

demand for involvement in healthcare issues and in the provision of that care, including medicines.

- The responsibility of both clinical professions and industry is to strengthen and uphold the standards in clinical research and to find ways to realise the mutual dependence on knowledge exchange and sound continuing medical education, including pharmaceutical medicine.

By adapting to the changing needs in clinical research, medical education and rational prescribing, a continued strong collaboration between clinical professions and pharmaceutical industry will best meet the new challenges of clinical governance and medical regulation on the one hand, and maintenance of the UK as a strong pharmaceutical R&D base on the other. Both are in the interests of patients and the public health.

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# The National Clinical Guidelines for Stroke

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The *National Clinical Guidelines for Stroke* were published by the Royal College of Physicians in March 2000<sup>1</sup>. Although the Scottish Intercollegiate Guidelines Network (SIGN)<sup>2-5</sup> has produced guidelines for some aspects of stroke care in recent years, these are the first national guidelines that have attempted to provide a comprehensive overview of the management of stroke from the acute event, through rehabilitation, to the long-term care of patients in the community. The American stroke guidelines (AHCPR)<sup>6</sup> are now five years old and are of limited value to clinicians in the United Kingdom where the structure of health services is so different.

The need for a clear national strategy to improve stroke care is evident. The National Sentinel Audit<sup>7</sup>, the Stroke Association report on stroke services<sup>8</sup>, and the Clinical Standards Advisory Group (CSAG)<sup>9</sup> have all shown major deficiencies in the delivery of care that need to be urgently addressed. One of the findings of the CSAG report was the difficulty clinicians had in accessing evidence-based recommendations for stroke care.

The National Stroke Guidelines were produced by the Intercollegiate Stroke Working Party, which was constituted to include representatives from all the professions involved in the management of stroke, together with representatives from patient groups. The objective was to produce a document that complied with the appraisal instrument set out by Cluzeau *et al* in 1997<sup>10</sup>. Recommendations were collated by a single author and reviewed and refined by the working party. External peer review was carried out twice, using several experts from each of the relevant professions. A report was commissioned from the College of Health to provide a patient perspective<sup>11</sup>.

The guidelines are intended to provide clinicians and managers with a document that clearly sets out the minimum basic standards of care, is unequivocal in its recommendations where the evidence is clear, but also highlights areas where the evidence is weak. It does not remove from local clinicians the need to assess the evidence for themselves and to reach consensus as to the best way to provide

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a service. It should provide the framework for the development of local guidelines. It is hoped that the guidelines will encourage people to become more actively involved in research by showing how many areas of care are not supported by adequate evidence.

### Key recommendations

The guidelines cover the management of the stroke patient from the time of stroke to the long term and are for all clinicians, not just physicians. The most important recommendation is that **all patients should be managed by stroke specialists in a stroke unit**. The importance of comprehensive assessment, goal setting, involvement of patients and carers in planning care, and close collaboration between the different agencies involved in the care of the patient is identified throughout the document.

### Examples of guidelines for physicians

Some of the more controversial guidelines of particular relevance to physicians are listed here. The strength of each recommendation is given using the conventional A–C system<sup>12</sup>. The evidence on which they are based is presented in the full document.

#### 1. Organisation of services

a) Every organisation involved in the care of stroke patients over the first six months should ensure that stroke patients are the responsibility of and are seen by services specialising in stroke and rehabilitation (A)

The stroke service should comprise:

- a geographically identified unit acting as a base and as part of the inpatient service (A)
- a co-ordinated multidisciplinary team (A)
- staff with specialist expertise in stroke and rehabilitation (A)

b) After the acute phase, specialist stroke services can be delivered to patients equally effectively in hospital or in the community (A)

#### 2. Acute assessment

a) 'Stroke' is primarily a clinical diagnosis, and the clinical diagnosis can be relied upon in most cases (B)

b) Brain imaging should be undertaken to detect intracerebral or subarachnoid haemorrhage, and to exclude other causes of the stroke syndrome in all patients within 48 hours of onset, unless there are good clinical reasons for not doing so (C)

c) Brain imaging should be undertaken as a matter of urgency if: (B)

- there is a clinical deterioration in the patient's condition
- subarachnoid haemorrhage is suspected

- hydrocephalus secondary to intracerebral haemorrhage is suspected
- trauma is suspected
- the patient is on anticoagulant treatment, or has a known bleeding tendency
- if anticoagulation is being considered
- the diagnosis is in doubt because of other unusual features.

#### 3. Acute treatment

a) Aspirin (300mg) should be given as soon as possible after the onset of stroke symptoms if a diagnosis of cerebral haemorrhage is considered unlikely (A)

b) Neurosurgical opinion should be sought for cases of hydrocephalus (B)

c) Anticoagulation should be considered for all patients in atrial fibrillation, but not started until intracerebral haemorrhage has been excluded by brain imaging, and usually only after 14 days (A)

d) Thrombolytic treatment with tissue plasminogen activator (tPA) should only be given provided: it is administered within three hours of onset of stroke symptoms; haemorrhage has been definitively excluded; and the patient is in a specialist centre with appropriate experience and expertise (A)

e) Local policies should be agreed in relation to the early management of hypertension, hyperglycaemia, hydration and pyrexia (C)

#### 4. Secondary prevention

a) All patients should have their blood pressure checked, and hypertension persisting for over one month should be treated in accordance with the British Hypertension Society guidelines (A)

b) All patients not on anticoagulation should be taking aspirin (50–300mg daily), or a combination of low dose aspirin and dipyridamole modified release (MR). Where patients are aspirin intolerant an alternative antiplatelet agent (clopidogrel 75mg daily or dipyridamole MR 200mg twice daily) should be used (A)

c) Anticoagulation should be considered in every patient with ischaemic stroke in atrial fibrillation (valvular or non-valvular) (A) mitral valve disease, prosthetic heart valves or within three months of myocardial infarction (C)

d) Anticoagulation should not be used after transient ischaemic attacks or minor strokes unless cardiac embolism is suspected (A)

e) Any patient with a carotid artery area stroke and minor or absent residual disability should be considered for carotid endarterectomy (A)

f) Carotid endarterectomy should be undertaken only by a specialist surgeon with a proven low complication rate, and only if the stenosis is measured at greater than 70% (A)

g) Therapy with a statin should be considered for all patients with a past history of myocardial infarction and a cholesterol >5.0mmol/l following stroke (A)

## 5. Rehabilitation

a) Any of the current exercise therapies practised within a neurological framework will improve patient function (A)

b) While they need therapy, patients should receive as much as can be given and tolerated (A)

c) After stroke, spasticity in the arm or leg:

- if causing symptoms, may be helped by anti-spastic drugs when combined with other physical treatments, but the functional benefit is uncertain (B)
- should only be treated specifically if symptomatic (C)
- may be helped by injection of botulinum toxin which can reduce tone, increase the range of joint movement and may lead to functional benefit and/or symptomatic relief (A)

## Implementation of the guidelines

Implementation of the guidelines will require an active strategy by every trust if they are not to end up with all the other guidelines accumulating dust in the corner of a forgotten office. The Royal College of Physicians and the other professional colleges and organisations are committed to the process. The publication during 2000 of the National Service Framework (NSF) for Elderly People, which includes stroke, may provide an impetus. The NSF had access to the guidelines in producing their recommendations and if the government does endorse their findings, trusts may find the guidelines useful in reconfiguring services. Stroke is not on the initial list of priorities for the National Institute of Clinical Excellence (NICE) and it is therefore not yet clear how active it will be in helping to implement and disseminate the guidelines.

The guidelines are published both in paper format and electronically through the RCP web site ([www.rcplondon.ac.uk](http://www.rcplondon.ac.uk)). It is intended to update them regularly. Work also needs to continue on making the guidelines more accessible and useful to doctors, nurses and therapists in their daily work. Development of electronic patient records linked to the guidelines and the use of such records for routine data collection for the purposes of audit and clinical governance are possible ways in which modern technology could conceivably help deliver improvements in the quality of stroke care. Repeating the National Stroke Audit in two to three years to assess progress is anticipated.

Ultimately the most powerful way of improving care is to inform and empower patients with stroke. When they know what they should be receiving in the way of care and realise that their health is being compromised by disorganisation and ignorance, change will come rapidly. To this end a patient and carer version of the National Guidelines has

been produced in the hope that this will become widely available in hospitals and primary health care.

Improving the quality of stroke care does not necessarily require significant extra resources. The average district general hospital will have between 20 and 30 patients in beds as a result of stroke. Bringing them together in one ward, providing training for staff, creating effective interdisciplinary teams, involving the patients and carers in planning care, setting clear objectives and co-ordinating and communicating with community services are all achievable with a little willpower and some knowledge.

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