LEEDS STROKE REVIEW

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Welcome to the latest edition of "Leeds Stroke Review"

This edition features an article on **“Recruting a truly representative stroke cohort**” by K.M. Hill, A.O. House, T. Hewison. **“Pilot Functional Electrical Stimulation Service”** by Dr Shona Michael, clinical scientist, Chapel Allerton Hospital, Chapeltown Road, Leeds, LS7 4SA**.** **“Stroke United Network Yorkshire (SUNY)”** by Dr Anne Forster, Dept. of Health Care for the Elderly, St Luke’s Hospital, Bradford and an abstract on **“Stroke Community Rehabilitation: A classification of four Different types of Service”** by Geddes J, Chamberlain MA.

If you would like to submit an article for the next edition of the Leeds Stroke Review please contact Olasupo Ogunyinka at the address below.

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RECRUITING A TRULY REPRESENTATIVE STROKE COHORT

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Increasingly clinicians need to negotiate a minefield of research evidence in order to inform their medical practice. Relating research findings to clinical practice requires a careful interpretation of the results, particularly in studies where conflicting results are reported in purportedly similar populations. In these cases a clear description of the study sample can be a valuable aid to understanding. Knowing which patients were not studied may be equally important to the clinician as knowing which were if the findings are to be applied in the general, non-selected caseload that present in normal clinical practice.

The Stroke Outcomes Study (SOS) will run for five years during which time it is hoped to recruit around 900 patients, making it one of the largest studies of early depression in stroke. As many published studies fail to report their accrual methods in detail, a careful record has been kept of the number of patients identified and subsequently followed up in order to recruit to the SOS cohort. In order to capture a truly representative sample, admissions for stroke, collapse query cause, seizures, falls and any other possible cases are being followed up in two acute Trusts in Leeds and Bradford, to identify those patients with a final diagnosis of infarct or haemorrhagic stroke (sub-arachnoid haemorrhages are excluded). Information has been obtained from the admission and discharge registers on all stroke specialist or neurology wards, medical reception units, general medical and elderly wards in the hospitals, or from the nursing or medical staff.

Recruiting chronically ill patients to research studies is notoriously difficult and our findings support this view. Only 275 out of 1511 potentially eligible patients have been entered in the study so far. This represents less than 10% of the total number of patients (3534) tracked for eligibility and only 18% of all strokes (1511). The main loss to the cohort has been through refusal of patients to participate in the study [251 (17%)], and exclusions due to early stroke mortality [235 (16%)] and pre-existing or stroke-induced cognitive impairment [207 (14%)]. Given that the patients are approached soon after their stroke event the refusal rate of 48% of non-excluded patients is perhaps not unexpected. Fortunately, loss to follow-up has been low, with an in-study mortality rate of only 5% of those recruited (13 patients) and a withdrawal rate of 8%(23).

The main difficulties encountered in recruitment so far have been:

- **Recruiting patients in the early weeks after stroke.**
  Patients that survive the initial stroke episode are often too unwell to be interviewed 124 (8%), or feel too unwell in themselves [59 (4% of total strokes and 24% of all refusals)] to consent to be interviewed within the first month.

- **Ethical constraints on referral of patients and direct initial contact.**

A Stroke Register exists at one of the Trusts participating in the study but restrictions on access to electronic patient data prevents records being given to study personnel. The necessity to gain an introduction to patients by a member of the nursing or medical staff inhibits direct access to patients but has not been a major barrier to recruitment as very few patients have refused an initial approach from research staff.

- **Language barriers for ethnic minorities.** The questionnaires used as outcome assessments are not available in validated translation in all the languages encountered in the sample of patients assessed. The study resources are insufficient to permit the employment of multi-lingual interviewers and the specialist training that would be required for the PSE is not available locally. 73 patients (5%) have been excluded on this basis.

- **Accessing case-notes for discharges.** Case notes are required to confirm a diagnosis of stroke for early discharges. This often involves tracking notes through a number of different departments. The retrieval of notes is thus time consuming and sometimes difficult to achieve in the short time frame available. 57 (4%) patients have been missed through failure to confirm a diagnosis of stroke within the necessary timescale.

While it is fairly easy to identify stroke cases in the acute hospital setting, it can be difficult to recruit patients into a complete cohort. This raises the question of how selected many of the samples of patients are that are studied in clinical trials and other types of research. For the practising clinician this could adversely affect the generalisability of findings when applied to his or her patients, and it is of particular relevance in psychological research where non-participation may be the result of factors that affect outcomes.

Pilot Functional Electrical Stimulation Service

Leeds Teaching Hospitals have been awarded a small project grant from the Disability Modernization Team in Leeds, for a functional electrical stimulation (FES) project. FES is a technique in which low levels of pulsed electrical current are used to produce muscle contractions and hence restore impaired function in people who have damage to the central nervous system. As such it is applicable to some people who have had a stroke.

We are using a particular FES device called the Odstock Dropped foot stimulator (www.salisburyfes.com). This has been developed for people who have mobility difficulties involving a dropped foot (the person has difficulty with lifting the foot on the affected side during walking).

The project, which is now underway, is to:

- pilot an FES service for a 1-year period for people in Leeds
- evaluate its benefits for a group of people with dropped foot walking difficulties.

For more information contact: Dr Shona Michael, clinical scientist, Chapel Allerton Hospital, Chapeltown Road, Leeds, LS7 4SA. Email: smm@medphysics.leeds.ac.uk.

Stroke United Network Yorkshire (SUNY)

Stroke United Network Yorkshire (SUNY) is a collaboration of stroke clinicians and researchers formed to undertake multicentre trial evaluation of rehabilitation interventions. To date much rehabilitation research has been undertaken in single centres, this has inherent limitations including individual expertise, special commitment and enthusiasm of the rehabilitation staff, patient selection and a distinctive local setting. The SUNY collaboration enables large numbers of patients to be recruited, facilitates exploration of specific interventions on selected groups of patients and enhances generalisability of research findings.

The collaboration started by undertaking a research project to test the predictive validity of STRATIFY a falls risk assessment tool. This project has also enabled us to identify possible barriers and the resources which will be required to undertake large scale randomised trials. The project has progressed very well, with 200 patients recruited over eight months. **Thank you** to all those who have contributed.

Over the last few months the Network has been involved in discussions to identify which particular research questions we wish to investigate. Intensity of ADL activities, strength training, splinting and improved multidisciplinary team communication

were identified as important areas to explore. Work is ongoing to develop these questions into research protocols suitable for submission for external funding. Opportunities for research funding for this programme of work are being explored.

The Network also acts as a resource for all people interested in stroke, disseminating information, advice, recent research findings and providing training opportunities.

SUNY is open to all. Please contact Anne Forster, Dept. of Health Care for the Elderly, St Luke's Hospital, Bradford for further information Tel: 01274 365311, email a.forster@leeds.ac.uk

All ideas, comments, suggestions welcome!

STROKE COMMUNITY REHABILITATION: A classification of four Different types of Service

Geddes J, Chamberlain MA

In the past two decades a great variety of community rehabilitation projects and teams have been developed which are not easy to classify. This study examined the usefulness of a proposed classification system for home based rehabilitation services for people with stroke. It was descriptive comparative and quantitative. Services were categorized into four types early supported discharge rehabilitation, cost discharge community rehabilitation, GP orientated community rehabilitation and late community rehabilitation. The features of each are described. The rehabilitation of almost of (98%) of patients studied could be placed within these categories. Providers of services, such as primary care trusts, need to identify the needs of other service users and match them, if possible, to suitable provision.

Key words: community rehabilitation, stroke, transition

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