communications
to the
Spring Meeting
of the
British Geriatrics Society

13 to 15 April 2005
International Convention Centre
Birmingham

programme of
abstracts
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**THURSDAY 14 APRIL 2005**

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**FRIDAY 15 APRIL 2005**

**PLATFORM PRESENTATIONS**

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<th>Abstract Book Nos</th>
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Platform Presentations

Session A.2
Bone, Muscle and Rheumatology
Cardiovascular
Falls, Fractures and Trauma
Health Services Research
Incontinence

Session C.2
Cardiovascular
Health Services Research
Stroke and Mental Health

Session E.2
Cardiovascular
Falls, Fractures and Trauma
Health Services Research
Law and Ethics
Stroke and Mental Health
1. PREVALENCE AND PROFILE OF COGNITIVE IMPAIRMENT AND DEMENTIA IN PATIENTS WITH CAROTID SINUS SYNDROME (CSS) AND CAROTID SINUS HYPERSENSITIVITY (CSH)

R PEARCE, C BALLARD, J HAMPTON, S KERR, M WIDDRINGTON, R A KENNY

Institute for Ageing and Health, Newcastle General Hospital, Westgate Road, Newcastle upon Tyne

Introduction
The prevalence of CSS/CSH is high in dementia. We hypothesised that repeated hypotensive episodes are a cause of cognitive impairment and dementia. Our objective was to investigate the prevalence and profile of cognitive impairment and dementia in patients with syncope and falls due to CSS/CSH compared with CSS/CSH-free controls.

CSS: >3 seconds asystole and/or a >50mmHg fall in systolic blood pressure during carotid sinus massage in patients with recurrent syncope or falls for whom abnormal haemodynamic response was attributable cause of events. CSH: Abnormal haemodynamic responses, but not clearly the attributable cause of symptoms.

Methods
397 patients (mean age 79 yrs) with CSS/CSH had clinical and neuropsychological evaluation - MMSE, CAMCOG and computerised CDR test battery and DSMIIIIR (dementia criteria). Patients were compared to 146 healthy, CSS/CSH-free controls (73yrs).

Results
Overall, 14% of patients and 0% controls had dementia (DSMIIIIR criteria). Excluding those with dementia, 16% of patients and 4% of controls had cognitive-impairment-no-dementia (CIND). Dementia-free patients with CSH were worse than controls for CAMCOG total score (p=<0.001), CAMCOG executive function (p=<0.001) and CDR power of attention (p=0.006) after adjustment for age, education, gender, residential status, cardiovascular risk factors and medication.

Conclusions
Cognitive impairment and dementia is prevalent in patients with falls or syncope due to CSS/CSH and their neuropsychological profile was consistent with watershed lesions. Early intervention for symptoms of CSS/CSH may modify/prevent cognitive decline and dementia.

2. THE WINCHESTER FALLS PROJECT: A RANDOMISED CONTROLLED TRIAL OF SECONDARY FALLS PREVENTION

SPICE C (1), MOROTTI W (2), DENT T (3), GEORGE S (4), ROSE J (2), GORDON C (1)


Introduction
Multifactorial interventions can reduce falls (Gillespie LD et al,The Cochrane Library;1:2003). The optimum organisation of services for falls prevention is not clear (Swift C, BMJ 2001:322:855-57). We designed a randomised controlled trial to assess the effectiveness of two different interventions to prevent further falls in recurrent fallers identified in the community.

Methods
Participants were aged 65 years or over, living in the community and had had 2 or more falls in the previous year. 18 general practices were randomly allocated to one of three groups. The primary care group received a nurse-led assessment in the community, targeted at identified risk factors. The secondary care group underwent a structured multidisciplinary assessment in a day hospital. The control group received usual care. Follow up period one year.

Results
505 participants were recruited and follow-up completed in 83%(405). The mean age of participants was 82 years. The proportion of participants who fell again was significantly less in the secondary care group (71.7%,134/187) compared to the control group (82.4%,122/148), OR 0.46 (95% CI 0.32-0.68, p<0.0001). The primary care group showed similar results to the control group (86.2%,112/130), OR 1.22 (95% CI 0.61 - 2.46, p=0.578).

Conclusions
A secondary care structured multidisciplinary assessment of recurrent fallers significantly reduced the risk of further falls, but a primary care based targeted assessment did not. This provides important information for service development.
CLINICAL CHARACTERISTICS OF CAROTID SINUS SYNDROME (CSS) AND CAROTID SINUS HYPERSENSITIVITY (CSH)

Introduction
No large observational study of patients with Carotid Sinus Hypersensitivity (CSH) has been published. In the largest series to date of 64 patients with CSS, the syndrome was more common in women, associated with a high prevalence of hypertension, and subtypes (vasodepressor (VD), cardioinhibitory (CI) and mixed) occurred with equal frequency (McIntosh et al, AJM 1993; 203).

Methods
The clinical details of all consecutive patients with CSS/CSH assessed at a single syncope service over 12 years were analysed. CSH was defined as >3s asystole (CI), >50mmHg fall in SBP (VD) or both (mixed) in response to carotid sinus massage. CSS = CSH in syncopal patients.

Results
Of 1504 patients (mean age 75; s.d.10) with CSH/CSS 890 (59%) were female, 739 (49%) had syncope, 476 (31%) had falls.

678 (45%) patients were VDCSH, 427 (28%) CICSH and 399 (26%) mixed CSH. Symptoms were similar for each subtype. Hypertension was more common in patients with VDCSH than in CICSH or mixed CSH (p <0.001). Prevalence of atrial fibrillation, ischaemic heart disease, and cerebrovascular disease were similar within CSH type.

Conclusions
This study represents the largest cohort of CSH patients worldwide, and changes the current knowledge of the basic clinical characteristics of CSH: the proportion of females and VDCSH cases is higher than previously reported and the subtypes of CSH present equally with falls or syncope.

URINARY INCONTINENCE AND FALLING

Background
Falls and incontinence are both common in older people. Weekly or more frequent urge incontinence is independently associated with falling(Brown J Am Ger Soc 2000;48:721-725). This study was performed to determine the association of fall with other types of urinary incontinence(UI).

Method
The postal questionnaires sent out to 40,000 people aged over 40 living in Leicestershire for the MRC Incontinence Incidence study included questions on both urinary symptoms and falls in the previous 12 months. The responses for the 5474 patients aged over 70 years were analysed.

Results
The mean age of the people surveyed was 76.9 years. People who had UI(both stress and urge incontinence) were more likely to fall than those who were continent(Table 1). Female incontinent people were significantly more likely to fall than males with incontinence(p<0.0001).

<table>
<thead>
<tr>
<th>History of a fall in the last year</th>
<th>No falling last year</th>
<th>Significance (Chi-square test)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>223(4.1%)</td>
<td>85(1.5%)</td>
</tr>
<tr>
<td>No</td>
<td>1016(18.6%)</td>
<td>11872(43.3%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stress incontinence only</th>
<th>Yes</th>
<th>199(3.6%)</th>
<th>306(5.6%)</th>
<th>P&lt;0.0001</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>3998(61.9%)</td>
<td>3998(61.9%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Urge incontinence only</th>
<th>Yes</th>
<th>15(0.27%)</th>
<th>31(0.56%)</th>
<th>P=0.404</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>3388(52.1%)</td>
<td>3388(52.1%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Conclusion
The association of falls with stress incontinence as well as with urge incontinence is a new finding which merits further investigation.
H C ROBERTS, Z M HEMSLEY, G THOMAS, A. AHIIE SAYER, I GOVE¹, G TURNER¹, P MEAKINS², M MORRAN-RYAN², A PURCELL², AND J POWELL³

Elderly Care Research Unit and Medicine for Older People¹, Southampton General Hospital; Old Fire Station Surgery², Southampton; Social Work Studies, University of Southampton³

**Introduction**

The Canadian 6 item Sherbrooke questionnaire is recommended for case-finding and the Minimum Data Set for Home Care (MDS-HC) is accredited for overview/comprehensive assessment within the single assessment process. We evaluated their use in primary care.

**Methods**

945 community-dwelling patients aged 70 + registered with one practice were posted the Sherbrooke Questionnaire. All patients with 4-6 positive answers were offered an overview assessment with comprehensive assessment where triggered by the MDS-HC protocol. Half of those scoring 2 and 3 were randomly similarly assessed.

**Results**

863 (91.3%) patients replied. 507(53.6%) triggered further assessment.

**Table:** Sherbrooke scores of patients requiring further assessments

<table>
<thead>
<tr>
<th>Score (No. of respondents)</th>
<th>Patients offered overview assessment</th>
<th>Overview assessment only</th>
<th>Overview and comprehensive assessments</th>
<th>Refused further assessment/no reply</th>
<th>Died before assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 (n=7)</td>
<td>7</td>
<td>1 (14.3%)</td>
<td>5 (71.4%)</td>
<td>1 (14.3%)</td>
<td>0</td>
</tr>
<tr>
<td>5 (n=33)</td>
<td>33</td>
<td>4 (12.1%)</td>
<td>16 (39.4%)</td>
<td>12 (36.4%)</td>
<td>0</td>
</tr>
<tr>
<td>4 (n=73)</td>
<td>73</td>
<td>8 (11.0%)</td>
<td>21 (28.8%)</td>
<td>41 (56.2%)</td>
<td>3 (4.0%)</td>
</tr>
<tr>
<td>3 (n=152)</td>
<td>76</td>
<td>23 (30.3%)</td>
<td>9 (11.8%)</td>
<td>40 (52.6%)</td>
<td>4 (5.3%)</td>
</tr>
<tr>
<td>2 (n=219)</td>
<td>107</td>
<td>32 (29.9%)</td>
<td>8 (7.5%)</td>
<td>61 (57.0%)</td>
<td>6 (5.6%)</td>
</tr>
<tr>
<td>Missing data (n=23)</td>
<td>11</td>
<td>0</td>
<td>0</td>
<td>10 (90.9%)</td>
<td>1 (9.1%)</td>
</tr>
</tbody>
</table>

**Conclusions**

Patients with higher Sherbrooke scores were more likely to require comprehensive assessment, and those scoring 2 required very few. We propose a cut-off score of 3 or more for further assessment in Britain. Many patients refused further assessment, seeing little personal benefit.

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ELLIS G, WHITEHEAD M*, LANGHORNE P

Academic Section of Geriatric Medicine, Glasgow Royal Infirmary

**Introduction**

Emergency admission rates to hospital for the over 65s continue to grow year on year. The ideal model of in-patient care for this frailer older population remains uncertain.

**Methods**

We conducted a systematic literature search of Cochrane controlled trials register, DARE, MEDLINE, CINAHL and EMBASE. In addition we searched the references of located articles and conducted a limited hand search of selected relevant journals and conference proceedings.

**Results**

We were able to identify 21 randomised controlled trials (10,577 participants) of in-patient geriatric assessment for a mixed elderly population.

We found that in-patient geriatric assessment was associated with an increased chance of being alive and at home at the end of scheduled follow up (OR 1.16 95% CI 1.04 - 1.30). For every 100 patients treated by inpatient geriatric assessment, an extra 3 (95% CI 1-6) would be alive and in their own homes in comparison to general medical care, however mortality alone was not improved (OR 0.96 95% CI 0.87-1.05). The evidence of benefit was predominantly for care in geriatric assessment wards, with no good evidence of improved outcomes from geriatric consultation teams.

**Conclusions**

In-patient geriatric assessment is associated with an increased likelihood of being alive and at home at follow up. The evidence of benefit appears to favour geriatric assessment wards with no clear evidence of benefit from geriatric consultation teams.
Consumer Involvement in the Design of the Stroke Oxygen Study

KHALID ALI, CHRISTINE ROFFE

Department of Geriatrics, Institute of Ageing, Keele University, Stoke-on-Trent

Introduction
The aim of this public consultation was to explore the views of stroke patients and carers on the design, consent procedures, and follow-up arrangements of a study of oxygen supplementation after acute stroke.

Methodology
Focus group meetings were undertaken with “Strokes R Us” (The Young Stroke Group in Stoke-on-Trent), and the “Dysphasia Support Group” from Stafford and Cannock respectively. The format of each meeting was: presentation of a summary of the proposed study followed by free discussion of its details and circulation of a questionnaire.

Results
Seventy-three individuals (49 stroke patients and 24 carers, mean age 64 (range 31-86) years attended the meetings. Seventy percent completed the questionnaires. 98% considered the research question worthwhile, and 98% considered the suggested outcome measures (Rankin, Barthel, Euroquol, Nottingham Extended Activities of Daily Living) relevant. The discussions highlighted that memory, mood, sleep, and speech were important outcome measures for patients and carers. Seventy-five % felt that a family member should give consent on behalf of incompetent patients and 92% would allow a doctor not involved in the study to decide if consent/assent could not be obtained. Eighty percent preferred a clinic appointment, while 20% preferred a postal questionnaire for follow-up. Respondents also suggested a separate questionnaire for carers.

Conclusion
Many of the outcomes suggested by consumers (patients and carers) are not covered by outcome scales most commonly used in stroke trials.

GRACE Model, TIMI Risk Score or ECG and Troponin: Which Best Predicts Outcome in Unselected and Older Patients with Suspected Acute Coronary Syndrome?

JRL SOIZA (1), SJ LESLIE (2), K HARRILD (3), NR PEDEN (4), AD HARGREAVES (5)

(1) Department of Medicine for the Elderly, Woodend Hospital, Aberdeen (2) Department of Cardiology, Western General Hospital, Edinburgh (3) Department of Public Health, University of Aberdeen (4) Department of Medicine, Falkirk and District Royal Inf

Background
Appropriate management of acute coronary syndrome (ACS) relies on risk stratification to target more aggressive intervention to those likely to have a major acute coronary event (MACE). Older patients with ACS have worse outcomes than their younger counterparts. There are few data on risk stratification strategies in older people.

Methods
Consecutive admissions with suspected ACS over a six-month period were prospectively included in an audit database. We assessed the ability of two popular risk stratification models, the TIMI Risk Score and the GRACE model for in-hospital mortality, to predict death or MACE. Follow up using computerised clinical information systems was for a mean 109 days. We compared their performance with a simple tool based on ECG changes and troponin levels alone using area under receiver operator characteristic curves (c-statistic). We then performed sub-group analysis in those aged over 65.

Results
Data completeness: 643 (74%) of 869 cases.

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Method</th>
<th>All cases (n=643) c-statistic (95% CI)</th>
<th>Aged&gt;65 (n=357) c-statistic (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deaths</td>
<td>GRACE</td>
<td>0.76 (0.70, 0.82)</td>
<td>0.64 (0.56, 0.74)</td>
</tr>
<tr>
<td>n=49</td>
<td>TIMI</td>
<td>0.60 (0.51, 0.68)</td>
<td>0.50 (0.41, 0.60)</td>
</tr>
<tr>
<td></td>
<td>ECG &amp; Troponin</td>
<td>0.64 (0.55, 0.72)</td>
<td>0.60 (0.51, 0.69)</td>
</tr>
<tr>
<td>MACE</td>
<td>GRACE</td>
<td>0.70 (0.64, 0.76)</td>
<td>0.70 (0.62, 0.77)</td>
</tr>
<tr>
<td>n=87</td>
<td>TIMI</td>
<td>0.66 (0.60, 0.73)</td>
<td>0.59 (0.51, 0.67)</td>
</tr>
<tr>
<td></td>
<td>ECG &amp; Troponin</td>
<td>0.70 (0.60, 0.77)</td>
<td>0.60 (0.59, 0.74)</td>
</tr>
</tbody>
</table>

Conclusions
All three strategies have similar abilities to predict MACEs. The GRACE model generally performed best but the only statistically significant difference was with predicting deaths compared with the TIMI Risk Score.
Introduction

The presence of a gait disorder in early dementia is an exclusion criterion in the diagnosis of Alzheimer’s disease (AD) but this has not been prospectively studied in comparison with Dementia with Lewy bodies (DLB) and there have been few comparisons with Vascular dementia (VAD).

Methods

Two hundred and forty five participants over 65 years of age (40 AD, 39 VAD, 46 Parkinson’s diseased dementia (PDD), 32 DLB, 46 Parkinson’s disease (PD) and 42 controls) were examined for the presence of gait and balance disorders using Nutt's classification (1).

Results

Gait and balance disorders were most common in PDD (95.7%), DLB (81.5%), and VAD (74.4%). Gait and balance disorders were less common in AD (37.5%) compared with VAD, PDD and DLB (all P<0.001). In mild AD (CAMCOG >65), gait disorders were no more common than in healthy controls. If a gait disorder was present in mild dementia (CAMCOG >65), this was diagnostic of non-Alzheimer’s dementia with sensitivity of 80% and specificity of 100%.

Conclusion

The findings support the inclusion of clinically abnormal gait as an exclusion criterion for the diagnosis of Alzheimer’s disease. The method used to examine gait is easily clinically applicable and does not require costly equipment. It may therefore be useful to clinicians as a tool in the differential diagnosis of early dementia.


PLATFOR PRESENTATIONS

EARLY PRESENTATION OF GAIT DISORDER IS INDICATIVE OF NON-ALZHEIMER’S DEMENTIA

LOUISE M ALLAN (1), CLIVE G BALLARD (2), DAVID J BURN (1) AND ROSE ANNE KENNY (1)

(1) Institute for Ageing and Health, University of Newcastle upon Tyne (2) Wolfson Centre for Age Related Disorders, King’s College London

Introduction

Contrast induced nephropathy (CIN) has been known to be a risk factor of significant in-hospital and long-term adverse outcomes. However, little is known regarding the clinical characteristics and prognostic implications of nephropathy in elderly patients who underwent percutaneous coronary intervention (PCI).

Methods

With a retrospective analysis of the clinical and angiographic data, we determined the incidence, risk factors, and prognostic implications of CIN (defined as an increase in serum creatinine [Cr] >0.5 mg/dL from baseline) after PCI. Results: Of 360 patients, 16 (4.4%) patients experienced CIN and 5 (1.4%) patients required temporary renal replacement therapy (hemodialysis or hemofiltration). Patients with baseline Cr >1.4 mg/dL and diabetic patients had a significant risk of CIN. In multivariate analysis, CIN was significantly associated with baseline renal dysfunction and diabetes showed marginal significance in developing CIN. Twenty-five percent of patients with CIN died during the index hospitalisation compared with only 1.2% of patients without CIN (P<0.001). Furthermore, the significant impairment of renal function was identified in patients with the events of CIN at six-month follow up.

Conclusions

In elderly patients who are undergoing PCI, diabetic patients with baseline renal impairment are at higher risk of CIN. Furthermore, CIN was highly correlated with death during the index hospitalisation.
D G Seymour for the MAVIS Trial Group

Department of Medicine and Therapeutics and the Health Services Research Unit, University of Aberdeen

**Introduction**
Nutritional deficiencies may exacerbate the risk of infection and decline in cognitive function in older people. We undertook a randomised trial to ascertain whether use of a vitamin and mineral supplement for one year reduced morbidity from infections and improved cognitive function.

**Methodology**
Participants (n=910) aged 65 years and not taking supplements, were recruited from general practices in Grampian, Scotland. Participants were randomised to a commercially available multi-vitamin and mineral supplement or matching placebo. The criterion for statistical significance was based on a two-sided test with 2P ≤ 0.05.

**Results**
The two groups were well balanced at trial entry. Only 13% reported stopping their tablets or were lost to follow-up. There was no significant effect in the supplemented compared to the control group for contacts with primary care staff for infection (879 versus 930; odds ratio 0.96, 95% CI 0.78 to 1.19), self-reported days of infection (8072 versus 7871; odds ratio 1.07, 95% CI 0.90 to 1.27) or on the (mean) difference between groups for cognitive function; digit span forward (-0.07, 95% CI -0.31 to 0.16) and verbal fluency (0.84, 95% CI -0.34 to 2.01).

**Conclusion**
We found no statistically significant effect of supplementation. Our trial had few people aged over 85y (4%) or in institutional care (3%). We therefore cannot exclude the possibility that higher-risk populations may benefit.

This trial was funded by The Health Foundation.

R M Francis [1], A M Grant [2] and The RECORD Trial Group

[1] Department of Geriatric Medicine, University of Newcastle upon Tyne, Newcastle upon Tyne; [2] Health Services Research Unit, University of Aberdeen, Aberdeen

**Introduction**
It is unclear if calcium and vitamin D are effective in the secondary prevention of fractures. We have therefore investigated the effect of calcium or vitamin D or both on the incidence of further fractures in men and women aged over 70 years with a low-trauma fracture.

**Methods**
We recruited 5292 participants from 21 centres, who were randomised to daily calcium (1g as carbonate), vitamin D3 (800iu/20mcg), both, or placebo. The principal outcome was new low-trauma fractures, but other outcomes included health status, mortality, falls and adverse events.

**Results**
Participants were followed up for between 24 and 62 months. 698 (13.2%) had a further low-trauma fracture, including 183 hip fractures. There were no statistically significant differences between those allocated calcium and those not (331 (12.6%) vs. 367 (13.7%); HR 0.94, 95% CI 0.81 to 1.09); those allocated vitamin D and those not (353 (13.3%) vs. 345 (13.1%); HR 1.02, 95% CI 0.88 to 1.19); and those allocated both calcium and vitamin D versus placebo [165 (12.6%) vs. 179 (13.4%]. No differences were detected in all reported fractures, X-ray confirmed fractures, hip fractures, death, falls or quality of life. Potentially serious adverse events were rare and did not differ between groups.

**Conclusions**
Our findings do not support the use of routine calcium and/or vitamin D supplementation for the prevention of further fractures in older people with a low-trauma fracture.
A M CLARFIELD, J MONETTE, H BERGMAN, M MONETTE, Y BEN-ISRAEL, Y CAINE, J CHARLES, M GORDON AND B GORE

Dept of Geriatrics, Soroka Hospital, Beer-Sheva, Israel

**Introduction**

First stage AD patients usually develop an inability to feed themselves and to swallow. It has been observed that Israeli families more easily acquiesce to the practice of artificial nutrition and hydration and Israeli doctors are more likely to recommend it than their Canadian counterparts. We tested this observation by studying patients with end-stage dementia in a representative convenience sample of six LT hospitals in Israel and Canada.

**Methodology**

All long-term patients in six geriatric hospitals were surveyed. Those suffering from the final stages of dementia were assessed for gastrostomy or nasogastric tube use. Those who were assessed as end-stage were further analysed for the type of feeding utilised.

**Results**

Significant differences in the prevalence of tube-feeding were found between Canada (11%) and Israel (52.9%), with only 4.7% seen in Canadian non-Jewish institutions. Jewish-affiliated hospitals in Canada exhibited an intermediate rate of 19.6%. However, within the countries, wide differences in use were also found.

**Conclusion**

Despite the belief that tube feeding in end-stage dementia may be medically futile, the practice remains widespread in both Canada and Israel, with Israeli hospitals utilising the procedure much more frequently than their Canadian counterparts, especially compared to those hospitals with no Jewish affiliation. Further research should examine the effect of staff members’ attitudes towards the use of enteral tube feeding in end-stage dementia.
HEART FAILURE AND DETERMINANTS OF WHOLE BLOOD THIAMIN IN OLDER ADULTS

M KULH (1), MM BUDGE (1), W ABHAYARATNA (1), P HICKMAN (1), MCWHINNEY B (2), NIXON PF (3)
(1) The Canberra Hospital and Australian National University, (2) Queensland Health Pathology, (3) University of Queensland, Australia

Introduction
Higher prevalence of thiamin deficiency (TD) in older adults with heart failure (HF) has been reported in developed countries, despite the introduction of thiamin fortification. Certainty of these findings and predictors of TD are not well studied. OBJECTIVES: To determine: thiamin levels in older adults with/without HF; the association between diuretic use and thiamin level in older adults with/without HF; the relationship between left ventricular (LV) function and thiamin level.

Methods
Cross-sectional study using sub-sample from the population-based Australian Capital Territory Heart Failure Survey. TD was determined by whole blood thiamin pyrophosphate (TPP) level corrected for haemoglobin using HPLC. LV function categories were defined by transthoracic echocardiogram: Control (n=197)- normal LV function; LVDD (n=49)- moderate to severe LV diastolic dysfunction with preserved LV systolic function; LVSD (n=47)- LV systolic dysfunction with LV ejection fraction (LVEF) <50%.

PARTICIPANTS: 293 community-dwelling older adults living in Canberra, Australia, median age 74 years (range 60-86), 40% female.

Results
There was a significant difference in mean TPP level between the LVSD and Control groups (2.00 ±0.52(SD) vs 1.72±0.40nmol/gHb; p<0.001). Higher LVEFs were associated with higher thiamin levels ($r^2=0.041$, p<0.01). Factors associated with higher TPP level on multivariable analysis included LVSD, diuretic use, thyroid disease.

Conclusions
HF and diuretic use were not associated with TD. Higher LVEF is associated with higher thiamin levels in this population.
Poster presentations

BONES, MUSCLES & RHEUMATOLOGY

CARDIOVASCULAR

CLINICAL EFFECTIVENESS
  Audit
  Practice Development
  Service Evaluation
  Literature Review

DIABETES/CLINICAL

FALLS, FRACTURES & TRAUMA

HEALTH SERVICES RESEARCH

INCONTINENCE/GASTROENTEROLOGY

LAW & ETHICS

NEUROLOGY & NEUROSCIENCES

PSYCHIATRY, STROKE & MENTAL HEALTH
BONE MARKER STATUS IN HIP FRACTURE PATIENTS IN CORRELATION WITH BONE DENSITOMETRY

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Introduction
Elderly patients are at high risk for Osteoporosis and vitamin D deficiency. Future fracture risk may be independently indicated by the presence of elevated biochemical bone markers or presence of vertebral fractures. This study looks at these factors and their influence in hip fracture risk.

Methods
76 patients (>65y) admitted with hip fracture underwent DXA and lateral spine assessment. Osteocalcin(OC), C-telopeptide(CTx), Parathyroid Hormone(PTH), 25(OH)D were performed within 48 hours and Creatinine Clearance(CrCl) estimated. Bone markers were available on 71 patients. Osteoporosis was defined as a T score of < -2.5 at the hip or spine.

Results
The mean age was 76.5 (SEM) years (23m and 53f). 10 (13%) had vertebral fractures. CTx values correlated strongly with femur BMD and Spine BMD with p< 0.02 and p< 0.05 respectively. Bone markers were available on 71 patients. Osteoporosis was defined as a T score of < -2.5 at the hip or spine.

Conclusion
A significant number of elderly hip fracture subjects suffered from Osteoporosis and low vitamin D. Bone turnover markers especially CTx closely reflected the bone status of patients with hip fractures.

THE SECONDARY PREVENTION OF OSTEOPOROSIS IN PATIENTS ATTENDING FRACTURE CLINIC

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Introduction
To investigate whether attendance to fracture clinic was utilized for identification and management of osteoporosis and falls.

Methodology
A retrospective study was conducted of 107 people who had attended fracture clinic during January - October 2003. Clinic records were checked for whether investigation and management for osteoporosis and falls was suggested.

Results
Of 107 patients, the age ranged from 50 - 94yrs, average age 68. The majority of patients were female 71 (66.4%). 22 Colles fractures were identified, 1 vertebral fracture and 8 neck of femurs, the rest were miscellaneous. 14 (13.1%) of the patients had a previously documented fracture. The majority of fractures were caused by falls 77 (72.0%), 45 of these falls were of an undetermined nature. Of these, 3 (6.7%) were referred for further investigation as to the cause. 2 (1.9%) patients were referred for investigation into osteoporosis. No patient was started on treatment. No patient's bone mineral density was known. 91 (85.0%) patients are currently not receiving treatment for possible osteoporosis. Of those on treatment, 3 (2.8%) were on calcium alone, 9 (8.4%) were on calcium and vitamin D, and 4 (3.8%) were on a combination of calcium, vitamin D and bisphosphonate.

Conclusion
Screening of patients in fracture clinic provides an opportunity to identify those who may benefit from treatment of osteoporosis and fall prevention. We are currently not adequately investigating, or treating such people.
Background
Muscle strength is an important component of performance and is a vital measure for characterisation of functional capability in everyday activities. However, there is little information on muscle strength impairment and functional limitation during chair sit down activity in older adults.

Method
This study utilized a custom-built torque dynamometer to measure muscle strength of hip extensors in 82 older adults who were aged 60 years and over. Isometric strength was measured at three positions namely 45°, 30° and 0° of hip flexion within the joint range of motion. Biomechanical analysis with Vicon motion analysis system and Kistler force platforms was performed to determine functional moments produced during chair sit down.

Results
Hip extensor strength decreased with increasing age at all the three joint positions tested. The 80 year olds had lower strengths (22% ± 3%) compared to those in the younger age cohorts and the differences were found to be statistically significant. (P value <0.05) Hip extensor strength was significantly correlated with functional moments with a Spearman's correlation coefficient of r = 0.62. (P value =0.000)

Conclusion
Hip extensor strength was strongly associated with the functional moments produced during chair sit down. Hence, it could be suggested that loss of muscle strength with advancing age might limit chair sit down performance in older adults.
AGE DETERMINES THE PREVALENCE OF WHITE COAT HYPERTENSION

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Introduction
The elderly are at higher risk of postural hypotension than their younger counterparts. This may be exacerbated by the inappropriate use of antihypertensive medications in those with white coat hypertension (WCH). We undertook this analysis to ascertain the prevalence of WCH in a population referred for further evaluation of the elevated office blood pressure (OBP).

Methods
A cohort of 5,716 patients was selected and their OBP and ABPM compared while off treatment. WCH was defined as having an elevated OBP and normal daytime mean ABPM pressures. Univariate and multivariate logistic regression models were created using SAS statistical software.

Results
Fifty three percent of patients were female and age ranged from 16.2 to 98.4 years. The prevalence of WCH increased with age as follows. In those less than 35 years old (n=682) the prevalence was 12.1%, 35-50 years (n=1574) 14.3%, 50-65 years (n=2194) 16.4% and in those greater than 65 years (n=1266) it was 16.9%. There was also a higher prevalence among females and non-smokers. Multivariate logistic regression analysis showed that age was an independent predictor of white coat hypertension (P<0.001).

Discussion
The results of this study demonstrate a higher prevalence of WCH with increasing age. It is a diagnosis we should always consider in those with elevated OBP. Failure to make the diagnosis may lead to the inappropriate use of medications in a group where polypharmacy is an issue.
WHICH TOOL IS BEST FOR MEASURING QUALITY OF LIFE IN OLDER HEART FAILURE PATIENTS?

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Background
Quality of life is an important aspect of heart failure to measure in research and clinical practice. Most tools used to measure quality of life in heart failure have not been validated in older, frail patients with comorbid disease.

Methods
Prospective longitudinal study. 58 patients with chronic heart failure aged 65 years and over were administered four questionnaires (Guyatt CHQ, Minnesota questionnaire, SF-12 and the Patient Generated Index - an individualised quality of life tool) at baseline, one week and 12 weeks. Reliability scores (Cronbach’s alpha) were calculated for each domain, reproducibility was tested with intraclass correlation coefficients (ICC) in patients with no reported global change in quality of life, and responsiveness to change was calculated in patients reporting a change in global quality of life.

Results
All questionnaires demonstrated satisfactory internal reliability. The Minnesota and Guyatt questionnaires demonstrated good reproducibility (ICC>0.8), the PGI demonstrated moderate reproducibility (ICC 0.65-0.70), and the SF-12 had poor reproducibility (ICC<0.60). Responsiveness was modest for all questionnaires; the Guyatt and PGI appeared more responsive to deterioration in quality of life; the Minnesota and SF-12 were more responsive to improvement. The SF-12 and Minnesota questionnaires correlated best with New York Heart Association status.

Conclusions
All questionnaires demonstrated reasonable validity, but no one questionnaire demonstrated superiority in all aspects. A combination of complementary questionnaires is recommended when testing quality of life in older heart failure patients.
R PETERS, N BECKETT, W BANYA, M COMSA, D DUMITRASCU, R ANTIKAINEN, C NACHEV, M TZEKOVA, A FLETCHER, F FORETTE, C BULPITT ON BEHALF OF THE HYVET-INVESTIGATORS

Imperial-College London, CMI-Fagaras Romania, UMF-Chiuj-Napoca Romania, Oulu-City Hospital Finland, Hospital St-Anna Bulgaria, Targovsky-Complex-“Elit” Bulgaria, LSHTM London, Hospitalier-Broca France

Introduction: Previous studies have suggested aspirin may protect against dementia. This is not supported by a Cochrane report with regards vascular dementia.

Methods: HYVET is a double-blind randomised placebo-controlled trial of antihypertensive medication in subjects aged 80-or-more. Entry criteria include systolic blood pressure of 160-199 mmHg. Patients are excluded if they have clinical dementia. Cognitive function is assessed using the Mini-Mental-State-Examination (MMSE). Independent t-test was used for comparison.

Results: Data on 1902 patients were available for analysis. Mean dose of aspirin was 229 ± 103mg. 0.1% of patients at baseline took other NSAIDs. Baseline characteristics (means ± standard deviation) in those taking aspirin and non-users were:

<table>
<thead>
<tr>
<th></th>
<th>Aspirin user (n=238)</th>
<th>Non-user (n=1664)</th>
</tr>
</thead>
<tbody>
<tr>
<td>% female</td>
<td>55.9</td>
<td>63.1</td>
</tr>
<tr>
<td>Age (years)</td>
<td>83.8 ± 3.6</td>
<td>83.9 ± 3.4</td>
</tr>
<tr>
<td>MMSE</td>
<td>25.8 ± 3.7</td>
<td>26 ± 4.2</td>
</tr>
<tr>
<td>Age left education (years)</td>
<td>15.6 ± 6.6</td>
<td>15.5 ± 6.8</td>
</tr>
<tr>
<td>Sitting blood pressure (mmHg)</td>
<td>174/95 ± 8/5</td>
<td>174/95 ± 10/5</td>
</tr>
<tr>
<td>Total Cholesterol</td>
<td>5.8 ± 1.0</td>
<td>5.5 ± 1.1</td>
</tr>
<tr>
<td>HDL Cholesterol (mmol/l)</td>
<td>1.3 ± 0.4</td>
<td>1.3 ± 0.4</td>
</tr>
<tr>
<td>BMI (kgm²)</td>
<td>25.6 ± 3.9</td>
<td>25.4 ± 3.3</td>
</tr>
<tr>
<td>Smoker (%)</td>
<td>5.0</td>
<td>4.6</td>
</tr>
</tbody>
</table>

Total cholesterol (p=0.003) and gender (p=0.03) were statistically different.

Conclusions: Aspirin was used by 12.5% of patients. There was no difference in cognitive function as assessed by the MMSE in this cohort, despite aspirin users having a higher cardiovascular risk (higher total cholesterol and higher percentage of males).
**AGING AND VASCULAR COMPLIANCE**

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**Introduction**

The Augmentation Index (AI) is a measure of wave reflection contributing to the systolic arterial pressure and we investigated the increase with age.

**Methods**

Central AI was measured and computed in 458 subjects using Sphygmocor®. A total of 755 readings were obtained (302 carotid, 453 radial).

**Results**

The mean age was 57.5 ± 13.7 years. Women had mean values of AI higher than men in both radial and carotid artery (30% versus 24.9% and 39.2% versus 34.3%)(p<0.001). AI was higher over the carotid (36.1%) than the radial (28.9% p<0.001).

Simple regression coefficients of AI on age for total population and those over and under 55 years (median age) are shown in the Table:

<table>
<thead>
<tr>
<th>Age</th>
<th>All (n=755)</th>
<th>N obs</th>
<th>&lt;55 yrs</th>
<th>&gt;55 yrs</th>
<th>N obs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carotid Female</td>
<td>0.52*</td>
<td>101</td>
<td>0.73**</td>
<td>57</td>
<td>-0.32</td>
</tr>
<tr>
<td>Radial Female</td>
<td>0.34*</td>
<td>195</td>
<td>0.75*</td>
<td>95</td>
<td>-0.10</td>
</tr>
<tr>
<td>Carotid Male</td>
<td>0.23*</td>
<td>201</td>
<td>-0.03</td>
<td>68</td>
<td>-0.06</td>
</tr>
<tr>
<td>Radial Male</td>
<td>0.38*</td>
<td>258</td>
<td>0.61*</td>
<td>99</td>
<td>0.11</td>
</tr>
</tbody>
</table>

*p<0.001; ** p<0.005

As seen in the Table the relationship was not linear and was best explained by a quadratic equation with plateauing after age 55. A multiple regression of AI on age, gender, height and DBP showed that AI also independently depended on DBP (positively), height (negatively) and gender, explaining 15-22 % of the variance.

**Conclusion**

AI increases with age up to 55 years after which it plateaus. In women AI was higher than in men in part due to lower height and closer physical proximity between heart and reflecting sites. DBP and site of measurement were also important.
VARIATIONS IN TILT TABLE TEST RESULTS IN YOUNGER AND OLDER PATIENTS WITH SYNOCOPE OF UNKNOWN CAUSE

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Introduction
Syncope accounts for 1% of hospital admissions. When no cause for syncope is apparent from initial assessment, tilt table test (TTT) may reveal a neurocardiogenic origin. We studied the diagnostic yield of TTT in patients with unexplained syncope.

Methods
Retrospective analysis of consecutive TTT results, without pharmacologic stimulation. Patients with unexplained syncope or presyncope were included. Patients with dizziness or recurrent falls were excluded. Patients were divided into 2 age categories: < 60, and ≥ 60 years. We studied the haemodynamic response to TTT. Used Chi-Square tests.

Results
176 patients were included.

Patients <60: 89 patients, mean age 42 years +/- 13(range 18-59). 20/89(22%) had positive TTT. Of those: 9/20(45%) had vasodepressor response, 7/20(35%) cardioinhibitory response, and 4/20(20%) mixed response.

Patients ≥ 60: 87 patients, mean age 76 years +/- 9 (range 60-97). 24/87(28%) had positive TTT. Of those: 15/24(63%) had vasodepressor response, 7/24(29%) mixed response, and 2/24(8%) cardioinhibitory response.

A positive TTT appeared to be more frequent in older than younger patients (28% v 22%, P=0.43).
Cardioinhibitory response was less in older compared to younger patients (8% v 35%, P=0.03).
Vasodepressor response was more in older compared to younger patients (63% v 45%, P=0.25).

Conclusion
Tilt testing revealed a neurocardiogenic cause in 28% of unexplained syncope in older patients and 22% of cases in younger patients.

Cardioinhibitory response accounted for more neurocardiogenic syncope in younger compared to older patients.

PREDICTORS OF DISEASE PROGRESSION AND CLINICAL OUTCOME IN PATIENTS WITH AORTIC STENOSIS

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Introduction
Calcific aortic stenosis is the result of an active inflammatory process closely resembling atherosclerosis. Several cardiovascular risk factors have been associated with the development and progression of aortic stenosis.

Methods
Patients (n=155; 68±11 years) with calcific aortic stenosis participating in the SALTIRE trial (randomised trial of atorvastatin 80 mg daily or matched placebo) were followed up for 26±7 months. Severity of aortic valve stenosis and calcification was assessed using echocardiography and helical computed tomography (CT) respectively. Baseline characteristics assessed were: demographics, valvular disease severity, cardiovascular risk factors (smoking, diabetes mellitus, hypertension), vascular disease, co-morbidity, renal function, blood pressure, and serum calcium, glucose, c-reactive protein and cholesterol concentrations.

Results
Aortic jet velocity progressed by 0.20±0.21 m/s/yr and calcification by 22±20%/yr. Disease progression was predicted by valve disease severity (P<0.001) and age (P=0.004). Atorvastatin did not influence the rate of progression of aortic stenosis. Clinical outcomes were predicted by baseline and subsequent rate of progression of aortic stenosis severity. Clinical and biochemical markers of atherosclerosis and cardiovascular disease did not predict disease progression or clinical outcomes.

Conclusions
Age and baseline aortic jet velocity on echocardiography and aortic valve calcification on computed tomography are strong predictors of aortic stenosis progression. Elderly patients are more susceptible to progression of aortic stenosis irrespective of the presence of atherosclerotic risk factors and vascular disease.
AN AUDIT OF CURRENT PRACTICE IN THE SCREENING AND MANAGEMENT OF MALNUTRITION IN ELDERLY HOSPITAL POPULATION

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Introduction
60% of the elderly admitted to hospital are malnourished and they often return to the community more malnourished (Malnutrition Advisory Group MAG, 2001). Malnutrition has a negative impact on different aspects of clinical outcome.

Methodology
100 randomly selected patients from two elderly rehabilitation wards (ERW) who have been in the ward for 7 days or more were screened for malnutrition using the Malnutrition Universal Study Tool (MUST). The patients’ medical and nursing notes were studied to see whether the patients were screened for malnutrition using the locally approved screening tool (Modified MUST), and whether any nutritional intervention was carried. Standards of care are adopted from the National Service Framework for Older People (March 2001) section 15 of standard four (General Hospital Care). Results of some chemical and haematological indices are recorded if available in the patients’ medical notes; no blood tests were done for the purpose of this audit.

Results
61% of the population studied are malnourished or at risk of malnutrition (20% moderate risk, 41% high risk). Only 8% of the patients were screened for malnutrition. 24% were judged to be malnourished without screening. 19% referred to the dietician. Nutritional supplements prescribed for 32% of the patients.

Conclusion
Malnutrition is very common in elderly patients in our ERW. Screening and management are not adequate.

MAKING THE BEST USE OF A DEPARTMENT OF CLINICAL RADIOLOGY: A HINDRANCE OR A HELP IN REQUESTING EMERGENCY CHEST RADIOGRAPHS

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Introduction
The Royal College of Radiologists has produced system based guidelines, “Making the Best Use of a Department of Clinical Radiology”
♦ To improve clinical practice by helping doctors to choose the most appropriate imaging investigation or intervention
♦ To reduce unnecessary exposure of patients to radiation

We wish to focus on the usefulness of these guidelines in requesting emergency chest radiographs (CXR).

Methodology
Over a 5 day period the notes of patients aged 65 and over admitted as emergencies were reviewed. When a CXR was requested, the reason was noted and compared with indications for CXR in the guidelines.

Results
120 CXRs were requested, reasons identified in 98%. The reasons being mainly symptoms or physical signs:- Dyspnoea 32 (26%), chest pain 24 (19%), collapse 13 (10%), signs 12 (10%), CVA/TIA 8 (6%), confusion 7 (5%), others 8 (22.5%). Comparing these with the guidelines it is difficult to link these typical clinical problems with indications for a CXR. For example, if chest pain is cardiac in origin a CXR request is appropriate but for non cardiac chest pain inappropriate. For collapse or confusion no guidance on investigation is provided.

Conclusion
For patients with clear diagnosis the guidelines are helpful. However for the frailer population who may have multiple pathologies and present atypically they are of limited benefit as they are system based, do not cross reference between systems or with disease specific national guidelines.
**SURVEY OF PRESCRIPTION AND ADMINISTRATION MEDICATION IN A DISTRICT GENERAL HOSPITAL**

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**Introduction**
Medication regimens in Parkinson's Disease (PD) are often complex with potential for error. This survey is based on a study by Kraft et al presented at the American Academy of Neurology 2004. P04.141, A331.

**Methods**
Hospital records and prescription charts of 20 patients with previously diagnosed PD admitted to medical and surgical wards in a district general hospital were reviewed. Data was collected for the first 7 days of admission.

**Results**
Only 1 (a self-medicator) of the 20 patients had no errors in either the prescription or administration of PD medication. Prescription charts were appropriately written in 13 out of 20 (65%). During the 7 days there were 56 missed doses in 20 patients, with 2 patients each missing 7 doses. 59% of these missed doses were during the first 2 days of admission. The main reasons for missed doses were that the chart was written late (18), no explanation (19) and drug unavailable (9). Entacapone was appropriately prescribed in 3 out 4 patients. 3 patients were inappropriately prescribed metaclopramide.

**Conclusions**
This survey shows a lack of understanding of PD medication in patients admitted to a district general hospital. An education programme for doctors, nurses, patients and carers has been instigated.

**TO ASSESS THE IMPACT OF GUIDELINES ON IN-PATIENT PRESCRIBING OF SECONDARY PROPHYLAXIS FOR OSTEOPOROSIS IN PATIENTS ADMITTED WITH FRACTURED NECK OF FEMUR**

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**Introduction**
Osteoporosis is a systemic disease characterised by increased bone fragility and an increased susceptibility to fractures. Low trauma hip fracture, one of its most devastating consequences, is considered in the elderly to be a marker both for osteoporosis and for an increased susceptibility to falls. Patients with hip fracture are therefore at increased risk of subsequent fragility fractures. It is important that attempts are undertaken to reduce this increased risk in such patients. Therapeutic agents with proven efficacy against osteoporotic fracture are now available for the treatment of patients with established osteoporosis.

**Methodology**
We undertook an audit of patients admitted to our hospital with fractured neck of femur, examining the proportion of patients discharged on secondary osteoporosis prophylaxis, before and after the institution of treatment guidelines. Our audit standard was that all patients admitted with a fractured neck of femur should be commenced on secondary prophylaxis if no contraindication was present. The audit comprised two 12-month retrospective (n=204; 77% patients) and prospective (n=237; 100% patients) components, before and after the implementation of the guidelines. Results were analysed using chi squared testing.

**Results**
Following institution of the guidelines, significant improvements in de novo hospital commencement of secondary osteoporosis prophylaxis occurred for eligible patients, from 30% to 74% (p<0.001) respectively.

**Conclusions**
We conclude that secondary osteoporosis guidelines improve the prescribing of secondary osteoporosis prophylaxis in elderly patients presenting with hip fracture.
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Introduction
The incidence of chronic kidney disease (CKD) rises exponentially with age, being 10 times higher at 80-90 years than at 20-29 years. However, only 3.6% of patients with CKD over 80 years old are seen by renal physicians. There is evidence that appropriate investigations and management of CKD can slow progression and improve quality of life. An audit of management of patients with CKD under the care of geriatricians was carried out in a large NHS trust.

Methods
87 patients seen in April and May 2003 were included if they: were 75 years of age or over; were not seen by renal physicians; and had serum creatinine over 150µmol/l (male) or 135µmol/l (female)

Patients were excluded if they died within 7 days or had acute renal failure

Results

<table>
<thead>
<tr>
<th>Test</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bicarbonate</td>
<td>49</td>
</tr>
<tr>
<td>Potassium</td>
<td>99</td>
</tr>
<tr>
<td>Phosphate</td>
<td>63</td>
</tr>
<tr>
<td>PTH</td>
<td>10</td>
</tr>
<tr>
<td>Haemoglobin</td>
<td>96</td>
</tr>
<tr>
<td>Renal Ultrasound</td>
<td>35</td>
</tr>
<tr>
<td>Protein electrophoresis</td>
<td>14</td>
</tr>
<tr>
<td>Urinalysis</td>
<td>68</td>
</tr>
<tr>
<td>High PTH treated</td>
<td>25</td>
</tr>
<tr>
<td>Bicarbonate prescribed if low</td>
<td>28</td>
</tr>
<tr>
<td>Haematinics if anaemic</td>
<td>61</td>
</tr>
</tbody>
</table>

Conclusions
In this sample of patients, some of the basic tests and many treatments were not carried out. Less than half of the patients were fully investigated, and appropriate simple treatments were not used. We plan to use a combination of local initiatives and the evidence from the Renal NSF Module 3 on CKD to change practice and then complete the audit cycle.

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Introduction
A large number of geriatric rehabilitation referrals come from the General Surgical wards. The amount of patient information given in the referral letters can be variable. This can delay appropriate patient placement and rehabilitation. We performed an audit of these letters and implemented a new one-page referral pro-forma.

Methods
We analysed all PRHO referral letters from the General Surgical wards over a six month period. The new rehabilitation pro-forma was then implemented and this was collected over a further six months. We analysed the amount of patient information supplied between the two methods.

Results
We collected 101 referral letters over the 12-month period. Forty six were via the new pro-forma. The mean age of patients was 79.1 +/- 9.1 (43 male: 58 female). There were 45 post-operative patients. The following information was analysed between the old and new methods of referral: ward number (98% vs 100%), name of referring consultant (67% vs 100%; P<0.001), past medical history (61% vs 100%; P<0.001), on-going medical problems (65% vs 100%; P<0.001), social circumstances (43% vs 100%; P<0.001), mobility (50% vs 95%; P<0.001) and continence (7% vs 95.6%; P<0.001).

Discussion
Little information on patients' medical, social and functional status was given in the PRHO referral letter. A simple tick-box pro-forma successfully collected more of these important patient details and allowed prompt referral to the appropriate member of the multi-disciplinary team.
AUDIT OF DRIVING ADVICE GIVEN TO PATIENTS WITH DEMENTIA

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Introduction
Age-related conditions affecting fitness to drive, including dementia, are clearly defined by the UK Driver and Vehicle Licensing Agency (DVLA). Our impression was that current practice in terms of advising patients with diagnosed dementia about their legal responsibilities was suboptimal. This audit aimed to investigate this systematically with a view to implementing changes in practice.

Methods
Consecutive referrals to each of six consultant old age psychiatrists in West Leicester and Leicestershire over a period of 14 months were considered and the first 20 patients from each consultant with an established diagnosis of dementia were included. Case notes were reviewed to determine documentation of driving activity and adherence to DVLA guidance.

Results
Case notes for 111 patients were available (40 men; mean age 79 years; mean MiniMental State Score 25). The assigned clinical diagnoses were Alzheimer's disease 62(56%), vascular dementia 12(11%) and other dementia 37(33%). In only 21(20%) cases was it documented that the patient had been asked about driving as part of their assessment. Patients asked about driving were more likely to be male (12/21) and were significantly less cognitively impaired (mean MMSE 24 vs 19; p=0.001).

Conclusions
Enquiry about driving behaviour is infrequent even allowing for the fact that some patients would be assumed not to be driving because of their circumstances. Action is needed to raise clinicians’ awareness of this important legal obligation.

STOOP - A NEW SCREENING TOOL OF ELDERLY PATIENTS’ PRESCRIPTIONS

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Introduction
Inappropriate drug usage in older patients is associated with increased rates of adverse reactions and excess expenditure of health resources. Current established validated screening tools include Beers Criteria and IPET (Improved Prescribing in the Elderly Tool), however limitations to their use in contemporary practice have been acknowledged. A new evidence-based checklist (Screening Tool of Older Patients Prescriptions; STOOP) was developed from first principles to identify inappropriate prescribing in older patients and its role has been developed with a previous pilot study.

Aim
To compare the performance of STOOP with that of the BEERS and IPET tools

Methodology
A prospective cohort of 656 consecutive patients > 65 years was identified following emergency admission to an acute tertiary referral hospital. All patients were screened simultaneously with Beers Criteria, IPET and STOOP tools. The rate of inappropriate medications usage was established for each tool and their performance compared by calculating matched odds ratios.

<table>
<thead>
<tr>
<th>Inappropriate Prescriptions Identified</th>
<th>Beers Criteria</th>
<th>IPET</th>
<th>STOOP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>121</td>
<td>205</td>
<td>626</td>
</tr>
<tr>
<td>Rate</td>
<td>3.3%</td>
<td>5.6%</td>
<td>17.2%</td>
</tr>
<tr>
<td>% Patients affected</td>
<td>110</td>
<td>175</td>
<td>381</td>
</tr>
</tbody>
</table>

The odds ratio of STOOP identifying an inappropriate versus Beers Criteria was 6.88 (95% CI 5.3-8.9, p<0.05). The odds ratio of STOOP identifying an inappropriate versus IPET was 3.808 (95% CI 3.0-4.8, p< 0.05).

Conclusion
This expanded study shows that STOOP significantly outperformed established tools in detection of inappropriate prescriptions among this cohort of unwell elderly patients.
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Introduction
Stroke is the single biggest cause of severe disability
and the third most common cause of death in the UK.
Effective management of stroke depends on
identifying the risk factors and the range and extent of
neurological deficits. Our audit was designed to
establish whether clerking is sufficiently targeted.

Methodology
Random retrospective case-note review of stroke
patients admitted between April and October 2004 at
Macclesfield District General Hospital (MDGH). Using
the Royal College of Physicians’ (RCP) Stroke
Clerking Pro forma as the gold standard, key
parameters were identified and their documentation
evaluated. The parameters included co-morbidity, risk
factors, dysphagia, visual field defects, Glasgow Coma
Scale (GCS) and Mini Mental Test score (MMT).
Comparative analysis was used.

Results
Sample size n=58 (f=29, m=29), aged 47 - 100 years
(mean 77.82, standard deviation 10.17). Co-morbidity
was recorded in 51/58 (87.93%); risk factors 13/58
(22.41%); dysphagia 15/58 (25.86%); visual field
defects 25/58 (40%); GCS 43/58 (74.14%); MMT 9/58
(15.52%).

Conclusion
Co-morbidity, GCS and speech were relatively well
documented. Risk factors were surprisingly poorly
recorded. We recommend that our local pro forma
should be redesigned and made more user-friendly so
as to encourage its use on admission. This would be a
step forward in the delivery of targeted stroke care at
MDGH. Re-audit is planned at a later date.

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College London

Introduction
Accelerometers have been suggested for quantitative
measurement of postural stability. This preliminary study
measured walking using accelerometry.

Method
Five healthy older, 6 young and 4 subjects with a falls
history were assessed. Vertical (V) and mediolateral
(ML) ankle and spinal accelerations were recorded
during “slow”, “self-pace” and “fast” barefoot walking.
Postural stability was quantified as within-stride
standard deviation of acceleration (SD) after normalising
for walking speed. Results were analysed using
independent t-tests (P<0.05).

Results
See Table 1. All elderly non-fallers’ acceleration SD’s
were significantly lower than the young groups’. All slow
walking acceleration SD’s were significantly increased
for the fallers compared to elderly non-fallers.

Discussion
Differences between the young and elderly non-fallers
may be explained by caution of the elderly. Increased
spinal acceleration in the fallers compared to non-fallers
indicates poor dynamic postural stability, while ankle
measures reflect unsteadiness in intended movement
and impaired motor control.

Conclusion
Accelerometers allow sensitive, inexpensive and
portable measures of dynamic postural stability.

<table>
<thead>
<tr>
<th>Walk</th>
<th>Group</th>
<th>Spine V</th>
<th>Ankle V</th>
<th>Spine ML</th>
<th>Ankle ML</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slow</td>
<td>Young Non-Fallers</td>
<td>1.76±0.17</td>
<td>4.08±0.47</td>
<td>1.48±0.15</td>
<td>4.14±0.57</td>
</tr>
<tr>
<td></td>
<td>Fallers</td>
<td>1.06±0.05</td>
<td>2.75±0.16</td>
<td>0.74±0.03</td>
<td>1.95±0.14</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.55±0.12</td>
<td>4.35±0.35</td>
<td>1.11±0.04</td>
<td>3.72±0.58</td>
</tr>
<tr>
<td>Self-pace</td>
<td>Young Non-Fallers</td>
<td>3.21±0.29</td>
<td>7.58±0.88</td>
<td>2.30±0.23</td>
<td>7.18±0.65</td>
</tr>
<tr>
<td></td>
<td>Fallers</td>
<td>2.05±0.14</td>
<td>4.79±0.22</td>
<td>1.06±0.05</td>
<td>3.76±0.26</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.61±0.18</td>
<td>4.46±0.48</td>
<td>1.02±0.05</td>
<td>3.13±0.39</td>
</tr>
<tr>
<td>Fast</td>
<td>Young Non-Fallers</td>
<td>2.97±0.17</td>
<td>5.58±0.27</td>
<td>1.70±0.07</td>
<td>5.50±0.30</td>
</tr>
<tr>
<td></td>
<td>Fallers</td>
<td>2.57±0.28</td>
<td>7.99±0.53</td>
<td>1.31±0.04</td>
<td>2.27±0.39</td>
</tr>
</tbody>
</table>

Table 1: Acceleration SD of V/ML, spine/ankle for three walking speeds/groups
**Introduction**

Memory clinics are proliferating throughout the UK. Their role has changed in recent years, with the advent of drug therapies for people with Alzheimer's disease and a growing awareness of the potential benefits of good vascular risk factor management.

**Methodology**

Retrospective analysis of 150 consecutive attendees at Dundee Memory Clinic between Jan 2001 and April 2004. Data were extracted on demographic details, vascular risk factors, investigations, diagnoses and treatment recommendations.

**Results**

66/150 (44%) were male, mean age 72 years (range 55-87). The median MMSE score was 23/30. 102/150 (68%) were diagnosed with dementia - Alzheimer's disease 68/150 (45%), vascular dementia 16/150 (11%), mixed 11/150 (7%), alcohol related 7/150 (5%).

A total of 71/79 (90%) patients with Alzheimer or mixed dementia were referred for anticholinesterase therapy. Cardiovascular disease, stroke, diabetes or hypertension were identified in 85/150 (63%) patients.

34/150 (23%) patients were recommended for new pharmacological therapies to reduce cardiovascular risks.

After Alzheimer's disease, the commonest diagnoses (25/150, 17%) were anxiety and depressive disorders. Of these, new antidepressant medications were started in 13/25 (52%) patients.

**Conclusion**

The role of memory clinic is much broader than simply diagnosing dementia. It also includes the management of depression and vascular risk factors.

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**Introduction**

Treatment of orthostatic hypotension (OH) is problematic as existing treatments such as drinking fluids, salt-replacement and medications may lead to hypertension and tend to be poorly tolerated in the elderly. Sleeping in head-up tilt (SHU) is a recognised treatment for OH with a small evidence base for angles = 12°. The aim of our study was to determine prescription of SHU in clinical practice.

**Methods**

A multi-country, postal survey of 220 clinicians was conducted between 3/2/2004-31/8/2004. These were clinician attendees of an International Syncope conference in 2003. The structured questionnaire investigated the use of SHU in clinical practice.

**Results**

There were 149 respondents representing a 67% response rate. One hundred and thirty-five (91%) of the respondents were from United Kingdom and 105 (70%) were either head of department or consultants. Ninety (60%) of the respondents prescribed SHU (40 [27%] routinely) and 66 specified an angle. These ranged from 2° to 45° with a median angle of elevation of 6.5°. Of those who recommended specific tilt-angles, 44 (67%) recommended tilt < 12° with 24 (36%) recommending 3-5° tilt. SHU ranked fifth in OH treatment modalities utilised.

**Conclusions**

Almost two-thirds of respondents prescribed SHU for treatment of OH. However, only one-third recommended angles which were research proven. More studies are required to determine if SHU at lesser degrees of elevation is efficacious.
OPTIMISING PATIENT SELECTION FOR RECOMBINANT PARATHYROID HORMONE THERAPY

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Introduction
The recent availability of anabolic therapies for osteoporosis necessitates a thorough investigation for this treatment to rule out the recognised contraindications as well as potential complicating factors such as idiopathic hypercalcuria which substantially increased the patients’ risk of renal calculi whilst on PTH therapy.

Methods
We review the first 84 patient referrals to a specialist osteoporosis clinic for PTH therapy and we report the results of a comprehensive clinical investigation of these subjects.

Results
The mean age of the referrals was 74.9±11 years with 71 females and 12 males. All had severe osteoporosis and 70% had addition of vertebral fractures (≥1). Nine patients were excluded from PTH therapy because of monoclonal gammopathy and/or Bence Jones Protein. One was also excluded because of a history of breast cancer with radiotherapy. Four males with elevated PSA could not immediately commence PTH and were referred for prostatic biopsy. Two patients were in advanced CRF (creatinine clearance of <30mls/min). Five patients had hypercalcuria (24 hours U.Ca of >7.5mmol) and this is under active management at present prior to PTH. One patient was treated for thyrotoxicosis and two for Coeliac disease prior to commencing PTH therapy. Six patients were unable/unwilling to self inject.

Conclusion
In older age groups there is a high prevalence of secondary causes for osteoporosis and these must be thoroughly investigated prior to consideration for PTH therapy.

OLDER PEOPLES’ PERCEPTION OF HEALTHCARE PROFESSIONALS’ ATTITUDE TOWARDS THEM AND THEIR CARE

O KHAN, C PURVIS
Frenchay Hospital, Bristol

Introduction
A key aim of the NSF for older people is to ensure high quality, integrated health and social care services and to improve the attitude of the NHS staff towards older people. This audit has been undertaken to address standard 1 and 2 of the NSF and to ensure that older patients perceive that the people involved in their care possess the right kind of attitude. Recently undertaken healthcare commission patient satisfaction surveys did not include older patients as a separate group.

Methodology
A questionnaire was prepared and 86 patients above 70, who were cognitively intact, and had been inpatients for more than 14 days, were invited to respond through the patient panel representatives.

Results
8 patients declined. 71 returned the questionnaire, in confidence, to the panel members. Not all questions were answered by all 71. 87% had been inpatients before. 30% of respondents thought that older people were discriminated against. 83% to 92% thought that their needs were understood and met, and that the staff worked as a team. 41% of respondents had to answer the same questions. 23% frequently had difficulty in understanding the staff.

Conclusion
Most older people understand the role of team work and recognise our efforts. A significant number still believe that they are treated differently, have to repeat themselves, and would like more effective communication. There is a need to address these issues using their feedback.
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Birmingham Heartlands Hospital Manchester Royal Infirmary Arrowe Park Hospital, Wirral

Introduction
Clinical governance forms part of the generic curriculum in all specialities and covers the practice of audit, guidelines, risk and adverse event management, research governance and clinical effectiveness. Training has been on an adhoc basis at individual trusts rather than forming part of the formal training days.

Methods
An opportunistic survey was done of 106 specialist registrars (19.3% of all geriatric registrars) attending training days and the trainee’s meeting at Harrogate. The 23-point survey asked questions regarding the registrars perceived knowledge of items of clinical governance and whether they had received any training in these areas. Registrars were represented from 10 regions although those 6 regions that volunteered to distribute questionnaires (response rate 50-65%) predominated.

Results
Results were similar between all regions. Generally there was good knowledge and experience of audit (79%), although lack of awareness of the Caldicott guidelines (10%), Subjective knowledge of risk (24%), adverse events (47%) and aspects of complaints management (30%) were lower. Training had occurred in 35% of Registrars. Fifty-seven percent of respondents came from the first 3 years of training. The survey is limited by its subjective nature so there is no confirmation of the quality of knowledge that Registrars have attained. Some regions were under-represented.

Conclusions
Clinical governance training needs to form a more prominent part of the Geriatric curriculum, if the deficiencies in Specialist Registrar’s knowledge are to be addressed.

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Introduction
Elder abuse and neglect is a serious and prevalent problem, which is estimated to effect at least 3-5% of the older population. Despite publication of the Irish Working Group on Elder Abuse’s report, “Protecting Our Future” in 2002, awareness of elder abuse among healthcare workers in Ireland is unknown.

Method
We devised and administered an interview-based questionnaire, directed at 20 NCHD’s and 19 medical social workers (MSW). The questionnaire addressed the understanding of elder abuse, its perceived prevalence, attitudes, risk factor identification, training in the area, awareness of government policy, and exposure to cases and their management.

Results
A total of 9/20(45%) doctors interviewed had never heard the term “elder abuse”; only 6/20(30%) had read any literature on the topic. No doctors had ever received any formal training, and only one doctor had heard of guidelines that are in place for its management. Some 85% of doctors felt elder abuse was common, and all felt it was under-reported. 13/20(65%) of doctors had treated at least one suspected case of elder abuse in the last year (number of cases range 1-30, mean =5). By comparison all MSWs had read literature or had had training on the topic. Most social workers 11/19(58%) were aware of management guidelines, however only 2/19(10%) were able to name them. Amongst the entire group 18/39(46%) would feel uncomfortable using the label of “elder abuse”.

44
45
CLINICAL EFFECTIVENESS

AGEISM? POORLY REPRESENTED IN THE MEDIA

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Introduction
Ageism is a significant problem in Irish society: 54% of older Irish people have experienced incidences of ageism (Stokes E et al, IJMS 2003, 172, Suppl 3, 4). A further manifestation may be a disproportionately low attention to the issue of ageism in the media, compared to other forms of discrimination, e.g. racism. The development of search databases for most of the major newspapers in the UK and Ireland provides a research opportunity to quantify coverage of issues such as ageism and racism.

Method
A review of all the articles written in six popular newspapers between January 2000 and May 2004, with the words "racism" and "ageism" were searched quantified and compared.

Results
The results of the database searches were as follows:

<table>
<thead>
<tr>
<th>Newspaper</th>
<th>Articles on Racism</th>
<th>Articles on Ageism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irish Times</td>
<td>2085</td>
<td>61</td>
</tr>
<tr>
<td>Guardian</td>
<td>6251</td>
<td>301</td>
</tr>
<tr>
<td>Observer</td>
<td>779</td>
<td>54</td>
</tr>
<tr>
<td>Independent</td>
<td>2013</td>
<td>92</td>
</tr>
<tr>
<td>Daily Mail</td>
<td>586</td>
<td>29</td>
</tr>
<tr>
<td>Daily Telegraph</td>
<td>1665</td>
<td>99</td>
</tr>
</tbody>
</table>

Ageism received overwhelmingly less coverage in the press, mean/standard deviation 106 ± 99, i.e., 4.5% of total number of articles, when compared to racism, mean =2229 ± 2067, Wilcoxon ranked sum, p<0.025.

Conclusion
The study confirms a significant under-reporting of ageism when compared to other forms of discrimination, especially when one considers the scale of the problem. These findings need to be directed to those involved in education of journalists as well as media studies.

DIABETES/CLINICAL

PREVALENCE OF TYPE 2 DIABETES MELLITUS IN A LARGE SELF REPORTED SAMPLE OF ELDERLY PEOPLE

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Introduction
With an aging population and increasing prevalence, more elderly people are affected by diabetes. Prevalence appears to increase with age and plateau or even decline in the very elderly. The evidence base for this age group is limited.

Methods
15095 individuals aged 75 years and over in 53 general practices underwent an assessment by a nurse. Self reported diabetes, high random glucose, the use of diabetic drugs and for some individuals examination of GP records identified those with diabetes. Prevalence estimates and 95% confidence intervals were calculated accounting for the clustered study design.

Results
1177 (7.80%, 7.11-8.48, 95% CI ) individuals were identified as having diabetes. More were female p<0.001, 633 (53.78%, 50.50-56.98, 95%CI).

Prevalence was higher in men (9.42%, 8.41-10.42, 95% CI vs 6.79%, 6.07-7.51, 95% CI) p<0.001. Mean age was 80.94 years, range 75.01-100.45. There were 585 (8.31%, 7.55-9.07, 95% CI) individuals aged 75-79 years identified with diabetes, 365 (7.65%, 6.87-8.43, 95% CI) aged 80-84 years, 167 (6.84%, 5.51-8.17, 95% CI) aged 85-89 years and 61 (7.14%, 5.47-8.81, 95% CI) over 90 years.

Increasing age group was not associated with changing prevalence estimates (p=0.098, test for trend).

Conclusions
These results suggest that diabetes occurs in less than 1 in 10 of older people, lower than many previous estimates. Prevalence did not increase with increasing age, perhaps as a result of poorer survival of those with diabetes.
**INCREASING PREVALENCE OF DIABETES IN ELDERLY**

**SCM CROXSON (1), AC BURDEN (2), MJ BODINGTON (3)**

1. Bristol General Hospital, Bristol, BS1 6SY 2. Heart of Birmingham PCT, Birmingham, B20 3PX 3. Latham House Medical Practice, Melton Mowbray, LE13 1NX

**Introduction**

Diabetes (DM) is common in elderly; is prevalence increasing? Melton Mowbray has one General Practice with a Specialist Diabetes Nurse.

**Method**

General Practice & diabetes registers were inspected for diabetic people, DM type & ethnicity. This was compared to known diabetes from 1987 Melton survey [Croxson S et al, Diabetic Medicine 1991; 8: 28-31].

**Results**

<table>
<thead>
<tr>
<th>Ages (years)</th>
<th>63-67</th>
<th>68-72</th>
<th>73-77</th>
<th>78-82</th>
<th>83-87</th>
</tr>
</thead>
<tbody>
<tr>
<td>DM Men</td>
<td>82</td>
<td>88</td>
<td>70</td>
<td>52</td>
<td>8</td>
</tr>
<tr>
<td>All Men</td>
<td>852</td>
<td>607</td>
<td>494</td>
<td>365</td>
<td>82</td>
</tr>
<tr>
<td>DM women</td>
<td>51</td>
<td>70</td>
<td>69</td>
<td>59</td>
<td>8</td>
</tr>
<tr>
<td>All women</td>
<td>782</td>
<td>728</td>
<td>653</td>
<td>563</td>
<td>176</td>
</tr>
</tbody>
</table>

**Number of subjects, 1987**

<table>
<thead>
<tr>
<th>Ages (years)</th>
<th>65</th>
<th>70</th>
<th>75</th>
<th>80</th>
<th>85</th>
</tr>
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<tbody>
<tr>
<td>DM men</td>
<td>3</td>
<td>7</td>
<td>8</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>All men</td>
<td>124</td>
<td>93</td>
<td>78</td>
<td>49</td>
<td>16</td>
</tr>
<tr>
<td>DM women</td>
<td>6</td>
<td>10</td>
<td>9</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>All women</td>
<td>158</td>
<td>108</td>
<td>127</td>
<td>62</td>
<td>46</td>
</tr>
</tbody>
</table>

532 of 557 DM subjects were type 2 in 2004 (45 of 52 in 1987). 8 diabetic subjects were Non-White in 2004 (none in 1987)

**Discussion**

Overall prevalence DM 2004 is 10.5% (95%CL 9.7-11.4) compared to 6.04% (95%CL 4.5-7.8) in 1987, (Fisher exact P 0.00002). Removal of Non-White diabetic subjects doesn't alter result. Proportion of type 2 DM subjects increased from 86.5% (95%CL 74.2-94.4) 1987 to 95.5% (95%CL 93.5-97.1) 2004, (Fisher Exact P 0.014). Diagnosed DM (predominantly type 2) has increased in elderly.

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**CHARACTERISING THE FRAILTY PHENOTYPE**

**R E HUBBARD, M S O’MAHONY AND KW WOODHOUSE**

Department of Geriatric Medicine, Cardiff University, Academic Centre, Llandough Hospital, Penarth

**Introduction**

Existing frailty measures emphasise physical strength, mobility and balance. Yet frailty is distinct from disability. The aim of this study was to characterise the frailty phenotype further.

**Methods**

Patients with a history of falls referred to Day Hospital for rehabilitation (DH) were compared to independent controls (IND) recruited from the community. Anthropometric, medical, physiological and functional assessments were performed at the Day Hospital by a single observer.

**Results**

40 patients were recruited to each group, mean age 84.2 years (DH), 82.7 years (IND). There were no significant differences between groups in anthropometric measures including mean body mass index (25.8 vs. 26.26) and mid-arm muscle area (36.73 cm² vs. 39.48 cm²). 40% of patients (DH) compared to 15% (IND) reported weight loss of 5kg or more in the preceding 12 months. There were significant differences in maximum grip strength (19.85kg vs 26.45kg), timed get-up-and-go (33.4s vs 12.25s), 6-minute walk (85m vs 288m) and FEV1 (1.29 vs 1.71 l/min). There were also significant differences in cognition (MMSE 24.88 vs 27.60), mood (HAD score 13.93 vs 8.05) and quality of life (SF36 43.25 vs 61.93, EUROQoL 53.98 vs 74.72).

**Conclusions**

Traditional physical performance measures of frailty along with mood and cognition are clearly discriminatory between DH and independent elderly group. In addition FEV1 and history of weight loss are significantly different and should be considered for inclusion in frailty indices.
**COPYING INTERSECTING PENTAGONS AS A PREDICTOR OF AN ADEQUATE SPIROMETRIC TECHNIQUE IN OLD AGE**

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**Introduction**  
Previous studies have shown that impaired cognitive function predicts poor spirometry technique. We conducted a study to compare the pentagon copying component of the mini-mental state examination (MMSE) with the overall MMSE score in this context.

**Methods**  
We studied 80 patients (42 female), mean age 84 years (range 75-98). Subjects with acute confusion, severe dementia (MMSE<11), poor vision and/or hearing or overt dyspraxic states were excluded. Spirometry was attempted to the American Thoracic Society 1994 (ATS94) criteria for forced expiratory volume in 1 second (FEV1) and forced vital capacity (FVC). Separate observers conducted the MMSE and scored the adequacy of pentagon construction as YES or NO using the MMSE criteria. The spirometric results were analysed by a separate observer for ‘strict’ ATS94 compliance (entire spirometry) and ‘FEV1 only’ compliance (the first second of forced expiration).

**Results**  
The ‘strict’ criteria were met by 2/32 (MMSE<24) compared to 16/48 (MMSE>23)(P<0.01), whereas the ‘FEV1 only’ criteria were met by 8/30 (MMSE<24) compared to 46/50(P<0.002). 0/23 with a pentagon NO compared to 18/56 met the ‘strict’ criteria (P<0.002), and 7/24 compared with 49/56 met the ‘FEV1 only’ criteria (P<0.002).

**Conclusion**  
An MMSE <24 and pentagon NO had crude predictive values of 94% and 100% respectively of not meeting the ‘strict’ criteria. Conversely, most patients with an MMSE >23 and/or a pentagon YES can reliably perform the first second of spirometry.

**A COMPARISON OF AGREEMENT BETWEEN PERCENT OF PREDICTED FORCED EXPIRATORY VOLUME CALCULATED BY HEIGHT AND ARM-SPAN IN OLDER ADULTS**

ANGELA JOHNSON(1), SUSHIL K BANSAL(1), BILL WATSON(2), GULIA KARIMOV(1), ALISON HENDERSON(1)  
City Hospitals Sunderland NHS Trust, Sunderland, Tyne and Wear (1) Northumbria University, Newcastle upon Tyne, Tyne and Wear (2)

**Introduction**  
Predicted values of Forced Expiratory Volume (FEV₁) are calculated with reference to age, gender and height. Loss of height through ageing, however, may affect the validity of the predicted values. To explore this effect, this study measured the agreement between two values of percent of predicted FEV₁ based on height and on arm-span for people aged over 70 years.

**Participants and Methods**  
Fifty-eight patients attending a respiratory out-patient clinic had spirometric assessment and their height and arm-span measured to the nearest centimetre. The mean (SD) age was 78.2 (5.1) years and 53% were male. The mean (SD) FEV₁ was 54.3 (17.3)% of the value predicted using height. Level of agreement was assessed using Bland and Altman’s method.

**Results**  
The mean (SD) difference in the predicted values was 4.2 (7.1)% overall. Greater than 95% of values fell within 2 standard deviations of the mean. The mean (SD) difference was greater for women than for men (-5.2 (8.8) vs -2.9 (5.5)) and for people older than 77 years (-6.0(4.7) vs -2.1 (8.6)). For men, the difference increased with increasing height.

**Conclusion**  
Overall, there was little difference between predicted FEV₁ based on height and arm-span. The difference was more substantial for women and for those over the age of 77 years, indicating that predicted values based on height may be less valid for these groups.
THE RELATIONSHIP BETWEEN VERTEBRAL FRACTURES AND HIP BONE MINERAL DENSITY IN HIP FRACTURE PATIENTS

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Introduction
Vertebral fractures are frequently under-diagnosed. They represent a major risk factor for hip fractures. Our study aims to identify the incidence of vertebral fractures in hip fracture patients and whether patients with osteopenia of the Total Hip would be reclassified as osteoporotic at other hip regions.

Methods
76 patients were recruited, mean age 78.4 years (+/- 5 SD). 58 were females and 18 were males. Bone mineral densities at the Total Hip, Femoral Neck, Greater Trochanter and the AP spine, as well as lateral vertebral morphometry, were measured. Osteoporosis was diagnosed at the Total Hip or AP spine using the WHO criteria.

Results
22 patients were osteopenic and 54 osteoporotic. 13.6% of osteopenics had osteoporosis at the femoral neck and 4.5% at the greater trochanter and could be reclassified as osteoporotic. 10 patients did not have lateral vertebral morphometry assessment. 18/66 patients had at least 1 vertebral fracture. A single vertebral fracture occurred in 13.6% of osteopenics. The average bone mineral density at the hip in patients with osteoporosis and vertebral fractures was 0.531 (T-Score -3.57), compared to 0.582 (T-score -3.09) in patients with osteoporosis alone.

Conclusion
Vertebral fractures can reduce hip bone mineral density by 3%. To improve osteoporosis detection, treatment and prevention of fractures, lateral vertebral morphometry must be done in all hip fracture patients.

FALLS IN AN ACUTE HOSPITAL AND THEIR RELATIONSHIP TO RESTRAINT USE

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Department of Geriatric Medicine, Accreditation Unit and Audit Office, Galway Regional Hospitals, Galway, Ireland

Introduction
Restraints are often used to try and prevent patient falls, but there is increasing evidence that restraints may themselves lead to injury and even death.

Methods
Retrospective study of incident report forms to determine fall rates over a single year in a large teaching hospital, with particular emphasis on the contribution of bedrails to falls and injuries.

Results
There were 267 reports of patient falls, and the fall rate per 10,000 patient days was 13.2 (95%CI 11.6 - 14.8). Fall rate increased dramatically with increased age. Eighty two (30.7%) falls resulted in injury, of which 6 (7.3%) were serious, including four hip fractures. Injuries occurred in 71/247 (29%) unrestrained falls and in 11/20 (55%) falls in patients who were restrained, and injuries were more severe in falls with restraints in place (chi-square trend 20.3, df = 1, p < 0.0001). Bedrail-associated falls accounted for 12 (11.8%) of all bedside falls and 8 (27.6%) of all bedside injuries; 8/12 (75%) falling out of beds with bedrails sustained injuries. Chairs with lap-trays attached accounted for 5 (11.6%) of chair-related falls and 4 (33.3%) of chair-related injuries; 4/5 (80%) falling from chairs with lap-trays sustained injuries.

Conclusions
Injury is more common and more severe in patients who fall while restraints are applied. Our results further call into question the wisdom of using restraints to prevent falls in hospital patients.
FALLS, FRACTURES AND TRAUMA

REDUCTION IN BEDSIDE FALLS AND HOSPITAL LENGTH OF STAY USING BEDSIDE PRESSURE SENSORS

A TILL (1), O SAHOTA (1), J PIPER (1), M GRAINE (2)

(1) Dept Elderly Medicine, (2) Dept Public Health Medicine, University Hospital, Nottingham

Introduction
Falls are common among elderly in-patients. The majority of these occur at the patient’s bedside, unobserved and even when risk is identified there is reluctance or inability for patients to call for assistance. To try and reduce these falls, we report a 12 month update using bedside chair and bed pressure sensors.

Methodology
Bedside chair and bed pressure sensors incorporating a paging mode facility (SensorCare Ltd) were evaluated over a 12-month period on the orthogeriatric rehabilitation ward. Rate of bedside “fallers” and “falls” were compared to the previous year. Mean(SD) were calculated where appropriate and logistic regression analysis used, comparing the risk of a fall among “fallers”, “falls” and length of stay.

Results
The mean percentage of in-patient bedside “fallers” in 2002 was 14.9%. In 2003 this was reduced to 8.2%[OR 0.55(95%CI 0.32, 0.94)], adjusted for age. Comparing mean number of “falls” mean (SD) in 2002 was 0.14(0.38) and in 2003 0.09(0.33)[p=0.032]. Mean difference in length of stay between “fallers” and “non fallers” was 3.6 day (95%CI 2.1, 9.2 [p=0.048]). There was no significant difference in mean baseline “STRATIFY” score between groups (3.1 compared to 2.9).

Conclusion
There was a 45% reduction in in-patient falls using bedside sensors. This led to a reduction in extended length of stay suggesting that sensors do not impair on going rehabilitation, however, it is recognised that a further RCT is necessary.

THE NATURE AND FREQUENCY OF PATIENTS PRESENTING SYMPTOMS INFLUENCES DIAGNOSTIC RATES IN PATIENTS ATTENDING A DEDICATED SYNCOPE CLINIC

T LEE, B CLARKE, A AKINWUNMI, C DONEGAN, K MULPETER, A MOORE

Departments of Medicine for the Elderly, Beaumont Hospital, Dublin 9 & Letterkenny General Hospital, Co. Donegal, Ireland

Introduction
Dedicated syncope clinics identify haemodynamic abnormalities in a large proportion of patients presenting with recurrent syncope/falls (McIntosh S et al Age & Ageing 1993;22:53-8). However their usefulness for investigating one event is unknown. We analysed the effect of the frequency of patients presenting complaints on responses identified by syncopal assessment.

Methods
Patients referred for investigation of unexplained syncope/pre-syncope underwent carotid sinus massage (CSM) and head-up tilt using digital artery photoplethysmography if no other diagnosis was identified from history, examination or routine cardiac investigations. Diagnoses identified in patients with >2 syncopal episodes were compared to those with one syncopal/pre-syncopal episode. Differences between groups were evaluated using Chi Square analysis.

Results
Results from 67 patients were studied. 35 patients (mean age 78 years, 17M, 18F) presented with >2 collapse episodes (mean number of events in this group was 3.4(s.d 2.2) in the previous year) and 32 patients (mean age 77 years, 8M, 24F) with one collapse episode/pre-syncope (orthostatic hypotension- 12 patients, orthostatic hypotension- 8 patients, 8 patients with both) and 17/32 patients with one collapse episode/pre-syncope (orthostatic hypotension- 12 patients, CSS- 5 patients). This difference was significant (p<0.01).

Conclusion
CSM/head-up tilt are more likely to result in a haemodynamic abnormality in patients with >2 collapse episodes compared to those with a single event.
**Introduction**

Within a study of the single assessment process, we evaluated its impact on primary care and other services.

**Methods**

945 patients aged 70 years + were screened using the Sherbrooke case-finding questionnaire. Where indicated they underwent overview / comprehensive assessments using the Minimum Data Set for Home Care (MDS-HC). Unmet needs were discussed with the patient / carer, and appropriate referrals made.

**Results**

307 patients were offered MDS-HC assessments, of whom 64 triggered 475 client assessment protocols (CAPS) in 27 domains. The most frequently triggered CAPS (>30) were immunisation and screening, medication management, communication disorders and pain. No-one triggered alcohol or elder abuse, or palliative care. The participants triggered a median of 8 CAPS each (range 2-18), generating 55 referrals as shown below.

<table>
<thead>
<tr>
<th>Primary Care</th>
<th>General Practitioner</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Practice Nursing Staff</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>Practice pharmacist</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Case conferences</td>
<td>4</td>
</tr>
<tr>
<td>Community services</td>
<td>Occupational therapists</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Community rehab team</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Podiatry</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Continence advisory service</td>
<td>3</td>
</tr>
<tr>
<td>Secondary Care</td>
<td>ENT</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Audiology</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Memory clinic</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Neurology</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Cardiology</td>
<td>3</td>
</tr>
</tbody>
</table>

**Conclusions**

Relatively few referrals were generated in this well-organised practice with an established elderly care nurse practitioner, and her experience may explain the lack of referrals to geriatric medicine. The need for 4 case conferences suggests that the SAP highlighted complex issues. It is unclear whether those refusing further assessment would have had similar needs.
THE SHERBROOKE POSTAL QUESTIONNAIRE: WHICH PATIENTS AND QUESTIONS TRIGGER FURTHER ASSESSMENT?

Z M HEMSLEY, H C ROBERTS, G THOMAS, A AIHIE SAYER, I GOVE¹, G TURNER¹, P MEAKINS², M MORRAN-RYAN², A PURCELL², AND J POWELL³

Elderly Care Research Unit and Medicine for Older People¹, Southampton General Hospital; Old Fire Station Surgery², Southampton; Social Work Studies, University of Southampton³

Introduction
The Sherbrooke postal questionnaire is a case finding tool within the single assessment process.

Methodology
We sent the 6 item questionnaire to 945 community-dwelling patients aged 70+. We evaluated respondent characteristics, and affirmative answers. 23 patients not known at the address mailed were excluded.

Results
1. Patient Characteristics by Sherbrooke Questionnaire Response

<table>
<thead>
<tr>
<th>Score</th>
<th>Males (%)</th>
<th>Male Median age (range)</th>
<th>Females (%)</th>
<th>Female Median Age (range)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0=n=101</td>
<td>27 (27)</td>
<td>78 (70-85)</td>
<td>74 (73)</td>
<td>81 (70-92)</td>
</tr>
<tr>
<td>1=n=278</td>
<td>122 (44)</td>
<td>82 (70-94)</td>
<td>156 (56)</td>
<td>83 (70-95)</td>
</tr>
<tr>
<td>2=n=219</td>
<td>95 (43)</td>
<td>82 (70-94)</td>
<td>124 (57)</td>
<td>82 (70-94)</td>
</tr>
<tr>
<td>3=n=152</td>
<td>66 (43)</td>
<td>81 (70-92)</td>
<td>86 (57)</td>
<td>83 (70-96)</td>
</tr>
<tr>
<td>4=n=73</td>
<td>27 (37)</td>
<td>81 (70-92)</td>
<td>46 (63)</td>
<td>85 (70-99)</td>
</tr>
<tr>
<td>5=n=33</td>
<td>14 (42)</td>
<td>79 (70-88)</td>
<td>19 (58)</td>
<td>83 (70-95)</td>
</tr>
<tr>
<td>6=n=7</td>
<td>6 (86)</td>
<td>85 (75-84)</td>
<td>1 (14)</td>
<td>90 (90)</td>
</tr>
<tr>
<td>No reply</td>
<td>29 (49)</td>
<td>85 (70-100)</td>
<td>30 (51)</td>
<td>83 (70-95)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>386 (42)</td>
<td>85 (70-100)</td>
<td>536 (58)</td>
<td>85 (70-99)</td>
</tr>
</tbody>
</table>

2. Frequency of Affirmative Replies

<table>
<thead>
<tr>
<th>Sherbrooke question</th>
<th>Replies</th>
<th>Missing data</th>
<th>Triggered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Living alone</td>
<td>857</td>
<td>6</td>
<td>500 (58%)</td>
</tr>
<tr>
<td>Medicines</td>
<td>853</td>
<td>10</td>
<td>332 (39%)</td>
</tr>
<tr>
<td>Walking</td>
<td>852</td>
<td>11</td>
<td>245 (29%)</td>
</tr>
<tr>
<td>Sight</td>
<td>839</td>
<td>24</td>
<td>149 (18%)</td>
</tr>
<tr>
<td>Hearing</td>
<td>848</td>
<td>15</td>
<td>244 (29%)</td>
</tr>
<tr>
<td>Memory</td>
<td>942</td>
<td>21</td>
<td>195 (23%)</td>
</tr>
</tbody>
</table>

Conclusion
Proportionally men were over-represented, especially in the higher Sherbrooke scores. Non-responders were older. Most patients triggered by not living alone and sight was least often triggered.

THE SHERBROOKE POSTAL QUESTIONNAIRE AS A CASE FINDING TOOL FOR THE SINGLE ASSESSMENT PROCESS: CAN IT PREDICT PATIENT OUTCOMES AT ONE YEAR?

Z M HEMSLEY, H C ROBERTS, G THOMAS, A AIHIE SAYER, I GOVE¹, G TURNER¹, P MEAKINS², M MORRAN-RYAN², A PURCELL², AND J POWELL³

Elderly Care Research Unit and Medicine for Older People¹, Southampton General Hospital; Old Fire Station Surgery², Southampton; Social Work Studies, University of Southampton³

Introduction
We evaluated the outcome at 1 year of participants in a study using the Sherbrooke postal questionnaire as a case-finding tool within the single assessment process.

Methodology
986 people aged 70+ years were registered with one practice. 42 already lived in residential / nursing care and 22 were unknown at their given address. The remaining 922 participants were mailed the questionnaire; using practice records and the hospital patient administration system we assessed their domicile at 1 year (at home or moved into care), and identified those who had died.

Results
1. Patient Characteristics by Sherbrooke Questionnaire Response

<table>
<thead>
<tr>
<th>Score</th>
<th>Nº Pts</th>
<th>Into RH(%)</th>
<th>Into NH(%)</th>
<th>Died (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>101</td>
<td>0</td>
<td>0</td>
<td>5 (5.0)</td>
</tr>
<tr>
<td>1</td>
<td>278</td>
<td>1 (0.4)</td>
<td>0</td>
<td>14 (5.0)</td>
</tr>
<tr>
<td>2</td>
<td>219</td>
<td>1 (0.5)</td>
<td>3 (1.4)</td>
<td>7 (3.2)</td>
</tr>
<tr>
<td>3</td>
<td>152</td>
<td>0</td>
<td>2</td>
<td>17 (11.2)</td>
</tr>
<tr>
<td>4</td>
<td>73</td>
<td>0</td>
<td>0</td>
<td>6 (8.2)</td>
</tr>
<tr>
<td>5</td>
<td>33</td>
<td>0</td>
<td>0</td>
<td>6 (18.2)</td>
</tr>
<tr>
<td>6</td>
<td>7</td>
<td>1 (14.3)</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

2. Frequency of Affirmative Replies

<table>
<thead>
<tr>
<th>Sherbrooke question</th>
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</tr>
<tr>
<td>Memory</td>
<td>942</td>
<td>21</td>
<td>195 (23%)</td>
<td></td>
</tr>
</tbody>
</table>

Conclusion
Non-responders and patients with a score of 5 on the Sherbrooke appear to have higher mortality rates, approaching those of patients in care. This highlights the need to assess non-responders. Few people moved into care in this short period.
A PROSPECTIVE STUDY OF CARBON MONOXIDE LEVELS, ON SEQUENTIAL PATIENTS REFERRED TO AN ELDERLY CARE OUT-PATIENTS DEPARTMENT

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Introduction
Clinical features of carbon monoxide (CO) toxicity may persist or begin long after the disappearance of measurable carboxyhaemoglobin, which has a half life of only four to five hours when clean air is breathed. The early symptoms of CO poisoning are said to be flu like which may encourage the wrong diagnosis.

Methods
Our study involved the completion of a simple questionnaire combined with a breath test by patients referred to an age related outpatients. The study took place between November 2003 and May 2004.

Results
A positive result was taken as carboxyhaemoglobin level >3% for a non-smoker and >10% for a smoker. Of the 109 patients visited 101 completed both the questionnaire and the breath test (4 unable due to cognitive impairment, 3 due to respiratory distress and 1 refused).

Of the 84 non-smokers the mean carboxyhaemoglobin level was 0.2% and of the 17 smokers it was 1.6%. There was no evidence of toxicity in either group, with smokers having higher levels as expected.

Conclusion
The negative result of our series may reflect a milder winter or perhaps more efficient house hold heating systems than in the past.

THE SINGLE ASSESSMENT PROCESS IN PRIMARY CARE: OLDER PEOPLE’S ACCOUNTS

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Social Work Studies, University of Southampton¹, and Elderly Care Research Unit, Southampton General Hospital

Introduction
As part of a feasibility study of the single assessment process, we explored older people’s views of this process.

Methods
A purposive sample of 26 older people (aged 70+years), which took account of age, gender, ethnicity and Sherbrooke score (as a measure of vulnerability), were interviewed using a topic-focussed schedule to facilitate a systematic approach to data collection and thematic analysis.

Results
Older peoples’ accounts indicated that the assessment process using the Minimum Data Set for Home Care tool was an acceptable experience and the assessor was easy to talk to yet thorough in her professional approach. Regular check-ups were viewed as a good idea in principle and some interviewees were in the habit of attending the surgery for their over 75 ‘MOT’. Although older people valued their access to formal services, most assumed a major role in managing their own health and well being. They typically marshalled their own personal resources, managing difficulties stoically and drawing on support from family members and other informal sources. Reciprocity and interdependence were important elements of the way in which many older people negotiated their independence.

Conclusions
Older people experienced the single assessment process as acceptable and useful in accessing formal services to meet their health-orientated needs. There may be an issue about its capacity to recognise the complexity of balancing formal and informal support in the context of people’s daily lives.
E GRIFFIN, M MARTIN, T FITZGERALD, D O’NEILL
Dept Medical Gerontology, Adelaide and Meath Hospital, Dublin, Ireland

Introduction
Gait abnormalities are common in older people but relatively under-diagnosed. We investigated the prevalence of gait abnormalities among patients presenting to a geriatric medicine day hospital, classified them according to whether they were lower, middle or higher level gait disorders and compared inter-professional (physician and physiotherapist) assessments for this classification.

Methodology
Prospective independent assessment by a physician and a senior physiotherapist of 50 consecutive patients presenting to a day hospital. Presence of a gait abnormality was determined and then classified. Levels of agreement were determined between the two professions.

Results
There was 98% agreement that a gait abnormality existed in 43 people. In classifying the gait abnormality there was complete agreement in over two-thirds of cases (67.4%). There was further agreement of higher level gait disorders (but disagreement in the sub-classification) in 11.6% of cases.

Conclusion
Given the high prevalence of gait abnormality presenting to the day hospital, screening for gait and balance disorders should be of paramount importance. While levels of agreement between the two professions were high, disagreement existed in approximately one-third of cases. Agreement among professionals is essential for appropriate tailoring of treatment and intervention.

H. CHAMBERLAIN (1), C. WESCOTT (2)
1. Good Hope Hospital NHS Trust 2. North Birmingham Primary Care Trust

Introduction
An audit of admissions to Good Hope Hospital (GHH) from local Care Homes (CH) showed variation in admission rates between homes. We investigated whether case-mix was associated with admission rates. Registered Nurse Contribution to Care (RNCC) and Continuing Health Care (CHC) assessments were used as case-mix measures.

Methodology
We recorded the proportion of residents of each home assessed as requiring CHC, high-band RNCC, or medium-band RNCC from North Birmingham PCT (NBPT) records during 2003. CH admissions to GHH were recorded for the period February 2003-February 2004 as a proportion of each home’s residents.

Each home’s admission rate was compared with the proportion of medium-band RNCC, and also with high-band RNCC and CHC combined. Significance was tested using Pearson’s r.

Results
9 homes who admit only to GHH and whose RNCC funding comes from NBPT were included (306 CH beds). We examined the records of 285 (93%) residents.

74 (24%) residents were admitted during the year, with a range of 4-46% between homes.

56% of residents received medium-band RNCC, with a range of 9-68%. Pearson’s r was -0.039 (p>0.05).

22% of all residents received CHC or high-band RNCC, range 3-31% per home. Pearson’s r was 0.171 (p>0.05).

Conclusion
Case-mix as measured by standard assessments was not significantly associated with the rate of admission to hospital from the homes. We suspect factors other than case-mix account for the variations we found.
Introduction
The Department of Health Payment by Results policy will be implemented in 2005/2006. Hospital stays will be re-imbursted using HRG’s modelled on US Diagnosis Related Groups which use diagnosis, procedures, age and gender to specify length of stay (LoS). The NHS Information Authority funded an exploration of the extent to which physical and cognitive ability affects LoS.

Methodology
For four months, in three hospitals, pre-morbid and admission ability was recorded using the interRAI cognitive performance scale (CPS) and Activity of Daily Living hierarchy (ADL) and repeated on alternate days until discharge or 42 days, for all admissions with myocardial infarct (MI), fractured femur (#NoF), respiratory infection (RTI), chronic airways disease (COPD), stroke or fall. Data were linked to hospital PAS data. Source of admission, discharge destination and transfer to rehabilitation, post acute or other setting was also recorded.

Results
There were 1,942 admissions: Stroke 17%, #NoF 11.5%, MI 13.9%, RTI 22.6%, COPD 15.6%, fall 17.2%, more than one 2.3%. Mean age: males 71.2yrs, females 77.6yrs. ADL >3 (range 0-6) increased LoS by 5.3 days more than expected by HRG (95% CI 4.3-6.2, range #NoF 2.5 days, falls 8.6 days). Regression models against logLoS showed large differences between hospitals. Pre-morbid CPS was significant in MI.

Conclusion
If hospital activity statistics and HRGs do not include measures of function, people with disabling disease will be disadvantaged under Payment by Results.

Introduction
Governments are investing in community care to reduce costs and hospital and longterm care admissions with little evidence for policy. The 11 country EU funded Aged in Home Care (AdHOC) project addresses the absence of research evidence on targeting and configurations of services that are the most effective and efficient.

Methodology
People receiving community care services were assessed at project baseline, 6 months and 1 year using the interRAI Minimum Data Set for Home Care (MDS-HC) covering physical and cognitive function, psychosocial and medical domains and formal and informal care provision. Mortality, hospital and long-term care admissions, financial and management structures and service organisation were recorded.

Results
3,785 people, mean age 82yrs, 74.2% female, were included. Physical and cognitive dependency was lowest in Nordic countries and the Netherlands, broadly distributed in the Czech Republic, Germany and England and highest in France and Italy. Hours of formal care provision as a proportion of cross-national median, adjusted for dependency, was 0.27 in Italy (95%CI 0.27-0.34), 0.83 (0.82-0.83) in Nordic Countries, 1.44 in Germany (95%CI 1.29-1.63), 2.82 in England (95%CI 2.31 - 2.86). Informal carer-burden was unrelated to formal care provision except in the Czech Republic and was highest in Germany.

Conclusion
Targeting of community care is inefficient and unfair. Informal carer-burden is affected by service configuration as well as by total formal care provision.
R GOOBERMAN-HILL AND S EBRAHIM

MRC Health Services Research Collaboration, Department of Social Medicine, University of Bristol

Introduction
This study is a qualitative examination of older people's descriptions of their relationships with partners at times of change in mobility (walking). While such relationships have usually been described in the literature as typifying "care", we question whether this is appropriate.

Methods
Interviewees were seven men and eight women aged between 58 and 85. Recruitment was based on age and having difficulty walking (mobility-disability). Participants were interviewed on four occasions each. Nine of the interviewees lived with partners; all interviewees discussed current or previous relationships; we formally interviewed four partners. Analysis was performed using standard methods of qualitative inquiry, including thematic and case study approaches.

Results
Our participants had several ways of coping with mobility-disability in later life. These included: working together as a couple to ensure recovery; working together to maintain independence; and experiencing considerable difficulty coping with change. Couples did not describe their relationships in terms of carer-cared for dyads, but described the changes that their relationships had undergone. Adaptation within relationships reflects the experience of abrupt or gradual change as well as expectations for the future.

Conclusions
Older people do not represent their relationships through the vocabulary of "care", but do talk about the intricacies of their relationships. It is important that researchers and service providers place relationships firmly at the centre of any understanding of change in later life.
DIFFICULTIES IN GAINING INFORMATION FROM OLDER PEOPLE IN A QUALITATIVE INTERVIEW STUDY

C DOW, K WARREN, K DARAWIL
Newham University Hospital, London

Introduction
The National Service Framework for Older People, Standard 3 states, "Many older people want alternatives to hospital care". To explore this, a qualitative study asked the views of older people about "Hospital at Home" schemes. During this study we found that a number of older people refused to take part. This was explored.

Methods
An interview study was undertaken. Patients admitted to the Elderly Care wards received a study information sheet. They were later asked to participate. Reasons for refusal and demographic data (age, sex, MTS and Barthel scores) were recorded.

Results
87 people were approached. 37 (42.5%) refused to take part. Median age for both groups was 84; median MTS was 9, with a preadmission Barthel score of 18 (refused) vs. 19 (accepted). The median ward Barthel score was 16. In the participating group, 13 patients (26%) offered views when asked, "Any other comments". 4 patients (8%) did not comment on questions regarding preference.

Conclusions
This sample of elderly hospital patients highlights the difficulty of obtaining good qualitative research in hospitals. It was felt that the opening paragraph of the information leaflet, required by the local ethics committee, deterred some patients from participating. It also shows that getting older people to freely express their views can be difficult in hospital, but this remains essential if services are to be developed that meet with older people’s needs and wishes.

CHARACTERISTICS OF VIOLENCE AND AGGRESSION AGAINST STAFF IN A GERIATRICS DEPARTMENT

D DENISZCZYC, L CONNOLLY, J HARBISON
Dept of Geriatric Medicine, York Hospital

Introduction
In 2003 the York Hospitals Trust management instituted a requirement that all episodes aggression should be reported by means of an adverse incident report (AIR). Review of these showed that the directorate making most reports was Elderly Medicine. We undertook an audit of the reports to determine the characteristics of the aggression.

Method
All AIR forms relating to violence and aggression submitted over a 12-month period were audited by a member of medical staff with particular emphasis on the location of the episode, whether the aggression was physical or verbal and whether violence was used.

Result
There were 181 reports, of which 156 (86% (95% CI 81-91%)) were of aggression towards staff. 73 (47% (39-55%)) of the episodes occurred on the joint Elderly Medicine/Psychiatry unit. 47 (26% (19-33%)) reports involved instances of verbal aggression of which 26 (55%) were by patients and 17 (34%) visitors. There were 109 reports of physical aggression, all towards staff by patients, of which 97 (89% (83-95%)) were associated with violence and 31 (28% (19-37%)) resulted in minor injury to the staff member. 21 (22% (14-30%)) of the violent episodes involved use of an implement.

Conclusions
Aggressive episodes occur commonly and are frequently associated with violence and injury to staff members. Further measures are necessary to reduce risk to staff and improve management of aggressive patient behaviour.
Introduction
Elderly populations are under-represented in clinical trials; this may be due to recruitment problems. A large cohort provides an ideal setting in which to study recruitment interventions.

Methods
1504 patients with carotid sinus hypersensitivity were identified in a database from a single syncope service. Letters inviting patients for the study were sent to all living patients (830). If no response was received, a 2nd letter was sent. The non-responders were then telephoned. Analysis was by Kruskal-wallis or chi squared tests.

Results
495 (59%) responded to the first letter and 425 agreed to investigation. 329 were sent second letters and of these 194 responded and 68 agreed. 139 patients were telephoned and of these, 20 people agreed to participate. This gives a positive uptake rate of 0.02% (20/830) for the third tier of recruitment. The mean ages across the groups are significantly different (chi squared 23.4; p value 0.0), though there is no significant difference between sexes (chi squared 6.9; p value 0.1).

<table>
<thead>
<tr>
<th></th>
<th>Mean age</th>
<th>Male (%)</th>
<th>Female (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st letter</td>
<td>71.4</td>
<td>223 (64)</td>
<td>278 (57)</td>
</tr>
<tr>
<td>2nd letter</td>
<td>74.4</td>
<td>66 (19)</td>
<td>128 (26)</td>
</tr>
<tr>
<td>Telephone call</td>
<td>74.2</td>
<td>39 (11)</td>
<td>61 (12)</td>
</tr>
<tr>
<td>No response</td>
<td>68.4</td>
<td>16 (4.7)</td>
<td>19 (3.9)</td>
</tr>
</tbody>
</table>

Conclusion
Three-tier recruitment is time consuming and may not be worth while. Other methods of recruitment must be developed if studies are to include a true representation of the population.
A AKPAN*, MA GOSNEY**, JA BARRETT*
*Directorate Of Elderly Medicine & Rehabilitation, Wirral Nhs Trust **School Of Food Biosciences, University Of Reading

Introduction
Faecal incontinence is the involuntary loss of liquid or solid stool that is a social or hygiene problem. Studies of the psychological impact of incontinence in older adults have been mostly of urinary incontinence. This study was done to assess the impact of faecal incontinence in older adults living in their own homes.

Methods
23 older adults (mean age 75.5 years, 95% CI 71.5, 79.5, 78.3% females) with no significant cognitive impairment living in their own homes were seen for this study following their consent. The Rockwood faecal incontinence quality of life scale was used to carry out the psychological assessment. The scale ranges from 1 to 5 with lower values indicating a poorer quality of life.

Results
Scores obtained from the Rockwood faecal incontinence quality of life scale

<table>
<thead>
<tr>
<th>Rockwood faecal incontinence quality of life scale</th>
<th>Average scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scale 1 Lifestyle</td>
<td>2.1</td>
</tr>
<tr>
<td>Scale 2 Coping / Behaviour</td>
<td>1.8</td>
</tr>
<tr>
<td>Scale 3 Depression / Self perception</td>
<td>2.2</td>
</tr>
<tr>
<td>Scale 4 Embarrassment</td>
<td>2.2</td>
</tr>
</tbody>
</table>

Conclusions
Faecal incontinence has a negative impact on the quality of life of older adults with the condition. Time should be given in the consultation process for people to discuss their worries and ask questions as this will help to alleviate some of the anxiety and embarrassment associated with this condition. Information leaflets explaining the condition and contact numbers for continence advisors should be provided.

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Introduction
Faecal incontinence (FI) in the older adult has been reported to be associated with an increased mortality in a nursing home setting (Am J Med 1999; 106: 185). We examined the association between FI in the older adult and mortality on acute elderly care wards in a district general hospital.

Methods
30 adults on acute elderly care wards (mean age 84 years, 95% CI 81.5-86.5, 60% female) were seen for this study following their consent or relative assent. A structured questionnaire and assessment was administered to determine which of the factors associated with FI were present. They were reassessed three months after their initial interview.

Results
13 (43.3%) of these subjects had died before the three month review in comparison to a 16.2% mortality rate on the acute elderly care wards during the study period. The most common factors associated with FI were physical disability (83.3%) with a median Barthel index of 3 (IQR 1 - 6), loose stools (66.7%), faecal loading (56.7%) and cognitive impairment (43.3%).

Conclusion
FI in frail older adults on acute elderly care wards appears to be associated with a high mortality rate. Further work is required to assess the strength of this association and whether FI in a frail older adult on an acute elderly care ward is an independent predictor of mortality.
C RIPPINGALE

Department of Geriatric Medicine St. George’s Hospital

Introduction
Urinary catheterisation is an invasive procedure that carries risks and complications and requires informed patient consent. The indications for catheterisation should be clearly documented. We assessed the indications for catheterisation in the acute care of patients admitted to the geriatric service, its appropriateness and subsequent outcomes.

Method
An observational study of older patients admitted acutely to the geriatric service over 1 month was undertaken. Catheterised patients were identified and their notes were reviewed for evidence of clinical indication. Episodes of subsequent urinary tract infections (UTI), presence of resistant bacterial organisms on urine cultures, hospital readmission and long-term catheterisation rates were recorded.

Results
58 patients were assessed. 10/58 patients were newly catheterised on admission. 4/10 (40%) patients had clear documented indications for catheterisation. 6/10 (60%) were deemed inappropriate. There were 2 readmissions due to subsequent UTI. In 3 patients catheter specimen urine (CSU) samples grew resistant organisms within 1 month of new catheterisation. A proportion of patients exhibited evidence of bacterial colonisation in subsequent CSU. 2 patients (20%) with newly placed catheters were left with them long-term.

Conclusion
Urinary catheterisation is associated with an increased morbidity and there should be clear indications for its use. The use of urinary catheters has an impact on the dignity and quality of life for our patients and requires careful consideration. Further work is required to ensure urinary catheters are used appropriately.

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Introduction
Incidence of chronic kidney disease (CKD) increases with age. Early management delays disease progression and improves quality of life. However only 3.6% of patients over 80 are seen by renal services. This survey was designed to identify current practice in the management of CKD in older people and attitudes to specialist renal input both now and in the future.

Methods
A questionnaire comprising 14 clinical scenarios and questions on management of complications of CKD was sent to 600 consultant geriatricians randomly sampled from both teaching and non-teaching hospitals throughout the UK.

Results
53% (324) questionnaires were returned. Given a creatinine of 150uM/l in a 76 year old woman weighing 58kg, 63% correctly identified the Glomerular Filtration Rate to be between 20-39 ml/minute. 60% said they would not routinely refer patients with comorbid ischaemic heart disease, hypertension, malignancy, stroke or dementia.

Renal bone disease and acidosis of CKD were treated by 64.5% and 40% of respondents respectively. Most (96%) were happy to manage hypertension associated with CKD. However 87% were prepared to manage all complications of CKD with guidance from, or shared care with, renal teams in the future.

Conclusions
Most older people with CKD and its associated complications may currently receive suboptimal treatment from geriatricians. Publication of guidelines and a system of shared care may improve future management.
MOLECULAR EPIDEMIOLOGY OF TOXIN-VARIANT CLOSTRIDIUM DIFFICILE

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Introduction
Pathogenic strains of Clostridium difficile cause diarrhoea and colitis via the action of their toxins; A and B. Clinically important toxin-variant (toxin A-negative, toxin B-positive) strains of Clostridium difficile that cause disease in humans have recently been isolated in several countries. The aims of this prospective study were to determine the prevalence of toxin-variant C. difficile in our institution and to document severity of disease and recurrence rates associated with these strains.

Methodology
We studied all consecutive patients with nosocomial C. difficile diarrhoea (CDD) between July and December 2003. Cases were identified by review of stool C. difficile toxin assay results. C. difficile was cultured from faecal specimens. Toxic-specific enzyme immunoassays, cytotoxicity assays and PCR were used to analyse Clostridium difficile isolates.

Results
We identified 71 cases of C. difficile diarrhoea. All C. difficile isolates were positive using the toxin-A/B ELISA. Ninety-five % of C. difficile isolates were negative using the toxin-A ELISA. The repeating segment of the tcdA gene (1,200 bp) was amplified by PCR using the primers NK9 and NK11. C. difficile variant strains were detected in 95 % of patients. In the case of amplified fragments of unexpected size, the entire tcdA gene was studied by PCRs A1, A2, and A3. A deletion of approximately 1.7 kb was found at the 3’ end of the toxA gene for 93% the isolates, similar to the deletion in toxinotype VIII strains (e.g., C. difficile serotype F 1470).

The overall incidence of CDD during this period was 12 cases per 1000 admissions. The median age of cases was 73 years (range 36-95 years); 37 were female. At least 10(14%) patients (all with toxin-variant C. difficile) developed severe pseudomembranous colitis. Recurrent CDD occurred in 29 patients (41%). In patients with recurrent diarrhoea the initial and recurring strain was toxin-variant in all but one case.

Conclusions:
Toxin-variant C. difficile appears to be endemic in our institution. We observed an unusually high incidence of severe pseudomembranous colitis (14%) compared to that usually associated with non-variant C. difficile (3-5%). Toxin-variant C. difficile may go undetected unless routine laboratory practise includes stool culture and testing for both toxins. Further work is underway looking specifically at the immune response to variant toxins and severity of disease caused by these strains.

A RETROSPECTIVE CONTROLLED STUDY OF 56 OLDER PATIENTS WITH OESOPHAGEAL CANDIDIASIS DIAGNOSED IN A DISTRICT GENERAL HOSPITAL

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Introduction
Oesophageal Candidiasis (OC) in the aged remains understudied although not uncommon. We studied a group of older patients with OC and compared with a matched sample aiming to identify: presentation; associated medical conditions, functional status and upper gastrointestinal pathologies; safety of endoscopy in its presence and whether it is a marker of poor outcome.

Methodology
56 consecutive patients with histologically proven OC and 56 randomly selected age and sex matched controls who had no candidiasis on Oesophago-gastro-duodenoscopy (OGD) were retrospectively studied.

Results

<table>
<thead>
<tr>
<th>Indication for OGD</th>
<th>Cases</th>
<th>Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anaemia</td>
<td>28%</td>
<td>29%</td>
</tr>
<tr>
<td>Anorexia</td>
<td>40%</td>
<td>29%</td>
</tr>
<tr>
<td>Dysphagia</td>
<td>13%</td>
<td>22%</td>
</tr>
<tr>
<td>Haematemesis</td>
<td>15%</td>
<td>7%</td>
</tr>
<tr>
<td>Melaena</td>
<td>2%</td>
<td>3%</td>
</tr>
<tr>
<td>Dyspepsia</td>
<td>2%</td>
<td>13%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Drugs consumed within 4weeks</th>
<th>Cases</th>
<th>Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>PPI/H2b</td>
<td>53%</td>
<td>39%</td>
</tr>
<tr>
<td>Antibiotic</td>
<td>22%</td>
<td>3%*</td>
</tr>
<tr>
<td>Steroid</td>
<td>26%</td>
<td>14%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Comorbidity</th>
<th>Cases</th>
<th>Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malignancy</td>
<td>40%</td>
<td>6%*</td>
</tr>
<tr>
<td>COPD</td>
<td>40%</td>
<td>13%*</td>
</tr>
<tr>
<td>Diabetes</td>
<td>11%</td>
<td>13%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rankin’s score</th>
<th>Cases</th>
<th>Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;2</td>
<td>67%</td>
<td>77%</td>
</tr>
<tr>
<td>&gt;4</td>
<td>15%</td>
<td>10%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Abode</th>
<th>Cases</th>
<th>Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home</td>
<td>73%</td>
<td>87%</td>
</tr>
<tr>
<td>Resident</td>
<td>14%</td>
<td>6.5%</td>
</tr>
<tr>
<td>Nursing</td>
<td>13%</td>
<td>6.5%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Survival period from endoscopy</th>
<th>Cases</th>
<th>Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median &gt;6 months</td>
<td>6 months</td>
<td>54 months*</td>
</tr>
<tr>
<td>Survival &gt;12 months</td>
<td>38%</td>
<td>90%*</td>
</tr>
</tbody>
</table>

*P<0.01, PPI-Proton pump inhibitor, H2b-antihistamine 2blocker, COPD- chronic obstructive pulmonary disease

Conclusion
OC in older patients tends to be found incidentally rather than associated with classical clinical features. Antibiotic use, malignancy and COPD are significantly associated with OC, while diabetes is not. It is a strong predictor of poor outcome irrespective of the functional capacity at the time of diagnosis.
LAW & ETHICS

ATTITUDES TO AND UNDERSTANDING OF CARDIOPULMONARY RESUSCITATION (CPR) AND DO NOT ATTEMPT RESUSCITATION (DNAR) ORDERS AMONGST OLDER ADULTS

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Introduction
National guidelines emphasise the importance of involving competent patients in resuscitation decisions. Concern remains about the level of understanding regarding resuscitation amongst patients.

We interviewed older adults to discover:
- Their level of knowledge about cardiopulmonary resuscitation (CPR)
- The acceptability of discussing CPR with them
- The impact of a patient information leaflet.

Methods
76 consecutive inpatients met our inclusion criteria (Abbreviated Mental Test >8, planned discharge and no major communication barrier); 26 declined participation.

Consenting patients were interviewed before and after receipt of a CPR information leaflet. The interviews were recorded and questionnaires completed.

Results
68% of the group were female; mean group age was 81 (SD 5.7) years.
70% thought CPR had >50% success rate. Opinions about success of CPR were not influenced by age, sex or principal diagnosis. Most patients would wish CPR (36% always, 36% depending on circumstances).

Conclusions
Older adults are unrealistic about the potential success of CPR.
Preference for CPR reflects this view.
Most patients are willing to discuss CPR.
Patient information leaflets, although well received, only change a minority of patients’ views.

OUTCOME OF REFUSAL OF PEG IN HOSPITAL INPATIENTS

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Department of Integrated Medicine, Princess of Wales Hospital, Bridgend

Introduction
Percutaneous Endoscopic Gastrostomy (PEG) is a recognised method of nutritional support. PEG is an invasive process and recent National confidential Enquiry of Perioperative death shows that there is 6% mortality within 7 days of the procedure and 17% procedure were futile.

Method
A retrospective study of patients, referred for PEG feeding between 1999-2003 but didn’t undergo the procedure over the period. Reasons for referral, refusal and outcome at 7 and 30 days were documented.

Results
376 patients were referred, 61 (16%) had PEG refused. Mean age PEG refused was 78 yr (34-95). 41% had stroke dysphagia, 19% non-dysphagia nutritional support, 18% with Dementia, 16% aspiration, 6% others. In 24.5% swallowing recovered, 27% were deemed unlikely to survive procedure, 11% deferred by Consultant / family members, 7% had dementia.

10% died before consultation and 14.5% died before scheduled PEG. 36% patients died within 7 days. At 30 days 88% of patients died. All refusals were in agreement of the treating consultant team and or next of Kin of the patient.

Conclusion
This study shows that patients who are refused PEG in agreement with family / carer / treating team are generally poorly and unlikely to survive more than 30 days. This observation shows that refusal of PEG in appropriate patients is justified due to their poor overall outcome.
OLDER PEDESTRIANS: MORE SINNED AGAINST THAN SINNING

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1,2+3 Dept. Medical Gerontology, Adelaide & Meath Hospital, Dublin 24

Background
Road traffic accidents (RTAs) involving older people follow different patterns of timing, location and outcomes from those of younger people (OECD, Paris 2001). Older pedestrians are a vulnerable group and few analyses have been undertaken of the phenomenology of injuries and fatalities. We describe patterns of RTAs with the aim of highlighting areas of importance for prevention of death and injury.

Methods
We collated datasets of the Irish National Road Authority from 1998-2002. We categorized patterns of crashes involving older pedestrians comparing them with younger adults.

Results
Older people represented 30% (n=134) of pedestrian fatalities and 12% of injuries while accounting for 11% of the population. Most accidents involving older pedestrians happen in daylight (57% vs 41% for younger adults, X² =51.2, p<0.00001) and in good weather conditions. Older people were also less likely to be involved with an accident when crossing with an obstructed view of the road, (14% vs 18 % X² =3.9, p<0.05). There was a significant increase in the proportion of older people hit by heavy goods vehicles compared to younger adults (10% vs. 4%, X² =47.3 p<0.001)

Conclusions
Older pedestrians are particularly vulnerable in RTAs despite using safer strategies than younger adults. This points to a need for prevention strategies that are targeted at other road users, in particular heavy good vehicle drivers, rather than at older people.

ADVANCE DIRECTIVES: WHAT DO OLDER PEOPLE KNOW?

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South Manchester University Hospital Trust

Introduction
An Advance Directive (AD) details future treatment preferences of a competent adult should they become incapacitated. Patients’ views about ADs are widely reported in the US but UK older peoples’ views are poorly understood. A recent English Judgement (Burke v The GMC) may enhance rights to request treatment and a draft Mental Capacity Bill seeks to legislate for ADs. We therefore sought to determine older patients’ views on ADs in a UK hospital.

Methods
Inpatients aged over 60 agreeing to participate were recruited. Information was gathered via structured interview together with Geriatric Depression Score (GDS) and Mini Mental State Examination (MMSE).

Results
Fifty patients were recruited, 68% female, mean age 84.2 years (SD +/- 5.88). Mean MMSE was 23.86 (SD +/-6.02). 87.5% had never heard of ADs but 44.7% had positive views of them. 34% expressed interest in completing one and 55.3% wish to appoint a proxy decision maker. 23% had previously discussed end of life issues. Most (76.6%) did not want their life prolonged by medical intervention. We found no correlation between patients' opinions and their GDS or MMSE.

Conclusions
Older hospitalised patients have little knowledge of ADs. Their unwillingness to discuss end of life issues and formally document their wishes is likely to limit the effectiveness of ADs. Proposed legislation may not address all of the issues surrounding end of life decisions.
NEGATIVE PORTRAYAL OF OLDER DRIVER

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Introduction
Older drivers are the safest drivers but many European governments have enacted restrictive legislation directed at them (White S, O’Neill D. Gerontology 2000;46(3):146-152). The pressure for ageist legislation may arise from negative media portrayal of the older drivers. We examined the portrayal of older drivers in the media.

Methods
We searched the electronic databases of 15 UK and Irish national and regional newspapers for references to older drivers over the last 5 years. Search terms included: ‘Older’, ‘Old’, ‘Pensioner’, ‘Old Age’, ‘Elderly’, and ‘Drive’, ‘Driving’, ‘Accident’, ‘Crash’, ‘Fatality’. Two people independently assessed the articles to be predominantly positive, negative or balanced in their reporting with respect to older drivers.

Results
We identified relevant 51 articles of which 4 were positive, 17 negative and 30 balanced. When brief reports on fatal RTAs were excluded, the results for opinion/editorial articles were 15 (negative), 4 (positive), and 7 (balanced). Sample headlines included “Keep the over-50’s off our M-ways” and “MP calls for old to get special licences”

Conclusion
Reporting of issues relating to the older driver in the UK and Ireland is largely negative. This represents a facet of ageism in our societies and a stumbling block to maintaining mobility in older drivers. Anti-ageist policy on reporting in the media or positive discrimination by newspapers and broadcasters could be useful in promoting the health and wellbeing of our ageing population.

PARKinson’s DISEASE CLINIC: A QUESTIONNAIRE SURVEY TO ASSESS NEEDS AND EXPECTATIONS OF PATIENTS, CARERS, GENERAL PRACTITIONERS AND CARE HOMES

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Royal Albert Edward Infirmary, Wigan Lane, Wigan

Aim
To assess the needs and expectations of patients with Parkinson’s Disease (PD), their carers, general practitioners (GP’s), and care homes.

Methods
A questionnaire was sent by post to 180 patients and carers, 148 general practitioners and 66 care homes managers. The questions were designed in-house and anonymous.

Results
49% of patients were fairly satisfied with symptom control. They had received support from a Parkinson Disease specialist nurse (62%), physiotherapy (30%), occupational therapy (32%), and social services (26%). 64% of patients and carers had enough information on PD, but would like more by written material (71%) or video (39%). 78% of patients would like to contact the PD Clinic by telephone, and 79% would like to be seen by the specialist nurse at home.

55% of the GP’s had referred patients to a specialist, but 67% were unaware of a PD Clinic and only 16% had access to a specialist nurse. 46% of the GP’s felt their knowledge of PD was reasonable, but their knowledge of resources available was barely adequate. 36% of care homes managers’ knowledge of nursing needs was reasonable, but none had enough information on PD, and only 24% had support from a PD Clinic.

Conclusion
Patients and carers would like more information on PD, and support from the ancillary services. Awareness of PD Clinics and local resources available needs to be increased.
AUTONOMIC DYSFUNCTION IS PRESENT IN DEMENTIA WITH LEWY BODIES

LOUISE M ALLAN (1), CLIVE G BALLARD (2), JOHN ALLEN (3), ALAN MURRAY (3), ANDREW T MCLAREN (1), ADRIAN DAVIDSON (4), IAN G MCKEITH (1) AND ROSE ANNE KENNY (1)

(1) Institute for Ageing and Health, Wolfson Research Centre, Newcastle General Hospital, Westgate Road, Newcastle upon Tyne NE4 6BE United Kingdom (2) Wolfson Centre for Age Related Disorders, King’s College London, Guy’s Campus, St Thomas Street, L

Introduction
Autonomic function has not been prospectively evaluated in Dementia with Lewy bodies (DLB). We investigated autonomic function in DLB, Parkinson’s disease with Dementia (PDD) and Parkinson’s disease without dementia (PD) and healthy controls.

Methods
105 participants were evaluated (15 DLB, 21 PDD, 41 PD and 28 age-matched controls). Evaluation included power spectral analysis of heart rate variability (HRV) and standard bedside autonomic tests.

Results
In DLB HRV was reduced in comparison with controls in the very low frequency (median 229 vs. 65 ms²; p=0.017) and low frequency bands (190 vs. 40 ms²; p=0.020), and in PD and PDD in all frequency bands and total spectral power (all p<0.05). Bedside autonomic testing confirmed sympathetic and parasympathetic dysautonomia in patients with DLB.

<table>
<thead>
<tr>
<th></th>
<th>Control</th>
<th>PD</th>
<th>PDD</th>
<th>DLB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median change in heart rate during deep breathing</td>
<td>5.3</td>
<td>2.6*</td>
<td>2.1**</td>
<td>4.3***</td>
</tr>
<tr>
<td>Median Valsalva Ratio</td>
<td>1.25</td>
<td>1.12**</td>
<td>1.06***</td>
<td>1.10</td>
</tr>
<tr>
<td>Media heart rate response: standing</td>
<td>1.09</td>
<td>1.03*</td>
<td>1.01***</td>
<td>1.0*</td>
</tr>
<tr>
<td>Systolic Blood Pressure Change: Standing (mm Hg)</td>
<td>-23.2</td>
<td>-41.2**</td>
<td>-47.2**</td>
<td>-42.9*</td>
</tr>
<tr>
<td>Change in Systolic Blood Pressure: Valsalva Manoeuvre phase IV (mm Hg)</td>
<td>21.4</td>
<td>10.0*</td>
<td>2.1**</td>
<td>7.8</td>
</tr>
</tbody>
</table>

when compared with the control group (results are shown in the table below: *p < 0.05, **p < 0.01, ***p<0.001).

Conclusions
This is the first prospective study confirming the presence of dysautonomia in DLB. We are currently investigating the fects on cognition, white matter disease and falls.
THE USE OF BIOCHEMICAL INDICES AS PROGNOSTIC MARKERS IN ACUTE GERIATRIC ADMISSIONS

W DAVID STRAIN, BEN CARPENTER
Northwick Park Hospital, London

Introduction
In younger patients C-reactive protein (CRP) is a recognised prognostic indicators, however its value has not been assessed in an older population. Biochemical markers such as sodium and albumin are anecdotally more reliable in a geriatric population.

Methodology
Demographic information (age, sex, abridged mental test score (AMTS) and number of medications on admission) and admission laboratory results (sodium, albumin and CRP) were collected from 164 consecutive admissions to an acute geriatric unit with an admissions policy of all patients aged 65 and over. Outcome was assessed as discharge location, coded as 1-independent; 2-sheltered accommodation; 3-residential or nursing care; 4-death in hospital.

Results
Mean age was 79.5 years (± SD 9.8 years). Sodium, albumin and CRP were 138±5, 37±5 and 65±91 respectively. As expected, increasing age, a lower AMTS and polypharmacy were associated with poorer prognosis (p=0.001, =0.003 and 0.008 respectively). High serum sodium was associated with higher discharge dependency, or in hospital death (p=0.02). There was no association between CRP or serum albumin and outcome, whether regarded as continuous or categorical variables. On multivariate modelling age, polypharmacy and serum sodium were independent predictors of a poor outcome.

Conclusion
These data verify the significance of sodium concentration as a prognostic indicator in the assessment of geriatric acute admissions. CRP, an acute phase marker of disease process, does not carry the same prognostic information.

ELDERLY SEIZURE PATIENTS ARE NOT AT GREATER RISK OF INJURY THAN YOUNGER ADULTS

F WRIGHT (1) N D LAWN (2) J LINTO (3)
The Western Australia Comprehensive Epilepsy Service, Department of Neurology, Royal Perth Hospital, Western Australia

Introduction
The risk of sustaining seizure-related injury is often advocated as a justification to initiate anti-epileptic drug treatment after a first-ever seizure. However, there is little data on seizure-related injuries in the elderly. To ascertain the nature and frequency of seizure-related injuries we examined a group of elderly patients presenting with first-ever seizures.

Methods
Prospective analysis of adults attending a first-seizure clinic between 1999 and 2004. Seizure-related injuries were defined as any injury other than oro-lingual trauma. The seizure type, nature and risk of seizure-related injuries we examined a group of elderly patients presenting with first-ever seizures.

Results
Of 520 patients 76 were aged greater than 60 years. Median age 70 (range 60-91 years), 67% male. 62/76 had generalised tonic clonic seizures. Injuries occurred in 14 elderly patients (18%). Minor contusions and abrasions occurred in 13 patients.1 fractured clavicle was sustained. Seizure-related injuries tended to be more common in younger patients (117/444*, 27%, p=0.15 Fisher exact). Seizure type and spectrum of injuries were similar although significant injuries were more common in younger patients (12% versus 7%). The proportion of partial-onset seizures was higher in elderly patients, 54% have subsequently had further seizures.

Conclusions
The risk of injury with the first-ever seizure is no higher in the elderly population. Long-term follow up may yield further data on the predictors of injury risk in elderly patients who develop epilepsy.
MEDULLARY PATHOLOGY IN CAROTID SINUS SYNDROME / ORTHOSTATIC HYPOTENSION

V MILLER, RN KALARIA, S PARRY, JY SLADE, RA KENNY
Cerebrovascular Research Group, Institute for Ageing and Health, University of Newcastle Upon Tyne

Introduction
Carotid Sinus Syndrome (CSS) is responsible for 30% of unexplained falls in the elderly while Orthostatic Hypotension (OH) is prevalent in 14% of 65yrs+. The medulla is home to nuclei which underscore autonomic functions. Yet medullary pathophysiology has not previously been characterised in CSS/OH. We hypothesised that key autonomic areas involved in haemostasis would show increased deposition of the Alzheimer's associated hyperphosphorylated tau protein in CSS/OH brains.

Methods
Paraffin embedded formalin fixed medulla's were obtained from ten CSS (81yrs +/- 7.4 5F), ten OH (85yrs +/- 7.2 6F) and 8 control cases (76yrs +/- 8.3 6F). Individual autonomic areas were identified by H&E and LFB generated atlases. Serial duplicate 10um sections were used in a standard batch ICC protocol with the tau epitope AT8. Image Pro-Plus was used to quantify hyperphosphorylated tau per area. Statistical significance was the SPSS non-parametric Mann-Whitney test.

Results
In the medullas, only autonomic areas showed tau pathology and this was greater in CSS and OH medullas compared to controls. For CSS the increase was statistically significant in the Cardio-Reflex Arc (p=0.000) and the Nucleus Ambiguus (p=0.043). For OH this increase was statistically significant in the Hypoglossal (p=0.043) Cardio-reflex Arc (p=0.000), Nucleus Ambiguus (p=0.016) and the Dorsal and Sensory Nuclei of Vagus (p=0.009, p=0.68).

Conclusion
These results suggest that medullary dysfunction is a feature and possible cause of autonomic dysfunction in both CSS and OH.

IDENTIFYING SEVERE AND MODERATE PSYCHOLOGICAL DISORDERS AMONG OLDER PEOPLE: THE USE OF LATENT CLASS MODEL ON RESPONSES TO GHQ-12

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1, 2 and 3. MRC HSRC Department of Social Medicine, Bristol University, Canynge Hall, Whiteladies Road, Bristol

Introduction
Classifying people using the General Health Questionnaire (GHQ) relies on comparisons with psychiatric diagnosis, optimal cut points being determined by receiver operating characteristic (ROC) curves. Principal Components and Factor Analysis have been used to identify underlying dimensions of the GHQ. These methods have limitations and produced varying results between studies. Latent Class Models may be a more appropriate approach to discover whether meaningful clusters of individuals can be defined in terms of their responses to the 12-item GHQ.

Methods
Data were obtained from a national survey of 999 individuals, aged 65+ years and living in Britain. MPlus program was used to produce latent class model with clusters of individuals homogeneous in responses to the GHQ-12. The characteristics of each group were defined and comparisons made between groups in an attempt to examine the construct validity of the classification.

Results
The model produced a latent variable that classified, 6% of the sample with many positive responses to the GHQ items, 70% without responses, and 24% who fell into an intermediate group. The three groups had different characteristics including the prevalence of chronic diseases, social participation and other aspects.

Conclusion
A latent class model provides a meaningful classification of older people into three distinct groups of psychological disturbance. Further work examining the association between this method of classification and psychiatric diagnosis is needed to provide evidence of criterion validity.
ABNORMAL CEREBRAL AUTOREGULATION IN ELDERLY PATIENTS WITH TREATMENT RESISTANT DEPRESSION

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Leicestershire Partnership NHS Trust, Bennion centre, Glenfield hospital, Leicester

Introduction
Neuroimaging studies have demonstrated an association between depression in the elderly and cerebrovascular disease. Abnormalities of cerebral autoregulation (CA) would provide further evidence of this association. We aimed to study this association in patients with treatment resistant depression.

Methodology
Cerebral blood flow velocities (CBFV) of both Middle cerebral arteries (MCAs) were recorded using trancranial Doppler ultrasound (TCD) in 10 patients. Arterial blood pressure was measured using Finapres. Matched control data were identified from previously studied normal subjects. CA was investigated by two methods: (a) Step responses, a measure of CBFV plotted graphically (b) Autoregulatory index (ARI).

Results
Patient (control) characteristics were: mean age 75.2 (72.3); mean BP 101.5 (101.0); mean BMI 24.1 (24.7); M:F ratio 1:1(1:1). Step responses showed a slight delay in return to the baseline in patients compared with controls, indicating relative impairment of CA. There was a trend towards lower ARI in patients versus controls for both right MCA (mean ARI 5.278 vs. 5.42 respectively) and left MCA (mean ARI 5.283 vs. 5.64) although this was not statistically significant.

Conclusions
♦ The study demonstrates the feasibility to use TCD to investigate CA phenomena in this clinical population and that the procedures are well tolerated by patients.

♦ A larger study will be needed to confirm whether the small differences observed in CA in severely depressed patients are robust and reproducible.

SELF REPORTED DRINK-DRIVING AMONG MEDICAL OUTPATIENTS

A K DAS (1), E KYEREMATEN (2), J A J SMITHSON (3), R M WEST (4)
1-3. Department of Gastroenterology, Hull royal infirmary 4. Department of Biostatistics, Nuffield Institute of Health, University of Leeds

Introduction
Older drivers achieve higher alcohol concentration and manifest poor coordination at a lower blood level and sustain serious road traffic accident injuries compared to younger drivers. We surveyed drink driving among medical outpatients.

Methodology
Patients recorded their usual places of drinking and maximum amount of alcohol they would drink should they drink and drive. The age cut off between young and old drivers was 70 years.

Results
Eighty percent (280/350) of questionnaires were returned. Four spoiled responses were excluded. Twenty nine percent (56/191) of respondents admitted to drink driving. Of these, 18% (10/56) would drink more than three units before driving. Drink driving was no different between two age groups and this was 25% (8/32) among older patients. This table show, those who drank at more than one place tend to drink and drive (p<0.006).

Conclusion
Many patients report that they drink and drive. This is particularly relevant in older age group who by merit of altered metabolism of and sensitivity to alcohol are more prone to road traffic accidents and susceptible to more severe injuries.
DISCRIMINATION AGAINST PEOPLE WITH COGNITIVE IMPAIRMENT IN COMMUNITY CARE

TOPINKOVA E (1), CARPENTER GI (2), BERNABEI R (3) ON BEHALF OF THE ADHOC PROJECT GROUP

1. Charles University, Prague 2. University of Kent, Canterbury 3. Catholic University, Rome

Introduction
The 11 country EU funded Aged in Home Care (AdHOC) project addresses the absence of evidence for community care policy. Vulnerable people and their informal carers risk discrimination in the absence of informed policy.

Methodology
People receiving community care services were assessed using the interRAI Minimum Data Set for Home Care (MDS-HC) covering physical and cognitive function, psychosocial and medical domains and service provision. Influenza vaccination, blood pressure measurement, breast cancer screening, medication review, adequate treatment of pain and depression, weight loss, inadequate fluid intake, and assistive device for unsteady gait were used as markers of care quality and compared across countries and cognitive impairment.

Results
Of 3,877 people receiving community care, mean age 82, 74.2% female, 50% were cognitively impaired (28.7 % mild, 11.8 % moderate, 7.1 % severe). Cognitive impairment was highest in Czech Republic, England, France and Italy. Sub-optimal care was lowest in Nordic countries (except Denmark) and more common with increasing cognitive impairment (R = 0.698, p <.017). Discrimination was highest in Germany, England, Denmark and Sweden with four or more indicators absent in people with cognitive impairment.

Conclusion
Extreme differences were seen in provision of preventive services, medication management and selected treatments in Europe. Good quality standardised assessment and routine aggregation of assessment data for performance monitoring could identify discrimination against vulnerable populations.

REACTIONS TO AN UNEXPECTED PHONE CALL

O J DAVID
University of Keele, Sandwell and West Birmingham Trust

Introduction
We often take the ring of a telephone for granted, but how do people aged seventy and over react to an unexpected call?

Methodology
A questionnaire survey exploring older people’s relationship to telecommunications was sent to a random selection of persons aged seventy and over on a GP list. Those considered by the elderly care practice nurse to be unsuitable were excluded from the postal list. 518 questionnaires were returned from the 312 sent.

Results
When asked about their reaction to the unexpected ring of a telephone 1% (4/297) reported extreme anxiety; 5% (16/297) moderate anxiety; 13% (40/297) mild anxiety; 64% (190/297) no anxiety; 9% (26/297) enjoyment; and 7% (21/297) a number of other neutral responses. 15 left no response.

Those anticipating a degree of anxiety tended to be female (73% vs. 60%, p 0.068), were three times as likely to report poor (or very poor) health (18% vs. 6%, p 0.003) and up to four times as likely to feel lonely (or very lonely) in the last month (15% vs. 4%, p 0.04). They are also more as likely to report a health problem hindering their use of the telephone (42% vs. 23%, p 0.004). The effect of responder bias is likely to underestimate those experiencing anxiety.

Conclusion
A significant degree of anxiety may be associated with an unexpected telephone call in this age group.
TRANSPORT NEUROLOGICAL SYMPTOMS DUE TO CHRONIC SUBDURAL HAEMATOMA: IS HEAD INJURY A USEFUL CLUE?

SANTHOSH SUBRAMONIAN, SUNKU H GUPTHA
Department of Clinical Pharmacology and Therapeutics, Department of Nuclear Medicine, Department of Medicine, Ninewells Hospital and Medical School, Dundee

Introduction
Survivors of cerebrovascular disease are more likely to die of cardiac death than recurrent stroke, but few cardiac investigations are routinely done. Studies of single cardiac abnormalities e.g. coronary disease suggested that certain cardiac abnormalities might be more common in patients who had a stroke. However, no previous study has examined how often different cardiac abnormalities co-exist in individual stroke survivors. In this study, we evaluated the spectrum of hidden cardiac abnormalities in patients with cerebrovascular disease.

Methodology
Detailed cardiac investigations were performed in 202 patients who had cerebrovascular disease. Tests included ECG, echocardiography for left ventricular function and hypertrophy, myocardial perfusion scan, 24-hour ECG and autonomic function tests.

Results
Hidden but potentially treatable lethal cardiac abnormalities were common in survivors of cerebrovascular events. Silent myocardial ischaemia was prevalent (18%). Left ventricular hypertrophy was common (26%). Left ventricular dysfunction (echocardiographic ejection fraction <40%) was present in 8%. 70% of patients with left ventricular dysfunction were asymptomatic. 18% of patients had 2 or 3 of the abnormalities of left ventricular hypertrophy, left ventricular systolic dysfunction or abnormal myocardial perfusion scan. Some degree of autonomic dysfunction was present in 92%, whilst 20% had moderately depressed heart rate variability.

Conclusion
Hidden but potentially treatable lethal cardiac abnormalities are common and often co-exist. Future studies should address the cost-effectiveness for non-invasive cardiac investigations to screen and treat cardiac abnormalities in stroke survivors.

DAILY NATION DIFFERENCES IN OXYGEN SATURATION IN ACUTE STROKE PATIENTS

KHALID ALI, CHRISTINE ROFFE, MOHAMMED HALIM
Department of Geriatrics, Institute of Ageing, Keele University, Stoke-on-Trent

Introduction
Hypoxia is common after acute stroke, and may contribute to stroke progression. Most studies of stroke related hypoxia were conducted at night. The aim of this study was to determine the differences in oxygenation between day and night early after stroke.

Methodology
Adult patients with a new stroke were recruited within 72 hours of admission. Oxygen saturation was recorded using a Pulsox-3I pulse oximeter. Data were downloaded using Oximeter Download Software. Daytime recordings were 9am-9pm and nocturnal readings 10pm-6am. Desaturations (ODI 4%) were defined as a 4% fall from baseline.

Results
Twenty patients [10 males, 10 females; mean age 77 (SD 9) years; body mass index 25.6 (SD 3); 16 anterior circulation syndrome / 4 lacunar syndrome; 17 infarcts, 2 haemorrhages and 1 tumour were included.

Conclusions
The mean oxygen saturation early after acute stroke is about 1% lower at night than in the day and there was a trend towards more desaturations at night.
ROLE OF PULSE OXYMETRY IN ASSESSMENT OF ASPIRATION IN STROKE

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Speech and Language Therapy and Integrated Medicine, Princess of Wales Hospital, Bridgend

Introduction
Dysphagia is a common occurrence after stroke and can result in increased risk of developing aspiration pneumonia. Several screening tests are used including Videofluoroscopy and assessment by speech and language therapists (SALT).

Objective
To compare swallowing assessment from pulse oximetry and SALT in relation to aspiration and its clinical implications.

Methods
44 of 48 consecutive adults admitted with acute stroke were studied. 4 were excluded due to drop in baseline oxygen saturation. All were given 10mls of water to swallow in an upright posture. Pulse oximetry (mean of 3 readings) were performed before, during and 2 minutes after the swallow and patient assessed simultaneously by the SALT blinded to the results of pulse oximetry. A desaturation of 2% or more during or after swallow was taken as unsafe swallow.

Results
21 of 22 patients were identified as safe on basis of pulse oximetry if given thickened fluids. Which had 100% concordance with SALT assessment.

Out of 18 patients found unsafe on pulse oximeter two-third were given thickened fluid and one-third were kept nil by mouth by SALT but none of the patients were put on normal fluids which is significant.

Conclusion
Over half of the patients identified as safe by pulse oximeter can be given thickened fluids or soft diet and this method of assessment can reduce the duration and numbers kept nil by mouth.

CAN A PULSE OXIMETER BE USED TO DETECT ASPIRATION IN STROKE PATIENTS WITH AN UNSAFE SWALLOW?

DJC RAMSEY DG SMITHARD L KALRA
GKT School of Medicine, London and William Harvey Hospital, Ashford, Kent

Introduction
It is unclear whether desaturation during swallowing implies aspiration and if so at what magnitude of desaturation. This study aimed to look for an association between levels of desaturation during swallowing in acute stroke patients and swallow test results.

Methods
144 acute stroke patients underwent a modified bedside swallow screening assessment (mBSA); this used a radio-opaque contrast rather than water and was followed by chest radiography looking for aspirated contrast. Baseline oxygen saturations were recorded pre mBSA and for 10 minutes thereafter, allowing calculation of the greatest desaturations during 0-5 minutes (T1) and 5-10 minutes (T2) from onset.

Results
On mBSA 74(51.4%) patients had a safe swallow, 65(45.1%) were unsafe and 5(3.5%) aspirated silently. Desaturation by >2% occurred in 35.7% subjects during T1 and 35.3% during T2; only 3.6% desaturated by >5% in T1 and 4.2% during T2. The proportions of safe and unsafe patients desaturating in each time period are given below. There was no significant association between mBSA score and desaturation.

Conclusion
We found no relationship between mBSA score and desaturation at the 2% or 5% level.

<table>
<thead>
<tr>
<th>Total (n=144)</th>
<th>Safe (n=74)</th>
<th>Unsafe (n=70)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number desaturating by &gt;2% in T1 (%)</td>
<td>50(140)(35.7)</td>
<td>29(72)(40.3)</td>
</tr>
<tr>
<td>Number desaturating by &gt;5% in T1 (%)</td>
<td>5(140)(3.6)</td>
<td>2(72)(2.8)</td>
</tr>
<tr>
<td>Number desaturating by &gt;2% in T2 (%)</td>
<td>42(119)(35.3)</td>
<td>20(58)(34.5)</td>
</tr>
<tr>
<td>Number desaturating by &gt;5% in T2 (%)</td>
<td>5(119)(4.2)</td>
<td>2(58)(3.4)</td>
</tr>
</tbody>
</table>
NOCTURNAL OXYGEN TREATMENT DOES NOT IMPROVE ATTENTION AND CONCENTRATION IN MEDICALLY STABLE STROKE PATIENTS

M HALIM AND C ROFFE
Institute of Ageing, Keele University

Introduction
Cognitive impairment after stroke is a common problem, and may be related to nocturnal hypoxia. The aim of this study is to test the effect of nocturnal oxygen supplementation on attention and concentration in the stroke patients.

Methodology
Medically stable patients were recruited from the stroke rehabilitation ward >2 weeks after a stroke and randomised to receive oxygen 3 L/min (Intervention) or 0.5 L/min (Control) overnight for 2 weeks by nasal cannulae. Concentration and attention were assessed using the Alterskonzentrationstest (Hogrefe, Verlag für Psychologie, Göttingen, Seattle) before treatment (baseline) and after the intervention (week2). Fifty-five semicircles with different positions (upside and down) and different patterns (half-black on left or right) are shown and patients are instructed to mark all that exactly match the example on top.

Results

<table>
<thead>
<tr>
<th></th>
<th>Intervention N=21</th>
<th>Control N=25</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years ±SD)</td>
<td>72±7</td>
<td>71±8.5</td>
<td>0.6*</td>
</tr>
<tr>
<td>Time taken to</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>complete the test</td>
<td>59(22-245)</td>
<td>72(41-151)</td>
<td></td>
</tr>
<tr>
<td>(seconds) Median (range)</td>
<td>-7(-73,10)</td>
<td>-13(-89,8)</td>
<td></td>
</tr>
<tr>
<td>No. of semicircles</td>
<td>17(8-20)</td>
<td>17(4-20)</td>
<td></td>
</tr>
<tr>
<td>identified correctly out of 20 Median (range)</td>
<td>1(5,7)</td>
<td>0.5(-8,15)</td>
<td>0.6‡</td>
</tr>
<tr>
<td>No of mistakes</td>
<td>2(0.0-11)</td>
<td>1(0.0-26)</td>
<td></td>
</tr>
<tr>
<td>out of 35 Median (range)</td>
<td>0.0(-8.5)</td>
<td>0.0(-8.22)</td>
<td>0.4‡</td>
</tr>
<tr>
<td>Error percentage</td>
<td>12(0.0-43)</td>
<td>6(0.0-61)</td>
<td></td>
</tr>
<tr>
<td>Median (range)</td>
<td>-1(-36.5)</td>
<td>0.0(32.6)</td>
<td></td>
</tr>
</tbody>
</table>

*p-value
†Mann-Whitney test

Conclusion
Both groups improved from baseline to week 2. The level of improvement was the same no better in the intervention than in the control group.

COMPARISON OF OXYGEN SATURATION IN STROKE PATIENTS FED WITH A CONTINUOUS VERSUS A BOLUS FEEDING REGIME

INDIRA NATARAJAN, CHRISTINE ROFFE
University Hospital of North Staffordshire City General Hospital Stoke-on-Trent Staffordshire

Introduction
Dysphagia is common in patients with stroke, and may be related to nocturnal hypoxia. The aim of this study is to test the effect of nocturnal oxygen supplementation on attention and concentration in the stroke patients.

Methodology
Medically stable patients were recruited from the stroke rehabilitation ward >2 weeks after a stroke and randomised to receive oxygen 3 L/min (Intervention) or 0.5 L/min (Control) overnight for 2 weeks by nasal cannulae. Concentration and attention were assessed using the Alterskonzentrationstest (Hogrefe, Verlag für Psychologie, Göttingen, Seattle) before treatment (baseline) and after the intervention (week2). Fifty-five semicircles with different positions (upside and down) and different patterns (half-black on left or right) are shown and patients are instructed to mark all that exactly match the example on top.

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*p-value
†Mann-Whitney test

Conclusion
Both groups improved from baseline to week 2. The level of improvement was the same no better in the intervention than in the control group.
Introduction
Warfarin effectively reduces the risk of stroke associated with atrial fibrillation but is markedly underused in older people, due to fear of high bleeding rates. There is little data on the rate of haemorrhage in frail older people. This study was performed to determine the incidence of major haemorrhage and stroke in people aged over 75 years with atrial fibrillation on adjusted dose warfarin (INR 2-3) who had been recently been admitted to hospital.

Methodology
In this retrospective observational cohort study, all patients aged 76 years and over admitted to a major healthcare network between July 1, 2001 and June 30, 2002 with atrial fibrillation on warfarin were enrolled. Information regarding major bleeding episodes, strokes and warfarin use was obtained from patients, relatives, primary physicians and medical records.

Results
There were 228 patients (42% males) included in the analysis, mean age 81.1 (range 76-94) years. Total follow up on warfarin was 530 years (mean 28 months). There were 53 major haemorrhages giving an annual rate of 10.0%, including 24 (45.3%) life threatening and 5 (9.4%) fatal bleeds. The annual stroke rate following initiation of warfarin was 2.6%.

Conclusion
The rate of major haemorrhage was high in this old, frail group but excluding fatalities, resulted in no longterm sequelae and the stroke rate on warfarin was low, demonstrating how effective warfarin treatment is.
Introduction
Increased incidence of cerebrovascular diseases in colder season has been suggested. However, whether it is reflected in number of hospital admissions is unclear.

Methods
We analysed a hospital stroke register (catchment population = 568,000) for 6 seasonal years (1997/98-2002/03). We used Curwen’s method (Curwen M. Health Trends 1990/91) to calculate winter excess in admissions [winter = December- March; Winter excess = admissions in [winter - ½ (preceding 4 autumn months + following 4 summer months)]. We performed stratified analysis by (1) year of admission and (2) different age categories using quartile value of patients’ ages.

Results
N = 5484, age range = 17-105. Mean and median ages for different quartile groups were: 60 and 63 (= 71), 75 and 76 (72-78), 82 for both (79-84), 89 and 88 (= 85).

Table 1 winter excess by year

<table>
<thead>
<tr>
<th>Year</th>
<th>Autumn</th>
<th>Winter</th>
<th>Summer</th>
<th>Excess</th>
</tr>
</thead>
<tbody>
<tr>
<td>97/98</td>
<td>280</td>
<td>306</td>
<td>273</td>
<td>+29.5</td>
</tr>
<tr>
<td>98/99</td>
<td>283</td>
<td>338</td>
<td>300</td>
<td>+46.5</td>
</tr>
<tr>
<td>99/00</td>
<td>327</td>
<td>299</td>
<td>283</td>
<td>-6</td>
</tr>
<tr>
<td>00/01</td>
<td>299</td>
<td>303</td>
<td>312</td>
<td>-2.5</td>
</tr>
<tr>
<td>01/02</td>
<td>316</td>
<td>326</td>
<td>346</td>
<td>-5</td>
</tr>
<tr>
<td>02/03</td>
<td>275</td>
<td>324</td>
<td>294</td>
<td>+39.5</td>
</tr>
</tbody>
</table>

Table 2-winter excess by different age groups

<table>
<thead>
<tr>
<th>Year</th>
<th>Age (years)</th>
<th>Autumn</th>
<th>Winter</th>
<th>Summer</th>
<th>Winter Excess</th>
</tr>
</thead>
<tbody>
<tr>
<td>97/98-02/03</td>
<td>≥ 71</td>
<td>467</td>
<td>482</td>
<td>499</td>
<td>-1</td>
</tr>
<tr>
<td></td>
<td>72 - 78</td>
<td>436</td>
<td>457</td>
<td>413</td>
<td>+32.5</td>
</tr>
<tr>
<td></td>
<td>79 - 84</td>
<td>458</td>
<td>474</td>
<td>478</td>
<td>+6</td>
</tr>
<tr>
<td></td>
<td>≤ 85</td>
<td>419</td>
<td>483</td>
<td>418</td>
<td>+64.5</td>
</tr>
</tbody>
</table>

Conclusions
There may be an effect of cold weather on the numbers of stroke admissions in old age. Otherwise the ‘winter excess’ in admissions is variable. Factors such as pathogenetic role of flu outbreaks, excess community deaths in colder season, may be possible explanations. Further studies are required to clarify their influence on the hospital admissions with stroke.
Introduction
Advancing age is an independent risk factor for stroke. With changing demographic trends, number of older elderly with acute stroke will increase. We examined the impact of ageing on its outcome by comparing between older (>= 85 years) and younger (55-84 years) stroke patients.

Methods
A hospital stroke register, vetted by a stroke research nurse, over a 5-year period (1997-2001) was analysed. Comparison was made for in-patient mortality, destination of discharge from acute setting and hospital stay. Chi-squared or Median Tests were used as appropriate.

Results
N= 4277. Older people (median age =88, range = 85-105) constituted 24.2 % of all acute stroke admissions (N =1105, male= 367). In-patient deaths were significantly higher in older (42.3%) compared to younger (26.4%) age group ($\chi^2 = 97.9$, $p < 0.0001$).

Of the survivors in the older age group 7.1 % were discharged home directly and 45.5% transferred to community or rehabilitation facilities compared to 24.1% and 42.8% respectively in the younger age group ($\chi^2 = 197.1$, $p < 0.0001$). The median length of hospital stay in older age group was 8 days compared to 7 days in the younger age group ($\chi^2 = 5.01$, $p = 0.027$).

Conclusions
Our findings suggest that with advancing age there is a poorer outcome in terms of stroke mortality, longer lengths of hospital stay and an increased need for rehabilitation services. Better understanding and appropriate management of oxygenation, cerebral blood flow, and blood sugar in the acute stroke phase, may alter the outcome from cerebrovascular events in extreme old age in the future.
Platform Presentations

Session G.2, 09.30 - 10.30
PSYCHIATRY, MENTAL HEALTH AND STROKE
PHYSIOLOGICAL CORRELATES OF COGNITIVE DECLINE IN AN ELDERLY POPULATION

C E WRIGHT (1), S R KUNZ-EBRECHT (1), S ILIFFE (2), O FOESE (1), AND A. STEPTOE (1)

(1) Psychobiology Group, Department of Epidemiology and Public Health, University College London, 1-19 Torrington Place, London, WC1E 6BT
(2) Department of Primary Care and Population Sciences, University College London, Royal Free Campus, Rowland Hill

Introduction

Cognitive decline in old age is not universal or inevitable. Associations have been observed with neuroendocrine function, but the relevance of other physiological processes is unclear. We predicted that variations in memory in an aging population would be related to the regulation of neuroendocrine and cardiovascular responses.

Methods

139 participants (65-80yrs) were recruited from two general practices in London. Two standardised verbal paired-associates recall tasks were administered to determine declarative memory performance, and a non-memory task (matrix reasoning) was also performed. Salivary cortisol samples were collected every 10mins, while blood pressure and heart rate were measured before, during and after each task. Illness history and medication use were obtained from medical records.

Results

Multiple linear regression analysis, adjusted for age, gender, education, chronic illness, and medication use, revealed that cortisol reactivity was inversely related to memory performance. Additionally, superior memory was associated with more effective post-task recovery of heart rate (in both men and women) and diastolic blood pressure recovery in men. Cardiovascular recovery effects were independent of covariates, and of levels of heart rate and blood pressure measured during tasks themselves. Neither neuroendocrine nor cardiovascular responses were related to performance of the reasoning task.

Conclusion

Memory in older people is associated both with hypothalamic-pituitary-adrenocortical function and cardiovascular regulation. Disturbances of neuroendocrine and hemodynamic function may leave some individuals more vulnerable to cognitive decline than others.

DIURNAL BLOOD PRESSURE FLUCTUATIONS AND CEREBRAL AUTOREGULATION IN CEREBRAL SMALL VESSEL DISEASE

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Introduction

Adequate perfusion of the vascular watershed areas in the deep white matter of the brain supplied by perforating arteries depends upon the interrelationship between blood pressure (BP) and cerebral autoregulation.

Methods

64 patients (40 male, mean age 65 years) with cerebral small vessel disease were recruited. Cerebrovascular disease load was quantified by T2 and FLAIR MRI brain scanning using the Age-Related White Matter Changes (ARWMC) rating scale. Cerebrovascular resistance (pulsatility index) and dynamic cerebral autoregulatory index (ARI) were measured using transcranial Doppler ultrasound techniques. BP was assessed with 24-hour ambulatory monitoring. Fluctuations in BP and cerebral autoregulation were correlated with MRI lesion load.

Results

Subjects had a mean 24-hour BP of 131/73 (SD12/8), median ARWMC score on MRI of 10.5 (IQR 9) (normal range 0-30), mean pulsatility index of 1.1 (SD 0.4) and mean ARI of 5.7 (SD 1.5) (normal range 0-9). Arterial pulse pressure correlated positively with cerebrovascular resistance (p<0.01) and white matter lesion load (p<0.03). Cerebral autoregulatory capacity (ARI) increased with increasing systolic BP (p<0.04) and nocturnal dipping (p<0.02), and was higher in patients with high white matter lesion load (p<0.02).

Conclusions

Dynamic cerebral autoregulation appears to be upregulated in patients with cerebral small vessel disease, probably to maintain adequate perfusion in the face of sudden changes in blood pressure. Despite this adaptation, physiological fluctuations of BP in long-standing hypertensive patients may increase subcortical ischaemic damage.
**Introduction**
The level to which blood pressure should be lowered remains unclear. Trials have not answered the question and prospective cohort studies have few events in the lower categories of blood pressure. We used a large electronic database to address this issue epidemiologically.

**Methods**
A retrospective cohort analysis was conducted in the UK General Practice Research Database from records on over 6 million patients from 400 general practices. Patients, aged 40 and older with a blood pressure reading in 1993 were followed through to 2001 for the occurrence of stroke. Censoring was employed for patients succumbing to stroke, end of record collection or end of study period. Analyses were conducted using Kaplan-Meier plots, hazard rates and Poisson regression allowing for age, sex, history of stroke, myocardial infarction, heart failure and anti-hypertensive therapy at baseline.

**Results**
The cohort comprised 397,458 patients, of whom 21,855 suffered stroke over the ensuing 8 years. Stroke rates increased monotonically with age and with blood pressure level. However, below blood pressures of 105-114 mmHg systolic and 65-74 mmHg diastolic, stroke rates reached a plateau or increased. Thresholds were observed in all age groups.

**Conclusions**
Limits to blood pressure reduction for stroke prevention, guided by epidemiology, occur at a systolic blood pressure of 105-114 mmHg and a diastolic of 65-74 mmHg.
EARLY RECURRENT OF CEREBROVASCULAR EVENTS FOLLOWING A TRANSIENT ISCHAEMIC ATTACK

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Introduction
Recent studies have suggested the risk of suffering an early recurrent cerebrovascular event following a transient ischaemic attack is far greater than previously reported. We wished to quantify this risk in patients seen at the rapid access clinics in East Glasgow.

Methodology
Over a six-month period, information was taken from referral letters to the rapid access TIA/Stroke clinics at Stobhill Hospital and Glasgow Royal Infirmary. Subsequent clinic letters and results of investigations were reviewed to enable the original diagnosis and presence or absence of a recurrent cerebrovascular event to be recorded.

Results
Of the 372 new referrals seen during the six-month period, 37 (10%) did not attend for appointment, 130 (35%) had a non-cerebrovascular diagnosis and 205 (55%) were deemed to have suffered a probable or definite new TIA (121 (32.5%)) or stroke event (84 (22.5%)). There were 19 recurrent cerebrovascular events giving a recurrence rate of 9% (95% confidence interval 5%-13%). Of these, 10 (5%, CI 2%-8%) occurred within 7 days of the initial episode and 15 (7%, CI 4%-11%) within 1 month. The only associated risk factor for recurrence, using multivariate analysis, was current smoking.

Conclusion
The recurrence of cerebrovascular events following a TIA is likely to be higher than previously thought. It is uncertain which interventions or strategies, if any, can reduce the risk of early recurrent events and further research in this area is required.