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## EXERCISE PROFILE AND SUBSEQUENT MORTALITY IN AN ELDERLY AUSTRALIAN POPULATION

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Though the health benefits of exercise are increasingly recognised, there has been little research to date on physical exercise in very old people. We therefore examined exercise patterns, their correlates and prognostic significance in 1788 subjects aged 70 yr over and who were participating in the Australian longitudinal study of ageing (ALSA).

A questionnaire administered by trained interviewers to subjects in their normal place of residence revealed that in the previous 2 weeks 71 (4 per cent) subjects had exercised vigorously, 1021 (57 per cent) had exercised but not vigorously, and 696 (39 per cent) subjects had taken no exercise. When compared with those who took no exercise, exercisers were more likely to be male and younger, to self-report better health, to be former smokers and regular alcohol users. Neither marital status nor level or education differed significantly in exercisers and non-exercisers. Mortality rates at 2 yr follow-up were 2.8 per cent for vigorous exercisers, 7.6 per cent for those who exercised but not vigorously and 15.7 per cent for non-exercisers.

While association does not imply causality, these findings indicate that very old people who take no exercise are a high risk group at whom intervention programs should be targeted.

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## AMBULATORY BLOOD PRESSURE MONITORING IN ELDERLY SUBJECTS

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Twenty-four h ambulatory blood pressure monitoring (ABPM) has a number of advantages over conventional BP (CBP) measurement, and is being increasingly used in assessing hypertension in patients of all age groups. Normal ageing is associated with a rise in CBP, but there is little information on ABPM values in normal elderly (60-80 yr), and very elderly (aged 80 and over) subjects. Normal reference values for ABPM in elderly subjects must be available before the technique can readily be applied to clinical practice in older subjects.

The aim of this study was to establish a reference range for ambulatory blood pressure in healthy community dwelling elderly and very elderly subjects. One hundred and ten healthy community dwelling subjects were studied. Each had CBP and ABPM measured according to standard practice. None was taking medication affecting BP.

| | 60-69 yr | 70-79 yr | 80 + yr |
|---|---|---|---|
| n | 42 | 23 | 45 |
| Conventional BP | 145/81 | 150/80 | 159/82 |
| Mean Day ABP | 139/84 | 134/77 | 149/86 |
| Mean Night ABP | 122/72 | 116/67 | 136/74 |

The was an age associated increase in CBP. Mean daytime and night-time ABP was higher in those aged 80 and over than in the younger age groups, consistent with a similar age related increase in ambulatory blood pressure.

As in younger subjects, most elderly subjects in this study showed a diurnal pattern with a nocturnal dip in BP. Mean ABP values in elderly and very elderly were significantly higher than those reported for younger subjects. However the prognostic significance of ambulatory BP levels in elderly subjects is unknown.

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## USE OF THE MENTAL TREATMENT ACT IN AN ELDERLY POPULATION

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Forthcoming mental health legislation has led to review of committal procedures in the Republic of Ireland, but no studies have looked at this area specifically among the elderly population (those over 65 yr). Elderly psychiatric patients may suffer from functional or organic illness, each with different care and treatment needs. In the absence of comprehensive legislation, the Mental Treatment Act (1945) may have been used inappropriately for people with dementia in the past. A review of all involuntary admissions in an old age psychiatry service was carried out, to obtain a profile of those admitted under Section 184 of the Mental Treatment Act in terms of diagnosis, reason for admission and outcome (e.g. discharge destination).

A retrospective chart review was performed of all first admissions over a 5 yr period. Information was obtained concerning sociodemographic, clinical and outcome factors.

There were 37 involuntary admissions. Sixty-three per cent had a functional illness and 34 per cent an organic diagnosis. Of those with organic diagnoses (dementia), 92 per cent had associated severe psychiatric and behavioural problems.

The overall rate of involuntary admissions is low. The role of mental health legislation for people with dementia is discussed, as are other legislative procedures to ensure the protection of these vulnerable people. These include ward of court legislation, the proposed adult care order in the new Mental Health Act, and Enduring Power of Attorney, as proposed in the Power of Attorney Bill 1995. Mental health legislation is but one facet of a range of legislation required to care for and safeguard the needs of those with dementia.

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## A WORD STRESS TEST FOR ALZHEIMER'S DISEASE

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It has previously been shown that electrophysiological abnormalities elicited during mnemonic demand may provide a sensitive marker for mild Alzheimer's disease (AD)[1,2].

The aim was to determine the efficacy of a 'word stress' P300 paradigm to differentiate mild AD and normal ageing.

Sixteen AD subjects (mean age: 72.9 yr, mean MMSE: 21.3) and 16 elderly control (EC) subjects (mean age 74.1 yr, mean

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MMSE: 28.7) were recruited. Subjects were presented with 3 recall 'stress' test involving 1, 3 and 5 word sets.

P300 latency to the target (recalled) words was significantly shortened in the AD group compared to the EC group for 1, 3 and 5 word loads (one way ANOVA p=0.025, p=0.004, p=0.01 respectively). There was also a significant reduction in P300 amplitude between the groups in the 3 word recall test (p=0.017).

Conclusion: The shorter P300 latency to target words in the AD population may reflect reduction in information processing ability in these subjects compared to the nondemented elderly population.

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## ASSET RICH, INCOME POOR: THE PROPERTY BOOM AND NURSING HOME PLACEMENT IN SOUTH EAST DUBLIN

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Because of its catchment's socioeconomic character St. Vincent's Hospital relies more than any other public hospital on private nursing homes to place disabled or dependent old people in long term care.

The recent property boom has rendered many patients ineligible for subvention grant assistance because of the value of their homes. This and the rising cost of nursing home care has resulted in a greater number of patients and relatives refusing to seek private care and has resulted in an increased demand on our public beds, as there is no means of compelling an individual to dispose of property to pay for care.

This paper presents the results of an audit performed of patients referred to St. Vincent's Hospital Geriatric services to determine the percentage of referrals falling into the group of owner occupiers with no income above contributory old age pension. These we feel are those most likely to fall into the aforementioned trap of not being eligible for subvention grant but not being able to pay for private nursing home care without selling their house. It was shown that 70 per cent* of referrals fall into this group.

Options for resolving the situation are also considered.

* Provisional figures.

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## INDIVIDUAL QUALITY OF LIFE FACTORS DISTINGUISHING LOW BURDEN AND HIGH BURDEN CAREGIVERS OF ALZHEIMER'S DISEASE PATIENTS

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The aims were to study caregiver characteristics, patient characteristics, social support and individual quality of life (IQoL) factors distinguishing caregivers reporting low burden or high burden.

Seventy-two AD patients and their primary caregivers were evaluated. Patients' cognitive, functional, and behavioural status were evaluated using MMSE, Blessed-Roth DS, and Baumgarten DBD. Caregiver burden, well-being, informal social support, and IQoL were assessed on the Zatit Burden Index, GHQ-30, Vaux SS-A scale and SEIQoL-DW. The latter included elicitation of those factors which caregivers considered primary determinants of their QoL. The caregivers were split into low and high burden groups on the basis of median split on the Zarit index. Group comparisons were by Chi squared or t-test (Bonferroni corrected) as appropriate.

The majority of caregivers were daughters (32 per cent) or wives (29 per cent). Daughters were over-represented in the high burden group. QoL was lower (p=0.0001) and psychological morbidity higher (p=0.0001) in the high burden group. Of patient characteristics only degree of behavioural disturbance significantly differed (p=0.0001 ) between the 2 groups. There was a trend towards more negative appraisal of informal social support in the high burden group. Of the IQoL factors only "time for self" (p=0.0002) and "finances" (p=0.037) differed significantly between the 2 groups.

Conclusions: Patient behavioural disturbance is a critical factor in caregiver burden. A need for more independence, freedom, or time away from the patient is a major QoL concern for highly burdened caregivers, and a lack of adequate informal support and/or financial constraints can be contributing factors.

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## PRESENTATION OF COELIAC DISEASE IN THE ELDERLY - THE IRISH EXPERIENCE

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The clinical presentation of newly diagnosed coeliac disease in patients over 60 yr of age was determined in a retrospective review of the case notes. All patients had biopsy proven coeliac disease. The total number of patients looked at were 27.

The most common presenting symptoms were abdominal pain 13/27 (48.1 per cent) followed by weight loss 11/27 (40.7 per cent), diarrhoea 9/27 (33.3 per cent) and fatigue 5/27 (18.5 per cent). Other symptoms included abdominal distension, anorexia, dyspepsia, flatulence and steatorrhoea

The most common finding on investigation was anaemia in 17/27 (63.07 per cent). Hypochromic microcytic anaemia was the most common type in 9/27 (33.3 per cent) followed by normochromic normocytic anaemia in 5/27 (18.5 per cent) and macrocytic anaemia in 3/27 (11.1 per cent). Other associations were low erythrocyte folate in 8/20 (40 per cent) and low serum 12 in 2/20 (10 per cent).

Biochemical changes suggestive of osteomalacia were present in 8/27 (29.6 per cent). A low serum albumin was present in 5/27 (18.5 per cent).

Immunological markers of coeliac disease were often present, serum apha-gliadin antibody titres being elevated in 12/19 (62.2 per cent) and serum endomysial antibodies being positive in 12/17 (70.6 per cent).

Coeliac disease can manifest itself in a variety of ways in the elderly. The index of suspicion of this condition is often low, leading to a delay in diagnosis. Some of the above patients had long-standing anaemia of unknown aetiology. We recommend that coeliac disease should be outruled in the investigation of elderly patients with chronic anaemia.

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## ELECTROPHYSIOLOGICAL CORRELATES OF THE DELAYED WORD RECALL TEST IN ALZHEIMER'S DISEASE

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The delayed word recall (DWR) test whereby subjects are asked to recall and recognise 10 words, 5 min after their initial presentation has been demonstrated to be a very efficient measure for discriminating between subjects with Alzheimer's disease (AD) and nondemented elderly controls (EC)[1].

This was to measure the P300 event related potential in response to the DWR test in mild AD and EC subjects to determine the electrophysiological basis of the test.

Eighteen mild AD subjects (mean age: 72.2 yr: mean MMSE: 22.2) and 18 elderly control (EC) subjects (mean age: 73.7 yr: mean MMSE: 28.7) were recruited. Subjects were shown 10 'target' words on a monitor which they were asked to remember. After 5 min, they were shown the 'target' words interspersed with 'nottarget' words and asked to press a button in response to the target words. EEG recordings were taken during this task and later analysed to determine the P300 potential response to the target words.

P300 latency to the target (recalled) words was significantly shortened in the AD group compared to the EC group ($p=0.0095$). There was no significant difference in P300 amplitude between the 2 groups. EC subjects scored significantly better on word recall and word recognition than AD subjects. ($p \leq 0.001$)

Conclusion: The electrophysiological representation of the DWR test reveals a significant shortening on P300 latency in AD subjects mirroring poor word recognition in these subjects.

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## GERIATRIC MEDICINE IN DONEGAL. WHAT'S HAPPENING DOWN THE COUNTRY?

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Increasingly in recent yrs Departments of Geriatric Medicine have been established in hospitals outside the major urban areas serving in general mainly a rural population.

The Department of Geriatric Medicine was established in the general hospital, Letterkenny in 1992. The hospital with 1317 beds serves a population of 112,000 with 15,407 over 65 and 6,826 over 75. Because of its unique geographical position all medical admissions requiring a general hospital bed come to Letterkenny. In addition to the general hospital there are 8 district units/community hospitals with 356 beds.

The department operates an age related policy taking all patients over 75. There were 1,353 admissions to the department in 1995. One thousand two hundred and twenty-four were >75 (620 males and 604 females). These admissions accounted for 25.6 per cent of admissions to the medical unit and occupied 37.4 per cent of the bed days. The mean length of stay was 8.7 days. Men were more likely to be admitted than women (21 per cent v 16 per cent of population over 75). Men living alone had the highest rate of admission (25 per cent).

The vast majority of patients were referred from general practice (86 per cent), with only 5 per cent being admitted through A&E. Sixty-one per cent of referrals were from principals in general practice. Rate of referral varied from practice to practice (7 per cent - 25 per cent), the overall rate being 18 per cent.

Ten per cent of patients were readmitted within 1 month and 22 per cent were admitted more than once in 1995.

On discharge 78 per cent of patients went home. Ten per cent were transferred to community hospitals and 11 per cent died. Looking at those discharged to community hospitals at least 6 months after discharge 40 per cent had gone home, 40 per cent had died, 11 per cent were still in the community hospital and 7 per cent had been transferred to nursing homes.

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## FUNCTIONAL INDEPENDENCE MEASURE (F.I.M.) - PILOT STUDY IN REHABILITATION

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There has been increased pressure recently to measure outcomes in rehabilitation hospitals. F.I.M. is a multi-disciplinary functional assessment, widely used in the USA and increasingly in the Britain as an outcome measurement tool of rehabilitation. It covers 18 different functional areas which are rated on a scale of 1 to 7, according to level of dependency. Maximum score is 126; minimum score is 18. Scores are recorded at admission, at regular intervals during admission and at discharge.

The pilot study involved introducing F.I.M. to an eight-bedded rehabilitation unit in the Department of Medicine for the Elderly, St. James's Hospital. This required training of nursing, medical, Physiotherapy, speech therapy, social work and occupational therapy staff in the standardized use of the measure. All patients admitted to the ward were screened to ascertain their suitability for the F.I.M.. From this, 10 patients were selected for inclusion in the study. Average admission score was 63.7, average discharge score was 97.9.

F.I.M. has been shown to be a valid and reliable measurement of rehabilitation outcome which could be used successfully in rehabilitation settings. In our pilot we found it very comprehensive but noted the following problems:

1. The time commitment involved in training.
2. Unsuitable for "blanket" use on rehab. wards (therefore screening necessary).
3. Staff changes placed increasing demands for ongoing training.
4. Time commitment involved for the person acting as co-ordinator of its use on the ward.
5. F.I.M. scores were not used or discussed consistently at team meetings, ward rounds etc.

These issues need to be addressed before the F.I.M. can be adopted more widely.

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## SERUM CONCENTRATION OF ANTIOXIDANT VITAMINS IN ACUTE STROKE

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Increased free radical production leading to lipid peroxidation is thought to be an important step in the development of atherosclerosis. Antioxidant vitamins may protect against cerebrovascular disease by preventing lipid peroxidation. Therefore, the aim of this study was to assess antioxidant nutrient status and lipid peroxidation in patients admitted with acute stroke.

Twenty-three patients (13 male, mean age 79 yr, range 67-90 yr) with an acute stroke confirmed on computerised tomography were enrolled. Venous blood for determination of serum concentration of antioxidant vitamins and malondialdehyde (MDA, a marker of lipid peroxidation) was taken within 9 h of onset of symptoms. Patients with a history of diabetes, vitamin supplementation and history of stroke or transient ischaemic attack in the previous 3 months were excluded. Twenty healthy controls matched for age, sex and smoking history were obtained from a local general practitioner register.

MDA was significantly increased in stroke patients (1.59±0.23 μmol/l) compared with controls (0.62±0.10), $p<0.0001$. Serum retinol (vitamin A) was decreased in the stroke patients compared to the controls (1.25±0.10 μmol/l vs 1.50±0.10, $p<0.05$), as was (α-tocopherol (vitamin E) (patients 21.77±2.69 μmol/l vs controls 28.07±1.89, $p<0.05$) However. Following lipid correction a-tocopherol values were similar (patients 5.22±0.38 μmol/mmol cholesterol vs controls 6.36±0.70, $p=0.26$). In addition, α-carotene, ß-carotene, lycopene, ascorbate and total antioxidant capacity were similar in the 2 groups.

These results indicate increased lipid peroxidation and reduced vitamin A shortly after the onset of acute stroke. Dietary adjustment to improve intake of vitamin A and other essential antioxidant vitamins may help to protect against future development of stroke.

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## DISTINGUISHING BETWEEN PATIENTS WITH DEPRESSION OR VERY MILD ALZHEIMER'S DISEASE USING THE DELAYED WORD RECALL (DWR) TEST

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While standard measures like the mini-mental state examination (MMSE) have been successful in distinguishing depression from moderate to severe Alzheimer's disease (AD) differential diagnosis is more difficult when dementia severity is very mild, or depressive symptoms are mild or persistent.

The present study investigated the accuracy of the delayed word recall (DWR) test in distinguishing very mild AD patients (mini-mental state examination score ≥23) from community dwelling depressed/dysthymic patients.

An extended version of the DWR test was administered to 26 non-depressed patients meeting NINCDS/ADRDA criteria for probable AD and 20 age matched non-dementing patients with a diagnosis of major depression (n=12) or dysthymia (n=8) according to DSM III-R criteria. Sensitivity and specificity were respectively 96 per cent, 100 per cent for DWR free recall, 92 per cent, 100 per cent for DWR recognition, and 12 per cent, 90 per cent for the MMSE.

Conclusions: In this study both DWR free recall and recognition measures were highly sensitive and specific in distinguishing very mild AD patients from depressed/dysthymic patients. In the latter severity of depression and degree of associated cognitive impairment were generally mild. DWR specificity is likely to be poorer in more severely depressed patients, but differential diagnosis may be less problematic in such cases.

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## "ROUTINE" HAEMATOLOGICAL INVESTIGATION OF GERIATRIC OUT-PATIENTS WITH DEMENTIA

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Geriatric out-patients referred to be assessed for dementia frequently undergo "routine" haematological investigations. These may include thyroid function tests (TFTs), urea and creatinine levels, serum calcium, and liver function tests (LFTs). We suspected that these tests give a low yield of abnormal results and have little effect on patient management and prognosis.

We reviewed the medical notes of 408 patients attending our geriatric out-patient department between February 1985 and February 1995, with a first diagnosis of dementia.

Abnormal results were found in 5 of 306 TFIs (1.6 per cent), 47 of 267 B12/folate levels (17.6 per cent), 62 of 377 urea/creatinine levels (16.4 per cent) 0 of 374 LFTs (0.8 per cent). Of the 5 TFTs which were abnormal, 3 were clinically suspected. Of the 47 abnormal B12/folate levels, none was suspected from clinical findings. Of those patients with low B12/folate levels, 4 were anaemic, 10 had a macrocytosis; 34 patients had neither. Of the 62 abnormal urea/creatinine results, 13 were suspected. Of the 3 abnormal LFTs, none was suspected.

Patients with B12 or folate deficiency were commenced on replacement therapy. Abnormal urea/creatinine and LFTs did not affect management. Abnormal TFTs were treated appropriately.

In conclusion, "routine" measurement of urea/creatinine, LFTs, and calcium levels had no effect on management. "Routine" measurement of B12/folate and TFTs affected management in 17.6 per cent and 1.6 per cent of patients, respectively; it is uncertain what effect, if any, these measures had on patient outcome.

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## THE INFLUENCE OF SOCIAL FACTORS ON THE PRESENTATION OF DEMENTIA

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The objective of the study was to determine the influence of factors unrelated to the disease process on the presentation of dementia.

The living circumstances, educational level, general

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practitioner contact, gender, and diagnosis were recorded for 240, patients with dementia. The duration of symptoms prior to presentation was determined following a family meeting. Cognitive and functional deficits were measured with the cognitive section of the Cambridge mental disorders of the elderly examination[1] and the abbreviated version of the Blessed-Roth dementia scale[2], respectively.

One hundred and forty-seven patients had Alzheimer's disease (AD), 22 vascular dementia, 45 AD with cerebrovascular disease, and 26 had 3 or more contributing diagnoses. There was no effect of diagnosis or level of contact with the general practitioner on duration of symptoms or dementia severity at presentation. Patients living with a son or daughter were more severely demented than those living alone or with a spouse ($p<0.002$). Males had a shorter duration of symptoms ($p<0.0003$) and higher cognitive scores ($p<0.0001$) but did not have more severe functional deficits. Patients with only a primary education had lower cognitive scores ($p<0.03$) at presentation but did not have more severe functional deficits. The lower cognitive scores in those with lower educational attainment may be explained by an effect of education on test performance rather than on degree of dementia. However, this study demonstrates that the gender of the patient and the relationship to the carer do have a significant effect on the presentation of dementia.

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## APOLIPOPROTEIN E ALLELE FREQUENCY AND ONSET OF ALZHEIMER'S DISEASE: A STUDY IN AN ELDERLY IRISH POPULATION

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Apolipoprotein E genotype (APOE) is the single most important genetic determinant of susceptibility to sporadic Alzheimer's disease (AD) yet identified[1]. The discovery of this gene has posed dilemmas for physicians, as 75 per cent of family members of patients with AD would avail of a test that could indicate their chances of developing the disease[2]. Those possessing the APOE-e4 allele are considered to be at increased risk of AD and genotype has been reported to affect the age-at-onset of AD.

We tested the apo E genotype on 118 subjects with cognitive impairment attending a memory clinic (103 had AD, 15 had vascular dementia (VaD)) and compared these results with 48 age matched normal controls.

| Allele | Controls N=48 | Alzheimer's Disease N=103 | Vascular Dementia N=15 |
|---|---|---|---|
| E2 | 7.3% | 1.9% | 0 |
| E3 | 79.2% | 61.7% | 56.7% |
| E4 | 13.5% | 36.4% | 43.3% |

Frequency of apo E alleles

In the AD and VaD populations, there was no correlation between possession of the apo E4 or E3 alleles and age-at-onset, disease severity or subject age. The genotype profiles however showed enrichment of the E4 allele in both AD and VaD subjects.

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## THE ASSOCIATION OF APOLIPOPROTEIN E4 (APO E4) PHENOTYPE WITH SPORADIC ALZHEIMER'S DISEASE, VASCULAR DEMENTIA AND PARKINSON'S DISEASE WITH AND WITHOUT DEMENTIA, IN NORTHERN IRELAND

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The Apo E4 phenotype has been established as a significant risk factor for the development of Alzheimer's disease (AD). Variable associations have been reported with vascular dementia (VaD) and Parkinson's dementia. We investigated the association of the Apo E 4 isoform with various dementia types in Northern Ireland.

All patients and controls were assessed by 1 investigator and diagnoses were made according to definitive criteria. ApoE phenotype was determined using electrofocusing and immunoblotting techniques in 67 elderly controls, 79 sporadic AD patients, 35 VaD patients, 40 non-demented Parkinson's disease patients and 18 Parkinson's disease patients with 7 dementia. Patients and controls were selected from the greater Belfast area.

The E4 phenotype frequency was 16.4 per cent in controls, 36 per cent in AD patients, 27.1 per cent in VaD patients, 16.2 per cent in Parkinson's disease patients without dementia and 27.8 per cent in Parkinson's dementia patients. The dementia groups, AD, VaD, and Parkinson's dementia, all appeared to have an over representation of the E4 phenotype. Chi square for the set equals 21.44 with 8 degrees of freedom and $P<0.01$.

The strong association of the E4 phenotype with AD is established in a Northern Ireland population. This isoform also appears to be a risk factor for other common dementias. The association with VaD and Parkinson's dementia is less strong and is similar in the 2 groups. No association has been shown between the E4 phenotype and Parkinson's disease without dementia.

## PATIENT CHARACTERISTICS INFLUENCING CLINICIANS' ASSESSMENT OF REHABILITATION POTENTIAL

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Access to scarce geriatric rehabilitation beds is usually given to those with good rehabilitation potential. The assessment of

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this potential is usually a matter of clinical judgement. The factors which influence individual clinicians in this assessment are not known. This study investigated which factors influenced different clinicians in their assessment of rehabilitation potential.

Thirty consecutive patients admitted to a geriatric rehabilitation ward were assessed by a geriatrician, nursing sister, occupational therapist (OT) and physiotherapist. A standard questionnaire was administered to evaluate their opinion of the patients' rehabilitation potential, which disabilities they felt were present and if they felt the patient would return home. A multiple logistic regression analysis was performed to ascertain which factors were significant in determining rehabilitation potential.

Between 50 and 60 per cent of patients were felt to have 'good' rehabilitation potential by different team menbers. Kappa coefficients comparing therapist opinion with that of the geriatrician were 0.81 for the physiotherapist, 0.53 for the nurse and 0.12 for the OT. Several patient characteristics were found to significantly influence clinical opinion. These included continence for the physician and physiotherapist, and likelihood of returning home for the OT and nurse.

There was good agreement among 3 of the 4 clinicians with respect to assessment of rehabilitation potential. However all team members differed in the factors which influenced their decision and no 1 factor was common to all clinicians. Further research is needed to investigate if the differences observed were due to personal characteristics or differences in professional training of the team members.

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## DOMICILIARY STROKE REHABILITATION

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In Northern Ireland, stroke is estimated to affect 3,000 people each year and remains a major cause of death. North Down and Ards Community Health and Social Services Trust was approached by Dr. Michael Power, consultant, geriatrician, with a proposal for a Community stroke rehabilitation scheme to address this problem. Stroke units within general hospitals have shown to reduce the risk of death within 12 months following stroke[1]. One of the key factors is thought to be multidisciplinary team working by staff who are interested in and knowledgeable about stroke care[2]. Clients on the scheme are helped to address the psychological and socio economic effects of stroke as well as the physical by professional staff with the aid of 3 generic helpers. A research project entitled randomised control trial of an intensive domiciliary based rehabilitation programme for stroke, has been funded by Chest, Heart and Stroke Association and is due to start in October 1996. The aim is to compare the benefits of this service with those of a hospital based service using the following indices; barthel, 10 m test, short form 36, caregivers strain and mental test score. This will assess the level of impairment, disability, handicap and quality of life at pre-determined intervals up to 1 yr after discharge.

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## PROSPECTIVE ANALYSIS OF RISK FACTORS IN 100 ACUTE STROKE ADMISSIONS TO A DUBLIN HOSPITAL

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The frequency of known risk factors for stroke were analyzed in 100 consecutive cases of clinically diagnosed stroke who were registered in a prospective hospital based study. There were 59 males, 41 females, 63 per cent of whom were 75 yr or over.

Fifty per cent had a history of hypertension, whilst 33 per cent had atrial fibrillation. Twenty-three per cent and 24 per cent had a diagnosis of myocardial infarction and previous stroke respectively. Ten per cent of patients had diabetes mellitus.

The incidence of other potentially correctable risk factors was relatively low, only 13 per cent of patients smoking, 8 per cent imbibing alcohol regularly and 16 per cent having a history of previous transient ischaemic attack.

This study supports the correction of hypertension as the priority measure for stroke prevention. The high incidence of atrial fibrillation also suggests a potential role for anticoagulation or anti-platelet treatment.

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## A PROFILE OF PATIENTS ATTENDING A MEDICINE FOR THE ELDERLY OUT PATIENT CLINIC

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The out patient department is the interface between the general practitioner and the hospital based physician. We reviewed the number of new patient referrals, the source of referrals and reasons for referral to a medicine for the elderly outpatient clinic.

We analysed new patient referrals to a medicine for the elderly out patient department (OPD) over 2 consecutive months (October and November 1995). Patients referred to OPD are assessed on a home visit by a visiting sister who assesses patients in their home environment, establishes their main complaints, notes the medications which they are taking and obtains a collateral history from relatives if available. Baseline bloods are also taken so that they are available at outpatient review. A standardised form is then completed by the visiting sister for each referral in addition to the available GP letter. Our data was obtained from this source.

One hundred and twenty one patients (88 female, 33 male) with a mean age of 80.86 yr (range 63-100) were referred for new patient assessment. Ninety six per cent were referred by their general practitioner, 2 per cent were referred by hospital colleagues and 2 per cent from accident and emergency department. As would be expected, the most common reason for referral was for assessment and stabilisation of medical conditions (42 per cent of all referrals). Assessment of cognitive status accounted for 20 per cent of referrals while assessment of psychogenatric management problems accounted for 18 per cent of referrals. Access to rehabilitation in the Robert Mayne day hospital was requested in 17 per cent of referrals while surprisingly, only 3 per cent of all referrals were requesting long-term care assessment.

The mean number of medications per patient was 2.9 (range

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0-10) with 85 per cent of medications correlating with GP letters, compared to 36 per cent 5 yr ago. Seventy per cent of patients were independently mobile, 57 per cent were widowed and 40 per cent lived alone.

Thls paper highlights the high uptake of services provided by a medicines for the elderly out patient clinic by general practitioners. It would appear that the main purpose of referral is to maintain the patient in the community. These patients are not on excessive medication and are in general, independently mobile with good cognitive function.

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## INTERMITTENT RESPITE CARE IN THE NORTH DUBLIN GERIATRIC SERVICE

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Respite care is being increasingly offered to frail elderly patients as a means of remaining in the community as well as providing relief for their primary carers. In Ireland there is little information on this topic. Respite care is usually of 1 to 2 weeks duration and separated by a number of months. An alternative form of respite care is regular fixed interval short stay admissions such as 3 day admissions every fortnight. Such a respite care service is provided in 2 Dublin hospitals by the North Dublin geriatric service. The aim of this study was to evaluate the population of elderly people availing of the service, their medical status, and level of cognitive and functional ability. A total of 50 patients are currently availing of the intermittent respite care services. Patient characteristics are outlined in the table below.

| | Male | Female | All |
|---|---|---|---|
| Number of subjects | 20 | 30 | 50 |
| Mean age | 79.4 yr | 84.3 yr | 82.3 yr |
| Mean no. of medical problems | 4.4 | 4.2 | 4.3 |
| Mean Folstein MMSE (0-30) | 18.6 | 15.4 | 16.6 |
| Mean Barthel ADL score (0-20) | 7.1 | 10.3 | 9.0 |
| Urinary incontinence | 16 | 19 | 35 |
| Time attending respite care (months) | 21.3 | 20.0 | 20.5 |
| Mean no. of medications | 4.8 | 5.0 | 4.9 |

Many patients were in advanced old age with 33/50 aged over 80 yr. Sixty per cent of patients were female and the primary carers were predominantly female. All had multiple medical problems, the most common being: dementia (n=33), cerebrovascular disease (n=19), cardiovascular disease (n=20) and depression (n=12). Cognitive impairment was common, with 21 having moderate and 12 severe impairment on formal testing. Dependency and disability were high as evidenced by their low Barthel scores, all patients required assistance with activities of daily living.

Despite the large burden of illness, disability, and cognitive impairment these elderly people are being successfully maintained living in the community.

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## CHANGES IN NITRIC OXIDE MEDIATED FOREARM BLOOD FLOW: EFFECTS ON HAND GRIP STRENGTH IN MAN

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Blood flow to skeletal muscle decreases with age and may result in morphological and functional changes in muscle fibres. Whether acute changes in blood flow can lead to functional changes in muscle and therefore, in muscle strength, is not known. Nitric oxide (NO) is a potent regulator of skeletal muscle blood flow and *in vitro* has been shown to promote skeletal muscle relaxation through the cGMP pathway[1]. To determine which of these effects predominates *in vivo* it was decided to look at changes in grip strength in conjunction with forearm blood flow (FABF) using the NO donor, sodium nitroprusside (SNP) and the NO synthetase inhibitor NG monomethyl-l-arginine (L-NMMA).

Eight healthy volunteers (20 - 37 yr) were studied. FABF (ml/dl forearm/min) was measured simultaneously in both arms by venous occlusion plethysmography. The right arm served as a control. The effects of 10 min incremental infusions to the left brachial artery with SNP (0.5, 1, 2 and 4 μg/min) and L-NMMA (1, 2 and 4 μmol/min) on FABF and hand grip strength (HGS) using a Jamar dynamometer were measured. Treatment effects on FABF and HGS were determined by repeated measures ANOVA; results as means ± sem.

The mean coefficient of variation for HGS in the control arm was 5.3 per cent. SNP 1, 2 and 4 μg/min increased FABF by 38±10; 72±15; 95±22 per cent respectively; $p<0.001$. Left HGS showed concurrent reduction of -4.4, -3.6 and -13.9 per cent over the same dosing range ($p<0.02$). L-NMMA 1, 2 and 4 μmol/min changed FABF by -21±8, -34±7, -45±7 per cent respectively; $p<0.001$. However, left HGS did not change significantly throughout L-NMMA infusions. An inverse correlation between percentage change in FABF and percentage change in HGS during SNP infusions was observed ($r=-0.87$; $p<0.05$).

These findings suggest that *in vivo* the effects of NO on skeletal muscle are complex but indicate that a direct relaxation action of NO on skeletal muscle predominates. This may have therapeutic implications for the use of nitrate preparations in older patients. Further studies are required to elucidate the direct effects of NO donors, NO synthetase inhibitors and bloodflow on skeletal muscle contraction in man.

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## INHALER TECHNIQUE IN THE ELDERLY

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This study investigated if elderly patients who are prescribed inhalers are using them correctly and identified factors which may result in incorrect inhaler use. Fifty patients aged 60 and over participated in the study. All subjects were currently using an inhaler for the maintenance treatment of asthma or chronic obstructive pulmonary disease (COPD). The study was carried out over a 4 week period from mid January to mid February. Inhaler technique was assessed by observation. The subjects' performance was scored according to the manufacturers' step by step instructions. Failure to perform any part of the step was recorded as incorrect and the subjects' incorrect use was classified under major and minor errors outlined by Connolly[1]. As well as inhaler technique, pincer grip, grip strength and manual dexterity were measured, and the participants completed a mental test score. Only two types of inhaler were being used by the sample population studied, namely the metered dose inhaler (MDI) and the metered dose inhaler and volumatic

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(MDI&Vol). The results of the study showed a high rate of misuse; only 14 per cent had perfect technique. The majority (60 per cent) demonstrated minor errors. The Spearman rank order correlation coefficient test was used to investigate whether any correlation existed between the percentage error score of inhaler technique and results of other variables. Cognitive impairment was shown to correlate with poor inhaler technique for both types of inhaler. A correlation was also found between grip strength, pincer grip, manual dexterity and poor inhaler technique. It was also found that there was an association between length of time a patient was using his/her inhaler and the proficiency of inhaler use.

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## FORTIFIED MILK - FOLIC ACID ADMINISTRATION IN THE ELDERLY POPULATION

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Many reports indicate that low serum and red cell folate concentrations often occur in the elderly, with reported incidences ranging from 11 per cent to 91 per cent. Poor dietary intake is the cause of much malnutrition in elderly people and the use of folic acid supplements or fortified food has been shown to increase red cell folate concentrations significantly.

As the fortified liquid milk available on the market is fortified with folic acid, we carried out a study on 2 groups of institutionalised elderly. Serum folate and red cell folate concentrations were measured on 49 subjects (active group) who had been receiving fortified milk as part of their daily diet for at least 6 months. Similar levels were measured on 40 subjects (control group) who were receiving unfortified milk. Subjects taking vitamin supplementation were excluded. The results are outlined below:

| | Active Group | Control Group |
|---|---|---|
| Definite serum folate deficiency | 8.7% | 58% |
| Possible serum folate deficiency | 6.5% | 18% |
| Total | 15.2% | 76% |
| Definite red cell folate deficiency | 0% | 17.5% |
| Possible red cell folate deficiency | 6.1% | 17.5% |
| Total | 6.1% | 35% |

We conclude that fortified liquid milk is an effective method of folic acid administration in an elderly institutionalised population.

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## HYPNOTICS IN A GENERAL HOSPITAL

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The prescribing of hypnotics to patients in hospital has become common practice. We looked at total prescribing of hypnotics on an annual basis retrospectively by examining the pharmacy records over a 7 yr period (1988-1994). We also surveyed junior doctors' attitudes to prescribing including preferred choice of drug, factors influencing prescribing and knowledge of half lives of commonly prescribed preparations.

Over a 7 yr period total hypnotic prescribing rose from 39,000 tablets (1988) to 59,282 (1994) a rise of 52 per cent. This represents 34 patients per 100 receiving hypnotic for each patient day!

Individual trends were also seen in the volume of each hypnotic use. In particular triazolam which accounted for 21 per cent of all hypnotics used in 1988 had fallen to 4.6 per cent in 1994. A corresponding rise was seen in the use of temazepam (29 per cent in 1988 to 44 per cent in 1994). Of the 64 doctors surveyed temazepam was the most favoured hypnotic with only 2 favouring triazolam and 14 favouring diazepam. The age of patient was always an influence in only one third of patients. Cost and advertising were never considered by one half of doctors. Only 40 per cent of doctors were aware of the half life of long acting benzodiazepines.

It is recommended that each department should have a policy with regard to use of hypnotics including advice of side effects of preparations, half life and appropriateness of usage.

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## THE INVESTIGATION AND MONITORING OF CONGESTIVE CARDIAC FAILURE IN ELDERLY PATIENTS BY GENERAL PRACTITIONERS

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We carried out a review of the investigations and management of heart failure in elderly patients among general practitioners. A postal questionnaire was administered to 240/2396 (10 per cent) of all G.P.s in the Republic of Ireland. Their names were selected from a randomisation table. We asked about:- (1) investigation of patients with congestive cardiac failure; (2) the monitoring of renal functioning of patients on angiotensin converting enzyme inhibitors (ACE inhibitors); (3) how their local hospital could facilitate in the management of elderly patients with heart failure.

The response rate was 164/240 (68.3 per cent ) of which 160 were still in practice.

In investigation of congestive cardiac failure 104/160 (75 per cent) would carry out a full blood count. One hundred and eighteen of 160 (73.8 per cent) would do a renal profile. Eighty-eight of 160 (55 per cent) would request a chest X-ray and 89/160 (55.6 per cent) an ECG. 100/158 (63.3 per cent) have an ECG machine in the practice but 23/100 (23 per cent) of these would not use it as a screening for heart failure.

Seven of 160 (45 per cent) of the G.P.s would not check renal function on a regular basis in patients who are on ACE inhibitors. Doctors who were more than 15 yr in practice were less likely to check renal function as compared to doctors in general practice for less than 15 yr:- 30/78 (38 per cent) versus 65/72 (67.1 per cent). Doctors in rural practice were more likely to check renal function 29/49 (59.2 per cent) than doctors in urban practice 31/68 (45.6 per cent). Mixed urban/rural practices would check renal function on a regular basis in 24/42 (57.1 per cent). One hundred and fifty-four of 160 (96 per cent) stated that they had easy access to a laboratory service.

Asked if a local hospital could improve their local services in assisting G.P.s in the management of congestive cardiac failure 18/160 (11.3 per cent) felt that an earlier OPD appointment would be desirable. Thirteen of 160 (38.1 per cent)

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requested an ECHO while prompt admission was considered a priority in 12/160 (7.5 per cent).

These results show that almost half of the patients on ACE inhibitors are not having their renal function monitored on a regular basis. The ready availability of laboratory services meant that access to a laboratory was not a determining factor in the decision to check renal function.

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## DEVELOPMENT OF A NEW WARFARIN ANTICOAGULANT THERAPY RECORD IN ST. JAMES'S HOSPITAL, DUBLIN - A MULTI-DISCIPLINARY APPROACH

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By the year 2011, people over 65 yr of age will represent 13 per cent of the total Irish population. The prevalence of atrial fibrillation increases with age - rising from 1.5 per cent in patients in the 60 to 70 yr age group to 8 per cent in patients aged 90 yr and over. Recent trials have concluded that treatment with warfarin significantly reduces the incidence of stroke in patients with non-valvular atrial fibrillation. Increased prescribing of warfarin in this patient cohort has implications for the available services as positive patient outcomes are dependent on the quality of the service provided. In recognition of the need to improve our present anticoagulation service, a review committee was convened.

It was established that the provision of comprehensive patient information was crucial to minimising the risks associated with warfarin therapy. The existing patient treatment card was considered deficient in a number of aspects with implications for the pharmaceutical care of the patient and potentially serious medico-legal consequences. The design and implementation of a new patient-friendly warfarin anticoagulant therapy record was undertaken.

An extensive literature search was undertaken with emphasis on existing patient information leaflets. Due to the multi-disciplinary involvement in the management of patients on warfarin therapy (physicians, pharmacists, nurses, occupational therapists and speech therapists), detailed interviews were conducted with each member of this team. This served to ascertain the requirements for each discipline that would be necessary for inclusion in the booklet. Patients from the existing service were also interviewed.

The following criteria were identified:

a) comprehensive patient information assembled in a clear, concise legible fashion, suitable for patients with a low reading age and from a variety of social backgrounds
b) cartoons to consolidate written information where appropriate
c) representative pictures of the various warfarin tablets available
d) unambiguous dosing instructions
e) a record of the indication for treatment, proposed duration of treatment and the optimal therapeutic range to facilitate continuity of care.

The new warfarin anticoagulant record was launched in St. James's Hospital in May 1996.

## GASTRO-INTESTINAL PATHOLOGY IN FATAL UPPER GASTROINTESTINAL HAEMORRHAGE

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Upper gastro-intestinal haemorrhage (UGH) is an important cause of mortality in young and elderly patients. In a previous study, we found that 30 per cent of cases in elderly patients were unsuspected prior to death, whereas in younger patients only 12 per cent were unsuspected. Seventy per cent of unsuspected cases in the elderly had symptoms or signs of bleeding.

In order to determine if the underdiagnosis of elderly patients with fatal UGH was related to differences in underlying pathology, case notes and post-mortem )PM) records of 117 patients (67 patients aged >65 yr, 50 patients aged <65 yr), who died of UGH over a 5 yr period (1987-1991 inclusive), were studied.

The commonest causes of bleeding in young patients (<65 yr) were oesophageal varices (OV) (50 per cent) and peptic ulcer disease (PUD) (28 per cent). In the elderly, PUD (46 per cent) and malignant disease of the oesophagus and stomach (28 per cent) were found to be the most common diagnoses.

In 64 per cent of elderly cases of fatal UGH due to PUD, perforation was also noted at PM (63 per cent of suspected group; 67 per cent of unsuspected group).

In the younger group, perforation co-existed in 71 per cent of cases of bleeding PUD (72 per cent of suspected group; 67 per cent of unsuspected group).

Malignant disease of the oesophagus and stomach was more common in the suspected elderly (32 per cent) than the unsuspected (20 per cent) ($p=0.488$ Yates corrected).

The underdiagnosis of fatal UGH in the elderly may relate entirely to a low index of suspicion, however, it is noteworthy that the complications of bleeding and perforation in PUD frequently co-exist, particularly in severe bleeding, resulting in a more complex clinical presentation.

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## RETROSPECTIVE STUDY ON THE POSSIBLE ASSOCIATION OF LOW DOSE ASPIRIN USE WITH SEVERE GASTRO-INTESTINAL SIDE EFFECTS

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It is now accepted that a causal association exists between non-steroidal anti-inflammatory drugs (NSAIDs) and clinically significant peptic ulcer disease. This includes aspirin in dosages that have anti-inflammatory effects, i.e. 600 mg twice or 3 times daily. In far lower doses aspirin is now widely used for prophylaxis of various vascular conditions. This retrospective study addresses the question of whether aspirin in "anti-platelet" dosage has significant gastro-intestinal side effects.

Data on 1159 patients who were acutely admitted to our department from January 1991 to April 1996 were analyzed in a retrospective manner. The patients were allocated into those taking low dose aspirin and a control group on non aspirin users. Non-steroidal anti-inflammatory drug users were excluded from the study. As shown in the table the number of patients who developed symptomatic peptic ulcer disease (PUD) or significant gastro-intestinal haemorrhage (GIH) were compared between the 2 groups as were data on age, sex and other variables. Results

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were analyzed by standard variance testing at the 5 per cent level of significance.

| | Control | Low Dose Aspirin |
|---|---|---|
| Total | 1123 | 236 |
| Symptomatic Peptic Ulcer | 39 | 13 |

$p = 0.23$

Although a trend towards an increased incidence of active peptic ulcer disease was evident in the low dose aspirin users the difference was not significant. Extension of the study to greater numbers is likely to demonstrate a small but significant association.

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## HEPATITIS A AND E SEROPREVALENCE IN AN IRISH GERIATRIC POPULATION

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Hepatitis E virus (HEV) is a recently described hepatotropic virus which is transmitted by the faecal-oral route and causes an acute, usually anicteric, self limiting hepatitis. Fulminant infection is rare (except in pregnant women) and chronicity is unknown. HEV infection is endemic in Africa, Asia and South America.

Several of the characteristics of HEV infection are similar to Hepatitis A virus (HAV) infection so we decided to survey a group of individuals (a geriatric population) with a known high prevalence of HAV antibodies indicating past infection, to see if there was any evidence of prior HEV infection in this group

We administered a questionnaire to 111 individuals whose mini mental test score was >23/31, aged over 65 yr to determine possible risk factors for HAV/HEV infection and tested their serum for anti HAV IgG antibodies (SORIN) and anti-HEV Ig (ABBOTT). This is the first study into HEV prevalence in an Irish geriatric population.

One hundred and eleven patients, 58 male, 53 female (mean age 76 yr, range 65-93 yr) were tested. Only 1 individual was repeatedly positive for HEV antibodies indicating prior exposure. This patient has no history of jaundice and the only identifiable risk factor was travel to New York 12 yr ago. HAV seroprevalence was 99 per cent as expected indicating the lower socio-economic and sanitation standards in Ireland in the early decades of this century. Currently the Hepatitis A seroprevalence rate in the 17-28 yr age group in Ireland has fallen to only 21 per cent.

Conclusion: Prior HEV infection is rare in the geriatric population in Ireland unlike the near absolute seroprevalence of HAV infection.

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## THE USE OF 'LINSEED' IN PATIENTS' DIET TO PREVENT CONSTIPATION

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Constipation is a frequent complaint in older people following several days admission to hospital. Its causes include lack of dietary fibre, lack of fluids, insufficient exercise, loss of muscle tone and the effects of medications. Most of these causes are reversible.

In Hospital 4 Unit 2, the cause of lack of dietary fibre was actively addressed by nursing staff advising patients to include linseed in their diet. A study was conducted to assess the effectiveness of preventing constipation by the patient including linseed in their diet. The criteria for inclusion in this study included, recorded evidence of constipation, willingness to participate in the study and the ability to ingest linseed in diet. No laxatives or aperient were to be given to the patient during the study period. An accurate record of the patients' bowel movements was kept for 3 weeks following the patients' commencement of linseed in their diet.

The effectiveness of linseed in preventing constipation is not documented in nutritional, nursing or medical literature. There only exists personal accounts and experiences of patients, nutritionists and nurses of its effectiveness.

A total of 20 patients participated in the study by including linseed in their diet. On consultation with clinical nutritionist, a daily intake of 3 teaspoons of linseed in patients porridge was recommended. The other identified causes of constipation (lack of fluids, insufficient exercise, etc.) were documented in the patients' nursing care plan to keep a record of their levels during the study.

The study concluded that the inclusion of linseed in the patients' diet contributed to the prevention of constipation. It was difficult to isolate its sole effect due to the presence of other factors which help prevent constipation. The study concluded that the natural prevention of constipation using linseed as additional dietary fibre, as opposed to laxatives and aperients, leads to a better quality of life, is more cost-effective and returns the locus of control of health in preventing constipation to the patient.

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## AN EXPLORATORY STUDY OF ALTRUISTIC OLDER ADULTS

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A qualitative study explored the motivating, maintaining, and beneficial factors of the helping behaviour of 28 males and 28 females (aged 60 to 83), of whom 50 worked with 13 Dublin-based organizations, and 6 worked alone. Male and female attitudes to voluntary work were compared. A 20-item schedule which alternated between self and other-oriented motives was based on 4 functions that attitudes regularly serve: value-expressive, knowledge, social-adjustive and ego-defensive and formed the basis of an audio-taped interview, duration 30 min to 1 h. Subjects were encouraged to expand replies. Forty interviews were transcribed in detail, relevant data were taken from the remainder.

Males and females were comparable on present financial, and former job status, and on general health. The differences in marital status were significant, with 14 single females, and 1 single male in the sample. Results showed a majority of males and females who were motivated by a belief in responsibility to others, and were maintained by personal satisfaction and the physical and mental benefits derived from the work. A significantly larger number of females found that voluntary work filled a gap in their lives. In general, the trend of male motivation was more overtly self-serving in terms of extending a career or maintaining expertise and competence, whereas more females reported that knowledge had been acquired or friendships extended, but was not planned when taking on the work.

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## LIFESTYLE OF ELDERLY PATIENTS IN A RURAL SETTING

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The lifestyle of the elderly in a rural area such as North Tipperary is very different from that of city-dwellers. Shops, church and neighbours may be some miles away. It may be easy to get outdoors as houses often have no steps or stairs, but it is difficult to walk across uneven ground and fields. In some houses water as well as fuel has to be carried inside.

Many rural elderly live with or close to family members and have a role within the house while the younger family members are at work or out on the farm. They may continue to do a share of the farmwork. These roles often continue despite illness.

Seventeen patients (9 female, 8 male) with acute medical problems were interviewed. All were over 80 yr with an abbreviated mental test score of 5/10 or more. Pre admission Barthel score was reported to be 13 or over. Patients living in nursing homes were excluded.

Thirteen lived in a household including son, daughter or nephew, 2 with other elderly family members, 1 was employed as a housekeeper, 1 lived alone. Only 1 was confined to the house but he could climb stairs. Of the 16 who were able to walk outside the house, 6 could walk across fields. Eight walked to shops or church. Three drove cars and 1 used a bicycle.

Five did all the shopping. Ten cooked of whom 7 cooked for the household. Eight did some housework. Six carried water or turf. Six did some gardening and 2 did heavy work in the garden. Three men still worked on the farm, 2 of them used a tractor.

These people seem to be surprisingly active despite illness and age. Perhaps they were robust starting off or perhaps it is the lifestyle which encourages it.

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## OLDER PEOPLE AND TELEVISION

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Watching television has been identified as the 'activity' in which older people across Europe most frequently engage. It is somewhat surprising to find that the extensive research carried out on aspects of later life in Ireland to date, has paid little attention to this activity.

Based on a national report on the situation the Republic of Ireland, the study on which the presentation is based was part of a trans-European research project, sponsored by the European Commission, and conducted in collaboration with partners in Denmark, Greece and Northern Ireland, in 1995.

The results of a qualitative investigation of the television viewing patterns of 24 older people in the Republic of Ireland and their associated attitudes and impressions will be presented. An agreed research protocol included documentary research, the completion of questionnaires and content-analysis of diaries in which television viewing patterns of 1 week were recorded. The methodology included in-depth analysis of participants' reaction to video clips from selected programmes and advertisements which featured older people.

The opinions and attitudes of these 24 older people about the role which television viewing plays in their lives will be presented and explored. Viewing patterns and programme preferences are influenced by, and are negotiated within social contexts. The presentation will focus on participants' perception of, and reaction to the manner in which older people are portrayed on television in programmes and in advertisements. A trans-European analysis of commonalities and differences between countries will be included.

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## ACTIVATING POTENTIAL FOR COMMUNICATION IN DEPENDENT ELDERLY PEOPLE — THE SONAS aPc APPROACH AND BENEFITS

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In the majority of long stay care institutions for dependent elderly people physical needs are well met and the standard of nursing and medical care is good. When the whole person is considered, however, psychological needs are often either overlooked or inadequately met. Lacking interaction they become isolated.

Difficulty in communication among elderly people is well recognised. This can be due not only to speech and language impairment as is, for instance, the case in aphasia but occurs also in cases of dementia.

The structured, multisensory approach of Sonas aPc is a specific response to the particular difficulties of communication experienced by dependent elderly people suffering from dementia. Their potential for communication is activated by stimulation of the senses through the use of music, movement, massage, taste, and smell. The objective is to produce in the person a relaxed state of awareness which leaves him/her ready to enjoy interaction with his/her companions and to communicate verbally or non-verbally depending on existing potential. Sonas aPc is primarily but not exclusively for people suffering from dementia.

The Sonas aPc approach was devised by a speech and language therapist and developed in conjunction with 2 colleagues from Belfast. It has been available to care staff since 1991. Workshops are provided for staff countrywide where they learn to implement the group and individual programmes and can, as a result, make a valuable contribution to improving quality of life for thousands of elderly people.

Workshops have been held in the Republic, in Northern Ireland, in Britain and in the United States and to date the total exceeds 110. Formal research to evaluate the effectiveness of Sonas aPc is being conducted at present by the National Research Agency.

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## DELAYS IN DISCHARGE FROM HOSPITAL OF ELDERLY PEOPLE UNDERGOING THE PROCESS OF ASSESSMENT AND CARE MANAGEMENT

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Individual assessment and care management (ACM) of elderly patients being discharged from hospital to residential and nursing care or intensive domiciliary care has been in place

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in the NHS since April 1993. This entails a complex multi-disciplinary assessment of needs, with reports forwarded to a care manager who coordinates the process and arranges the provision of care. Concern has been expressed that this process leads to delays in discharge from hospital, increasing length of stay. We prospectively studied the process of ACM in 65 consecutive patients submitted for assessment prior to discharge from the Ulster Hospital, Dundonald. The time taken for all the reports to be completed and forwarded to the care manager, along with any delays in the process, were recorded and related to both overall length of stay and time from commencement of ACM to discharge. Non-parametric analysis was applied. The median length of stay in hospital was 36 days (range 5-149 days), and median time from the start of ACM to discharge, 22 days (range 0-89 (days). The strongest correlate with length of stay was the time from admission until ACM was commenced (rho=0.638, p<0.0001). The time from the start of ACM until discharge was most dependent on the time taken for processing applications by the care manager (rho=0.815 p<0.0001). Delays were recorded in 12 (18.5 per cent) cases, which significantly increased both length of stay (p=0.028), and time from ACM to discharge (p<0.0001), compared to those for whom no delays were recorded. Assessment and care management is a complex procedure with potential for delay of discharge. Most of this delay occurs outside the hospital setting.

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## REDUCING THE PHYSICAL LOAD ON THE MUSCULOSKELETAL SYSTEM OF NURSING PERSONNEL ON A LONG STAY GERIATRIC UNIT - AN ERGONOMIC APPROACH

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The primary objectives of this study were:

- to identify the ergonomic problems associated with the work carried out by the nursing personnel on a long-stay geriatric unit.
- to test whether the physical load on the musculoskeletal system of the workers could be reduced by introducing ergonomic changes on the unit.

Loading on the musculoskeletal systems of the workers was measured prior to and following ergonomic intervention using workers perception of exertion and posture analysis.

Prior to the intervention work sampling was used to define all the tasks carried out by the nursing staff and the percentage occurrence of each task. The posture analysis was carried out on those patient care activities identified during this work sampling. Rating of perceived exertion were carried out by the workers on the tasks which they identified as stressful.

Results indicated that harmful postures decreased significantly following ergonomic intervention. Workers perception of exertion in the lower and upper back decreased significantly while performing tasks which were identified as stressful both before and after intervention. While there was a decrease in the workers perception of exertion in the whole body and shoulders while performing these tasks, it was not found to be statistically significant. The groups of data were analysed using the MEDDIS analysis of variance by ranks on Statpak.

Conclusion: The results of this study suggest that by introducing ergonomic changes the physical load on the musculoskeletal systems of the workers has been reduced.

## DIETARY ASSESSMENT OF NUTRITIONAL STATUS OF 85-96 YEAR OLD COMMUNITY-LIVING SUBJECTS

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Nutrition is important for continued good physical and mental health and functional well being. There is little information available about the nutritional status of very elderly people who are living independently in the community.

The aim of this pilot study was to assess the nutritional status as demonstrated by the 24 dietary recall and Mini Nutritional Assessment method[1] in a group of community-dwelling 85-96 yr old subjects (9 males, 23 females). Data from the dietary survey was analysed by the Compeat database and intake levels of macro and micronutrients were compared with the recommended nutrient intakes (RNI) and recommended dietary allowances (RDA) available for a 65-75 yr old age group. Subjects were mentally competent and were interviewed in their own homes. The mini nutritional assessment showed that 6 per cent of subjects were undernourished, 50 per cent were at risk of malnutrition and 44 per cent were adequately nourished. Using the 24 h dietary recall method and RDA values, 7 per cent of females and 25 per cent of male subjects had deficient intake of kilocalories, 20-30 per cent deficient intake of protein and carbohydrate while fat intake was deficient in only 5-10 per cent of subjects. Between 30-50 per cent of subjects were deficient or mildly deficient for iron, zinc, copper and calcium. Twenty-five per cent of subjects were deficient in riboflavin and B12 intake with a 50 per cent deficient folate. Vitamin D intake was deficient in 97 per cent of subjects, vitamins E and A in 15 per cent of subjects with 30 per cent of subjects being deficient in vitamin C intake. Deficient intakes were present in approximately 6-7 per cent of 85-90 yr old female subjects with higher values in male community-living subjects. Twenty-50 per cent of subjects show evidence of milder nutritional compromise. This has important health and morbidity implications.

**Reference**

1. Guigoz, Y. Recommended dietary allowances (RDA) for free living elderly. In: Vellas, B. J., Guigoz, Y., Garry, P. J., Albsaraede, J. L. (Eds). Nutrition of the Elderly, Facts and Research in Cerontology. Paris, Serdi Publishing Company, 1994.

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## ELDER ABUSE: MANIFESTATIONS IN 25 CONSECUTIVE CASES

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The definition of elder abuse and neglect is a subject of continuing debate. There is widespread agreement about categories of abuse: physical, psychological, sexual, financial, neglect, sociological. Further definition of a number of different components is required, an important one being the behaviour or manifestations of abuse[1]. The behaviours most commonly incorporated in the general categories of abuse were identified from the literature. Data on behaviour of the abuser was recorded on a form devised for this purpose on the basis of the literature review.

We identified 25 consecutive cases of elder abuse who

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presented to the North Dublin geriatric service from June 1992 until June 1996. Results are shown in Table I.

Table I. Manifestations of Abuse and Neglect in 26 Cases

| | |
|---|---|
| • Physical abuse | 12 |
| • Psychological abuse | 35 |
| • Sexual abuse | 4 |
| • Financial abuse | 29 |
| • Neglect | 13 |
| • Sociological abuse | 5 |

This study highlights the complexity of elder abuse, in particular the significance of behaviours that do not involve direct physical acts of abuse: psychological, financial, sociological. These forms of abuse should be identified because of their damaging effect on older people and because they may signal subsequent more life threatening forms. The study also highlights manifestations of physical abuse and neglect.

Awareness of these manifestations of abuse and neglect is important in order to improve the identification process.

**Reference**

1. McCreadie, C. Introduction: The issues, practice and policy. In: Eastman, E. (Ed.). Old Age Abuse: A New Perspective. London, Chapman and Hall 1994.

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## RESUSCITATION IN DEMENTIA - WHOM DO YOU CONSULT AND HOW?

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The decision not to resuscitate a patient with dementia depends on the views of the patient, relatives, multi-disciplinary team and consultant as well as medical considerations; this study explores the wide variability in the consultation process and its influence on the decision. It consisted of a postal survey of geriatricians on BGS list and psychogeriatricians on RCPsych list.

Two thousand and thirteen questionnaires were sent, 784 (39 per cent) replies were received, 712 analysable, from 418 geriatricians and 294 psychogeriatricians. Resuscitation was discussed with most patients by only 9 per cent of doctors, aside from cognitive barriers, 305 (45 per cent) thought the psychological pain caused outweighed gains in patient autonomy. Ninety-eight per cent discussed it with relatives (319 always, 390 sometimes); 502 (74 per cent) did so even where quality of life was poor, and 226 (32 per cent) then felt bound by their wishes, even if they disagreed. Thirty-six per cent would welcome appointed health care proxies (46 definitely, 215 probably) to guide decisions. Other person's views held "very/probably important" were (by percentage age of replies) patient 35, spouse 35, doctors and nurses 31, family 29, friends 23, social worker and clergy 10. Living wills (advance directives) were "a good idea" to 71 per cent (160 definitely, 338 probably) but only 164 thought these should be binding (72 to the extent of being prepared to administer euthanasia if legal. Ninety-nine per cent hold formal discussion with the multi-disciplinary team (387 always, 248 sometimes), 85 per cent write decisions in nursing notes and 51 per cent always record relatives' views, 97 per cent document the reasons (259 always, 369 sometimes), and 69 per cent extend this to use of other life-sustaining measures (92 always, 442 sometimes). Eight doctors thought (3 probably, 5 definitely) resuscitation ought always to be performed, and 5 would want it themselves if severely demented (including 1 Jew, 1 Moslem, 1 Hindu, 2 Catholics and a Presbyterian, though only 3 felt religion was important to them). Three hundred and twenty-four (46 per cent) thought age was important. Most felt "do not resuscitate" decisions should be reviewed (36 per cent weekly), and apply after discharge e.g. to nursing homes (48 per cent). Twenty-five per cent thought the decision led to less medical care, and 15 per cent to less nursing care.

Conclusion: Very few doctors discuss resuscitation with demented patients directly, many fearing psychological pain, but would welcome living wills, though most would not want these to be binding. Nearly all consult relatives, whose views may be allowed to overrule the doctor's own, and a third would like health care proxies. Other members of staff are almost always involved. A minority think medical (and nursing) care is reduced once the decision is made not to resuscitate.