NURSING TRIAGE OF PATIENTS WITH ACUTE STROKE

This is a summary: the full paper can be accessed at nursingtimes.net

ABSTRACT Hinkle, J.L. et al (2007) Nursing triage of patients with acute stroke. Nursing Times; 103: 31, 32–33. Prompt therapy for ischaemic stroke can reduce the risk of a patient developing long-term disabilities. This prospective audit of 332 patients with suspected stroke investigated whether the nursing triage time and the time until first being seen by a doctor after patient arrival differed between A&E and the medical assessment unit (MAU). There was no significant difference in the mean triage time but patients presenting to A&E were seen by a doctor sooner.

Stroke is the third most common cause of death in the UK and the biggest single cause of severe disability in older people. Each year more than 130,000 people in England will have a stroke.

The Department of Health has recognised the importance of improving stroke services by including milestones, targets and actions in the National Service Framework for Older People in March 2001. In 2002 conditional EU approval was given for the treatment of ischaemic stroke with thrombolysis (Wahlgren et al, 2007). This therapy is time-dependent (Brous, 2005) and can reduce the risk of long-term disability if administered within three hours of symptom onset. Prompt nurse triage is essential to ensure early diagnosis and treatment. Similarly, to conserve resources, patients who are not likely to benefit from aggressive management need to be identified quickly.

Patients with an acute illness present to hospital at A&E or to a MAU. In A&E, the Manchester triage system that was in use at the time of this study directs patients with stroke – most of whom are not fully conscious – to be triaged within 10 minutes (Manchester Triage Group, 2004).

AIM The main aim of this prospective audit was to examine the descriptive characteristics of patients, characteristics of stroke and the clinical presentation of 332 patients with suspected stroke admitted during a six-month period. The main objective was to investigate if the nursing triage time and the time before being first seen by a doctor differed between patients arriving in A&E and the MAU. A secondary purpose was to assess other aspects of a newly implemented acute stroke thrombolysis service.

METHODS This study used a prospective audit methodology to investigate a number of variables in 332 patients with suspected stroke admitted to John Radcliffe Hospital at Oxford Radcliffe Hospitals NHS Trust. Nursing triage times and the times until seen by a physician were compared for patients who presented to A&E and those who presented to the MAU.

Demographic characteristics collected included well-accepted parameters such as age, gender and whether there had been a previous stroke or not. Other characteristics collected included place of residence, living arrangements (presence of carers) and mortality, as these have long been recommended to increase the comparability of stroke studies. Variables characterising strokes were amassed using Bamford classification and stroke risk factors. The Bamford classification is in widespread use. It classifies stroke into subtypes of: lacunar infarcts (LAC); total anterior circulation infarcts (TAC); partial anterior circulation infarcts (PAC); and posterior circulation infarcts (POC), according to clinical signs and symptoms (Bamford et al, 1991). Hypertension, diabetes, cardiac disease, hyperlipidaemia and atrial fibrillation are well-known risk factors for stroke.

Data was coded and entered into the statistical package for the social sciences (SPSS) version 14 for analysis. Summary statistics were used to describe demographic and stroke characteristics of patients. Times were compared between patients entering the system via A&E and the MAU using t-tests.

RESULTS The mean age of patients was 78 years (range 32–97) and the majority of patients were female (54%). Prior to acute care admission 90% were living in their own home, 2% were living in a residential home, 5% were admitted directly from a nursing
home and 3% had other living arrangements. 
Of all patients, regardless of location, 89% arrived at the hospital via ambulance and 11% presented on their own. Most patients (53%) found their way into the health system by calling an ambulance, 40% called their GP and the other 7% contacted family members or others.

Patients arriving at A&E constituted 64% (n=213) of the sample and those presenting directly to the MAU 35% (n=115). A few patients (n=4) bypassed both A&E and the MAU.

The mean nursing triage time for patients presenting to A&E was 14 minutes (n=183) and for those presenting to the MAU 19 minutes (n=78). There was no significant difference between these times.

The mean time from nursing triage to the patient being seen by a doctor in A&E was 49 minutes (n=157) compared with 84 minutes in the MAU (n=58). The difference between these times was significant [t=-3.468, df=77.567, p<0.001].

DISCUSSION
This study found that the mean age of stroke patients was 76 years and that the majority of patients were female. This is similar to findings of other European studies. Other researchers have reported that approximately half of all strokes in Oxfordshire occur in the over-75s (Rothwell et al, 2005).

Even though they were older, only 17% of patients reported having a formal carer prior to admission. However, only 33% lived on their own, suggesting informal care arrangements were perhaps in place.

To our knowledge, this is the first report of nursing triage times and times first seen by physicians for acute stroke in the UK. In comparison with the initial triage time of 37 minutes reported by another study (Bisaillon et al, 2005), our nursing triage times of 14 minutes in A&E and 19 minutes in the MAU are commendable. This can be explained by early teaching about thrombolysis and the use of a pocket card to increase awareness among A&E staff of the inclusion and exclusion criteria for acute stroke.

Efforts are needed to continue to improve the time and bring it within the 10-minute recommended time in the Manchester triage system that was in use at the time of the study.

The reported times patients were first seen by physicians in this study of 49 minutes in A&E and 84 minutes in MAU are in the middle range of the 20-minutes to four-hour range reported in a systematic review (Kwan et al, 2004). A possible explanation for delays may be that doctors put down the time when they take the patient history and write their notes.

Staff awareness
The results of this study have been presented to A&E staff to raise awareness in attempts to shorten nurse triage time and the time taken to see a doctor. The possibility of using the ROSIER score for earlier and easier stroke recognition has been mentioned. The acute stroke programme has become more involved in training junior doctors to increase their awareness of thrombolysis for patients with acute ischaemic stroke.

It is also important for nurses and doctors to be aware that the benefits of early identification of patients with stroke extend to patients who do not qualify for thrombolysis. Performing CT scans on all patients with stroke immediately is cost-effective (Wardlaw et al, 2004). Furthermore, admission of patients to a stroke unit is well-recognised evidence-based practice.

LIMITATIONS
This study does have some limitations. The first is a sampling bias because some patients who had their stroke while in the hospital were excluded. Second, the audit methodology for data collection relied on nurses and physicians recording variables of interest for the study. There was missing and unusable data for times when patients were triaged and seen, as well as other variables.

CONCLUSION
This study contributes to the understanding of factors that affect how long it is before patients with stroke in the UK are seen by a doctor. Nurses see suspected stroke as an emergency and triage the majority of patients with stroke appropriately, but still not within the 10 minutes designated by the Manchester triage system.

There is a delay in physicians seeing acute stroke patients, which is greater in the MAU than in A&E.

Further work is needed in this area. First of all, in our trust there is a need to repeat the study to evaluate the effectiveness of strategies implemented to reduce triage times and times until patients are first seen by a physician. Second, there is a need to extend the study to other trusts and a larger population to be able to generalise the results.