Results
Mean total scores were significantly (p<0.025) higher for Turbhaler (8.0 sd 2.0) and Easibreathe (8.32 sd 2.4) than MDI (4.9 sd 3.0) on enrolment and at 6 hours; Turbhaler (6.8 sd 2.9), Easibreathe (7.4 sd 2.6), MDI (4.9 sd 3.0). At 24 hours differences were not significant; Turbhaler (7.6 sd 2.6), Easibreathe (7.5 sd 2.9), MDI (6.1 sd 2.8). Fewer patients achieved near perfect scores of 9 or 10 when using MDI. The major difficulties were assembling the MDI and spacer and telling if the Turbhaler or Easibreathe is empty. Mean total scores fell significantly between enrolment and 6 hour review, but rose again by 24 hours.

Conclusion
Many patients have difficulty in using inhalers. Repeat tuition after 6 hours improves inhaler technique. In addition to being more portable than MDI, both Turbhaler and Easibreathe inhalers were more likely to be used correctly after initial tuition.

PEAK EXPIRATORY FLOW MEASUREMENT IN THE ELDERLY
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Introduction: Elderly patients are frequently observed as having poor peak flow technique, which impairs assessment of their airways disease and response to drug therapy. The aim of the study was to determine what proportion of elderly patients do have poor peak flow technique, and to see whether technique can be improved with teaching.

Methods: Consecutive patients ≥60 yrs with an acute exacerbation of airflow limitation, admitted to an integrated medical/elderly unit were assessed, usually within two days of admission. Patients who had never used a peak flow meter, and patients who were too unwell to participate, were excluded. The best of 3 attempts were assessed as satisfactory or unsatisfactory before and after teaching. Where possible the patients were re-assessed 3-5 days later and 3 recordings taken.

Results: Of 81 patients, 5 were too unwell and 6 had never seen a peak flow meter, leaving 70 (96%) who were assessed (36 male; mean age 74 yrs, range 61-88yrs). At baseline assessment, 17 (24%) had satisfactory technique. Of the 53 patients who initially had poor technique, 24 (45%) developed satisfactory technique following instruction, their mean peak flow improved from 212 to 247 l/min (17%) compared to an improvement from 117 to 125 l/min (9%) in those whose technique remained poor. 18 of these 24 patients were re-assessed a few days later and technique remained satisfactory in 14 (75%).

Conclusion: Only one quarter of elderly patients with exacerbations of airflow limitation and previous peak flow meter use have satisfactory technique. Despite careful instruction, nearly one half remain unteachable.

INFLUENZA VACCINATION OF HEALTH CARE WORKERS IN LONG-TERM CARE PROTECTS ELDERLY PATIENTS
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on behalf of the West of Scotland Influenza Study Group

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Introduction
National policies for influenza vaccination of health care workers (HCWs) are contradictory and confused. Vaccination is recommended by the NIH in the USA, but not by the Departments of Health in the UK. In a previous study we showed that vaccination of HCWs in long-term care geriatric hospitals was apparently associated with a significant reduction in patient mortality (JID 1997; 175: 1). We have now performed a definitive...
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large-scale study during the winter of 1997-98 to determine the effects of vaccination of HCWs.

Methodology
Long-term care hospital sites (n = 20, range 44-105 patients) were randomised for their HCW to either be routinely offered vaccine or no vaccine (cluster randomisation stratified for patient vaccination policy and size of hospital). The primary outcome was patient mortality.

Results
Patient mortality rate was 102/749 (13.6%) on sites where HCWs were routinely offered vaccine compared to 154/688 (22.4%) on sites where HCWs were not offered vaccine (p=0.014, Mann-Whitney test comparing mortality rates within different hospital sites).

Conclusion
Influenza vaccination of HCWs in long-term care hospital sites was associated with a marked reduction in patient mortality. The results of the study lend further support for a change in policy of the UK Departments of Health.

Stroke

ARE NURSING HOME PATIENTS RECEIVING APPROPRIATE STROKE PROPHYLAXIS?

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Introduction
Stroke risk in atrial fibrillation (AF) is reduced by warfarin (68%) and aspirin 325 mg (40%) (Stroke Prevention in Atrial Fibrillation Investigators, Circulation 1991,84 527-39). Low dose aspirin has not been proven effective. This work applied a modified prescribing indicator, developed in hospital practice which assessed the appropriateness of stroke prophylaxis in AF, in nursing home patients, (Oborne et al, Brit J Clin Pharmac 1997;47:91).

Methods
Drug charts of patients aged ≥ 65 years in eight nursing homes were screened. Digoxin was used to identify patients likely to be in AF. The nursing and medical records of patients receiving digoxin were reviewed to confirm AF and antithrombotic contraindications (CIs). Appropriate prescribing included use of antithrombotics where no CIs existed and the withholding of antithrombotics in the presence of CIs. Where the patient was deemed appropriate to receive symptomatic treatment only, antithrombotics were felt not to be indicated.

Results
Three hundred patients in eight nursing homes were included. Of 24 patients on digoxin for AF, eight patients had a documented CI and for one patient there was insufficient data available to assess appropriateness. Antithrombotics were indicated in 15/24 (63%) patients but only 3/15 (20%) received it.

Conclusion
Although documentation of antithrombotic CI may have been incomplete, some 80% (12/15) apparently eligible patients received no stroke prophylaxis. This compares with a figure of 74% of eligible hospital patients, (Oborne et al, Brit J Clin Pharm 1997;47:91). Therefore stroke prophylaxis is underused in the Nursing home setting.

DOES OXYGEN (O2) DESATURATION ON SWALLOWING PREDICT ASPIRATION IN ACUTE STROKE?

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Introduction
Arterial O2 desaturation on swallowing (SWDESAT) agrees with speech therapist (ST) opinion in detecting aspiration (ASP) in acute stroke(Zaidi, Age Ageing 1995;24:267). We assessed sensitivity (SEN), specificity(SPEC), and positive & negative predictive values (PPV, NPV) of SWDESAT against ‘gold-standard’ videofluoroscopy(VF)

Methods
55(32men) unselected CT-scan-confirmed stroke in-patients, mean[range] age 68[51-80] years underwent VF(5-20ml,varying consistencies) and simultaneous blind oximetry(non-stroke hand)

Results
15 patients aspirated >once on VF (44/578 swallows) Mean [SEM] SWDESAT was 1.0[1.7]% in non-ASP swallows vs 2.5(3.1)% in ASP swallows(Mann-Whitney U p<0.001) Analysis by swallow (n=578) gave SWDESAT SEN,SPEC,PPV and NPV of 50%,80%,17% and 95% respectively at threshold>2% Analysis by case (n=55, same threshold) gave SEN,SPEC,PPV and NPV of 87%,38%,34% and 88% respectively. Changing SWDESAT threshold (by swallow or case)did not improve PPV. SWDESAT duration was unrelated to ASP. As low PPV suggested misclassification of laryngeal penetration (PEN) as ASP, re-analysis of VF case data(n=55) combining ASP+PEN gave SEN,SPEC,PPV&NPV of 86%,50%,66% and 88%.

Conclusions
SWDESAT measurement may aid assessment of ASP in acute stroke, but if used in isolation gives high ‘false-positive’ rate, partly due to misclassification of PEN as ASP Further analysis aims to assess whether combining bedside ST assessment and SWDESAT gives greater predictive value than either measure alone.