $r = -0.35$ ,  $p < 0.01$ , although the relationship with MMSE disappeared when adjusted for age. 190 patients had a final diagnosis of dementia (54% Alzheimer's disease) and 89 cognitive impairment. The TUG did not vary significantly with final diagnosis. Of the neuropsychological test battery measures of frontal and central executive function had the greatest correlation with TUG score.

#### Conclusions

This data summarises the associations of a Timed Up and Go test in a memory clinic population. The time taken to complete the TUG was not independently associated with reported falls.

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## PROSTATE CANCER - A REHABILITATION NEEDS ASSESSMENT

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### Introduction

Little is known about the health of men with conservatively managed prostate cancer and whether they might require rehabilitation.

### Methods

Participants, with conservatively managed prostate cancer were identified from the weekly Nottingham urology cancer MDT meeting (new cases) and the Nottingham monthly advanced prostate cancer clinic (advanced cases). A postal questionnaire was sent incorporating the International Prostate Symptoms Score (IPSS), Barthel Index, Extended Activities of Daily Living Score (EADL), 12-point General Health Questionnaire (GHQ-12) and a symptom list (pain, tiredness, appetite and sleep).

### Results

113 of 152 people (mean age 74, 52 new, 61 advanced) returned interpretable questionnaires. All participants lived at home. Mean Barthel = 15.7±1.8; mean GHQ-12 = 12.7±5.3; mean EADL = 55±13; mean IPSS = 11.3±8.6.

33% reported pain; 38% tiredness; 14% appetite and 17% insomnia.

There was no difference in Barthel, EADL, IPSS and GHQ-12 scores between new and advanced groups, although bowel incontinence was more prevalent in the advanced group ( $p<0.05$ ). Barthel scores were lower in those with worse IPSS scores ( $r=-0.33$ ,  $p<0.01$ ) but this was mainly because IPSS scores were worse in those with urinary and bowel incontinence ( $p<0.05$  for both). There was no correlation between GHQ-12, EADL and IPSS.

### Conclusions

Unsurprisingly, prostatic symptoms were common amongst ambulant out-patients with prostate cancer, but there was little evidence of substantial or systematic activity limitation or morbidity.

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## EFFECTS OF PRISM ADAPTATION UPON SITTING BALANCE, 'PUSHING' BEHAVIOUR, AND HEMINEGLECT IN OLDER STROKE PATIENTS

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### Introduction

Prism adaptation occurs following a training task (pointing movements) whilst wearing prism glasses. This adaptive effect has been found to improve standing balance and to reduce hemineglect, by 'recalibration' of spatial co-ordinates. This pilot study aimed to explore whether this effect reduced 'pushing', improved sitting balance and reduced hemineglect, in older stroke patients.

### Methods

Fifteen older stroke patients, defined as 'pushers', with hemineglect, were randomly allocated to intervention group (prism glasses),  $n=8$ , mean age 69.5 years (63-82), and control group (normal glasses),  $n=7$ , mean age 76.3 years (64-87). Video was taken of the posterior trunk throughout all sessions. All patients underwent baseline testing for balance, 'pushing' behaviour, and hemineglect. All then completed a pointing task whilst wearing glasses. All tests were repeated. Frame analysis of video was undertaken to measure trunk postural deviation from upright, and record the time patients were able to sit without support.

### Results

The intervention group showed significant improvement ( $p<.05$ ) in hemineglect (Star Cancellation) vs. controls. No other significant differences were found between groups however, the intervention group showed a trend towards improvement in all tests. Two improved in balance and 'pushing' but none of the controls, four became more upright compared with only one control, and sitting balance was maintained for an average of 45 seconds longer than controls.

### Conclusion

Only hemineglect improved significantly, however average improvement in sitting balance for the intervention group is of interest, and a larger trial is warranted. The standard tests which used ordinal scales to assess balance and 'pushing', may not have been sufficiently sensitive to identify small but clinically useful changes that may have occurred.

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### PULSE WAVE ANALYSIS AS A MARKER OF ENDOTHELIAL DYSFUNCTION IN ACUTE ISCHAEMIC STROKE

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#### Background

Endothelial dysfunction can be estimated non-invasively using pulse wave analysis (PWA) by measuring the maximal fall in Augmentation index (Alx) following inhaled salbutamol. Values of 13.2% (+/-2.4%) fall in Alx have been reported in normal healthy subjects, and an attenuated response suggests endothelial dysfunction. This method has never been employed in stroke patients. We aimed to determine whether endothelial dysfunction exists in patients with acute ischaemic stroke compared with a matched control population with similar risk factors but no history of stroke.

#### Methods

30 fasted volunteers (20 stroke, 10 controls) underwent PWA using SphygmoCor. Paired measurements of Alx were taken at the right radial artery at regular intervals for one hour after inhalation of 400mcg salbutamol. All subjects then received 400mcg of sublingual GTN. Measurements of Alx were repeated for 30 minutes. Outcome measures were maximal drop in Alx after salbutamol and GTN, and pulse wave velocity (PWV). Mann-Whitney U test was used to look for significant differences between the two groups.

#### Results

Median fall in augmentation index after salbutamol was 4.3% (controls) vs 6.3% (stroke),  $p=0.29$ . There were no statistically significant differences in baseline Alx, fall in Alx after GTN, or PWV.

#### Conclusions

Patients who have suffered an acute ischaemic stroke have evidence of endothelial dysfunction, but the fall in Alx is not significantly different from that found in a population matched for risk factors.

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### CLOTS (CLOTS IN LEGS OR TEDS AFTER STROKE) A RANDOMISED TRIAL TO ESTABLISH THE EFFECTIVENESS OF GRADUATED COMPRESSION STOCKINGS TO PREVENT POST STROKE DEEP VEIN THROMBOSIS (DVT)

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#### Introduction

There is considerable uncertainty over whether graduated compression stockings (GCS) are useful for the prevention of post stroke DVT. CLOTS aims to address the following questions: Trial 1. Does early and routine application of full length GCS reduce the risk of above knee DVT in the weeks following an acute stroke? Trial 2. Are full length GCS more effective than below knee GCS?

#### Methods

Immobile patients admitted to hospital within one week of an acute stroke can be randomised into the trial which addresses that uncertainty. Baseline data are collected to allow minimisation on five key prognostic variables. The primary outcome is the presence of DVT in the leg veins detected by Doppler ultrasound or within 30 days of randomisation. Patients have a screening Doppler ultrasound of both legs between Day 7-10 and between Day 25-30. Data are collected at hospital discharge to monitor compliance and to identify in hospital complications, deaths and length of stay. At six months surviving patients are followed up to establish post-discharge events and their functional status

#### Conclusions

12% of patients enrolled into both trials have had DVT detected by our screening doppler. We are proceeding with the main phase which will include over 4000 patients and are funded by the Medical Research Council (UK) and Chest, Heart and Stroke, Scotland. We are actively seeking collaborating centres.

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**OXYGEN SATURATION IN ACUTE STROKE PATIENTS DURING THE FIRST 24 HOURS AFTER HOSPITAL ADMISSION**

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**Introduction**

Hypoxia is common after stroke. The mean awake oxygen saturation (SPO<sub>2</sub>) is 95.8% in healthy older people and 94.5% in patients within 3 days of stroke onset. This study examines SpO<sub>2</sub> during the first 24h.

**Methods**

Patients with acute stroke were recruited within 24h of admission. Patients with definite indications for or contraindications against oxygen treatment were excluded. SpO<sub>2</sub> was assessed by pulse oximetry on arrival to hospital and at recruitment.

**Results**

Fifty patients were recruited [28 males, mean age 74.5SD8.8 years, GCS 15 (10-15) and NIHSS 8 (0-24), 4 had COPD, and 15 had stable LVF]. Thirty-six (72%) had had O<sub>2</sub> in the ambulance. The mean SpO<sub>2</sub> on arrival was 98.0SD1.3% (98.4SD1.3 for patients who had been given O<sub>2</sub> in the ambulance and 97.0SD1.3% for those who had not, p=0.004). Patients were recruited within a mean 14:40 (range 0:45-11:30) h:min from symptom onset. The mean SpO<sub>2</sub> at recruitment was 97.0SD1.6% (range 93-100%) on room air and the mean respiratory rate was 21SD2/min.

**Conclusion**

Most patients received O<sub>2</sub> in the ambulance. SpO<sub>2</sub> was above normal on hospital arrival in both patients who received O<sub>2</sub> and those who did not. SpO<sub>2</sub> at recruitment was lower, but above values expected for healthy subjects in this age group. Very early after stroke hypoxia may not be a major problem.

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**PROGRESS IN A RANDOMISED CONTROLLED TRIAL OF DAY HOSPITAL REHABILITATION**

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**Introduction**

The NHS Health Technology Assessment programme has funded this national multi-centre randomised control trial (RCT) comparing Day Hospital Rehabilitation (DHR) to Home Based Rehabilitation (HBR) (NRR: N0484104335). A survey indicated trial feasibility (Fryer et al. 2003), however site and participant recruitment has proven more challenging than anticipated.

**Method**

Multi centre pragmatic randomised controlled trial with health economic analysis.

**Results**

Between April 2005 and April 2006, two sites became active and 61 subjects (27 male), mean age 75 years (range 53-94) were randomised to receive either day hospital or home based rehabilitation. So far there have been 8 withdrawals and 1 death. Baseline interviews are essentially complete with little missing data.

**Discussion**

The attrition rate and data completeness is acceptable for baseline data. However a recruitment and randomisation rate of 5 patients per month implies that we need a further two sites and an increase in average recruitment rate to reach our target of at least 340 randomisations within a maximum of 2 more years recruitment. Therefore the viability of this trial has not yet been established.

HEALTH AND SOCIAL  
CHARACTERISTICS OF  
NONAGENARIANS ADMITTED TO AN  
ACUTE MEDICAL ADMISSIONS UNIT

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### Introduction

Patients aged 90 and over are increasingly admitted to hospital but are rarely described except on surgical wards.

### Methods

A prospective study of consecutive admissions of patients aged 90+ to the medical admissions unit in February, May and August 2005. Pre-admission socio-demographics, diagnosis, functional status, outcome, length of hospital stay and discharge destination were recorded. Details of complications, discharge destination, and re-admissions were abstracted from the medical records at 3 months.

### Results

226 patients were admitted. 32 records were unobtainable. 92 (41%) patients were recruited (74% female, median age 92). Most patients were excluded through inability to consent/assent (66 patients). Participants had a median abbreviated mental test score of 8, median Barthel score of 83.5, were taking a median of 5 medications and 39(42%) lived with care (8 % in residential/nursing homes). After a median stay of 15 days, 47(51%) were discharged with their pre-admission level of care support, 33(36%) with additional support and 17(18%) to rehabilitation. 12(13%) died in hospital, 25(27%) suffered a nosocomial infection and 22(24%) were readmitted within 3 months. 7(21%) patients were admitted with pneumonia in winter compared to 3(5%) in summer.

### Conclusions

Nonagenarian participants were a relatively independent group who mainly returned to their original residence after a fortnight hospital stay. Consent in confused / unwell patients precluded complete data collection.

Friday, 6 October 2006

**PLATFORM PRESENTATIONS**

**Session I - Venous thrombembolism 09:00 - 10:15**  
**Session J - Education Update 09:00 - 10:15**

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**ORTHOSTATIC HYPOTENSION IN THE COMMUNITY**

**S R J Kerr<sup>1</sup>, M S Pearce<sup>2</sup>, C Brayne<sup>3</sup>, R J Davis<sup>4</sup>, R A Kenny<sup>1, 5</sup>**

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**Introduction**

Orthostatic hypotension (OH) is the commonest cardiovascular cause of syncope and falls in older people. OH prevalence figures vary widely as a result of differences in definition, population characteristics, and methodology. Phasic blood pressure monitoring is increasingly used in the investigation of older persons with syncope, falls or dizziness. The current study aimed to define the phasic systolic blood pressure (SBP) and diastolic blood pressure (DBP) responses to orthostasis in an unselected community sample of older people and a subsample with no prior history of syncope, dizziness or falls.

**Methods**

Subjects over 65 years were randomly sample from a general practice database stratified for age and sex. Consenting participants underwent orthostatic assessment using continuous HR and BP monitoring. OH was defined as a drop in SBP  $\geq 20$ mmHg and / or DBP drop  $\geq 10$ mmHg on standing

**Results**

297 participants underwent orthostatic assessment. OH was seen in 242 (82%). OH was accompanied by symptoms in 12%. The median time to systolic nadir was 10 seconds and diastolic nadir 9 seconds.

Among 86 asymptomatic participants, OH was present in 69 (80%).

**Conclusion**

Phasic monitoring of orthostatic BP responses reveals that BP nadirs occur early and that OH is common among older persons, even among those with no prior symptoms. The relevance of this high prevalence to orthostatic symptoms remains to be clarified by prospective study.

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**WHAT HAPPENS TO PHYSICAL AND PSYCHOLOGICAL FUNCTION IN OLDER HEART FAILURE PATIENTS OVER TIME?**

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**Introduction**

Heart failure is often assumed to cause inexorable decline in function, but little is known about how physical and psychological status changes with time in older heart failure patients.

**Methods**

Longitudinal cohort study. 82 patients, mean age 80.5 years, enrolled in a randomised controlled trial of exercise training for heart failure were followed up 3 and 6 months after enrolment, then assessed again a mean of 19 months after enrolment. Six minute walk test, accelerometry, functional status, quality of life, morale, anxiety and depression were measured.

**Results**

42/82 (51%) of patients attended the last follow up visit. Those who did not attend the final follow-up visit had lower baseline accelerometry counts than those attending final follow-up (72999 per 24hrs vs 104571 per 24hrs;  $p=0.013$ ). Six minute walk distance declined by only 0.2m per month in those attending final follow-up (vs 4.6m/month in non-attenders;  $p=0.03$ ). Anxiety, depression, morale, functional limitation profile and Guyatt quality of life scores were similarly stable in both groups. Accelerometry however declined significantly by 1226 counts/24 hrs/month (95% CI 321 to 2133) in the long-term follow up group. Little of the variance in change of any measures was explained by differences in baseline variables.

**Conclusions**

A substantial proportion of older heart failure patients show no appreciable deterioration in physical or psychological function over time, although daily activity declines significantly. The determinants of deterioration remain poorly characterised.

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**THE PREVALENCE AND OUTCOME OF DELIRIUM POST STROKE**

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**Introduction**

We describe the prevalence, risk factors and outcome of delirium post stroke in a UK population for which few data exist.

**Methods**

From October 2005 to May 2006, all stroke patients who spoke English and who were conscious (GCS>8) were eligible. Participants were screened for delirium on admission using the Confusion Assessment Method (CAM). Information was collected on predisposing and precipitating factors for the development of delirium. Pre stroke cognitive impairment was assessed using the IQCODE.

**Results**

Of 109 eligible patients, 82 were recruited (M/F: 50/32; mean age 66). Delirium was present in 22 of these patients on admission (27%). Stepwise multivariate logistic regression analysis of predisposing factors for delirium found that a positive CAM on admission was significantly related only to an IQCODE score of greater than 3 ( $p=0.005$ , OR 5.75, 95%CI 1.68 to 19.68). Delirium was more likely to develop with total anterior circulation infarcts (TACI) ( $p<0.001$ , OR 15.4, 95%CI 4 to 58). Using log transformed length of stay (LOS) data, patients who developed delirium had an increased LOS ( $p<0.001$ , OR 2.5, 95%CI 1.37 to 4.57). The onset of delirium was associated with a higher inpatient mortality ( $p<0.01$ , OR 30.7, 95%CI 3.47 to 271.6).

**Conclusions**

Delirium is a common complication post stroke. Patients with cognitive impairment pre admission and patients with TACI strokes are more likely to be delirious on admission. Delirium post stroke is associated with increased mortality and LOS in hospital.

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**RELATIONSHIP BETWEEN THE DISTRIBUTION OF MICROGLIAL ACTIVATION, AMYLOID PLAQUE LOAD AND CEREBRAL GLUCOSE METABOLISM IN ALZHEIMER'S DISEASE (AD): AN 11C-PK11195, 18F-FDG AND 11C-PIB PET STUDY**

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**Introduction**

11C-PIB is a thioflavin PET tracer which binds to beta-amyloid. 11C-PK11195 is a PET tracer which binds to the peripheral benzodiazepine receptors expressed by activated microglia. 18F-FDG PET is a marker of the regional cerebral glucose metabolic rate (rCMRGlc).

**Objectives**

(1) To determine whether in vivo the distribution of amyloid plaques and microglial activation detected with PET in Alzheimer's disease (AD) overlap. (2) To assess the relation between amyloid load, brain metabolic and cognitive function in AD.

**Methods**

22 AD patients and 14 control subjects had 11C-PIB PET, 12 AD patients and 9 controls had 18F-FDG PET with online arterial sampling, 14 AD patients and 9 controls had 11C-PK11195 PET. Parametric images were then interrogated with region of interest (ROI) analysis and statistical parametric mapping (SPM). Stepwise regression was performed with data from neuropsychometric testing.

**Results**

20 out of 22 AD patients showed 2-3 fold increased 11C-PIB binding in cortical areas compared to controls. Performance on facial recognition ( $p<0.05$ ) and word recognition ( $p<0.05$ ) tests inversely correlated with cortical amyloid load. Cortical 11C-PK11195 uptake was increased by 30-40% and its distribution overlapped with amyloid distribution. Brain glucose metabolism was reduced by in temporoparietal, occipital and posterior cingulate cortex

**Conclusion**

11C-PIB PET is able to differentiate in vivo 90% of clinically probable Alzheimer patients from controls and impaired recognition correlated with cortical amyloid load. Amyloid distribution correlated with microglial activation.

**EVALUATION OF A SCREENING QUESTIONNAIRE FOR PARKINSON'S DISEASE IN TANZANIA**

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**Introduction**

The prevalence of Parkinson's disease (PD) in Africa is said to be less than in developed countries but data are limited. The WHO recommends a two-step approach for measuring prevalence in developing countries: a house-to-house questionnaire followed by assessment of those highlighted by the questionnaire.

**Methods**

We conducted a study of the prevalence of PD in Hai, Northern Tanzania, population 161,162, utilising this approach, followed up by other case finding strategies. A 6 question screening questionnaire was designed deliberately to be as sensitive as possible so few cases were missed.

**Results**

319 people answered positively to one or more questions. 23 were confirmed to have PD on examination (1 subsequently died). Only 5 knew their diagnosis and 2 were treated. Each question was analysed for sensitivity, specificity and positive and negative predictive value. The most sensitive questions were: Do your arms or legs shake, apart from maybe when you have drunk alcohol? (Sensitivity 68.8%) and Do you walk more slowly than other people your age? (62.5%) The least sensitive questions were: Have you ever been told that you have Parkinson's disease? (21.9%) and Does your head shake? (12.5%)

**Conclusions**

Screening questionnaires are useful to focus examination on people more likely to have PD. Importantly, they can detect previously undiagnosed cases. 9 further cases were missed by this screening questionnaire, confirming that multiple overlapping methods of ascertainment are essential.

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