

# National Clinical Guidelines for Stroke: a concise update

The Intercollegiate Working Party for Stroke

**ABSTRACT** – The National Clinical Guidelines for Stroke<sup>1</sup> cover the management of stroke from the acute illness through to transfer of care from hospital to the community, to longer-term problems including carer support and secondary prevention. They are designed to be read by all health and social service professionals, including those working in primary care.

Since the guidelines were first published there have been some major developments in stroke research. These have now been incorporated into an updated supplement to the guidelines<sup>2</sup>. The new updates include:

- The recommendation that specialist stroke services should include a neurovascular clinic to enable patients with transient ischaemic attack (TIA) and minor stroke, (where the patient has not been admitted to hospital), to be investigated and treated within a maximum of two weeks.
- Changes in the recommendations about the management of blood pressure after stroke following the publication of the HOPE and PROGRESS trials.
- Although advances in therapy research do not warrant radical alterations to practice, two changes have been made. These recommend the use of resisted exercise to improve motor function in targeted muscles and that patients should be given as much opportunity to practice tasks as possible.
- More precise recommendations on the management of depression.
- The withdrawal of some recommendations concerning the management of shoulder pain, deep venous thromboses and biofeedback.

With the research evidence evolving at a rapid rate a new version of the complete guidelines will be published in 2003.

An updated version of the concise guidelines follows. Each guideline recommendation is accompanied by a letter (A, B or C) to indicate the strength of recommendation supporting it. Beside the evidence, the level of evidence is demonstrated by a number (I to IV) indicating its provenance (Table 1).

## Specialist stroke services

- a Every organisation involved in the care of stroke patients over the first 6 months should ensure that all stroke patients are the responsibility of services specialising in stroke and rehabilitation (A). Any patient with moderate or severe symptoms should be referred to hospital with the expectation of admission to a stroke unit. Exceptions may include those relatively few patients for whom the diagnosis will make no difference to management. The stroke service should comprise:
  - a geographically identified unit (A)
  - a co-ordinated multidisciplinary team (A)
  - staff with specialist expertise in stroke and rehabilitation (A)
  - educational programmes for staff, patients and carers (A)
  - agreed protocols for common problems (A)
  - a neurovascular clinic for the rapid assessment of transient ischaemic attack and minor stroke (C)
  - access to brain and vascular imaging services (C).
- b Patients should be managed at home **only if**:
  - care services are able to provide adequate flexible support within 24 hours (C)
  - the services delivered at home are part of a specialist stroke service (A).

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**Table 1. Guideline strength: level of evidence and grade of recommendation.**

Level of evidence	Type of evidence	Grade of recommendation
Ia	Meta-analysis of randomised controlled trials (RCTs)	A
Ib	At least one RCT	A
IIa	At least one well designed, controlled study but without randomisation	B
IIb	At least one well designed, quasi-experimental study	B
III	At least one well designed, non-experimental descriptive study (eg comparative studies, correlation studies, case studies)	B
IV	Expert committee reports, opinions and/or experience of respected authorities	C

- c Specialist stroke services can be delivered to patients, after the acute phase, equally effectively in hospital or in the community, provided that the patient can transfer from bed to chair before going home and provided that the patient continues to be seen by a specialised multi-disciplinary stroke team (A).
- d Specialist day hospital rehabilitation or specialist domiciliary rehabilitation can be offered to outpatients with equal effect (A).

### Carers and families

- a Information should be given to families and carers on the nature of stroke and its manifestations, and on relevant local and national services (A). Families and carers should be involved in decisions (C).
- b Stroke services must be alert to the likely stress on carers (B).
- c Family support workers should be involved to help reduce carer distress (A).
- d Patients and their carers should have their individual psychosocial and support needs reviewed on a regular basis (C).

### Management of TIA

- a Patients first seen in the community with TIA, or with a stroke but having made a good recovery when seen, should be assessed and investigated in a specialist neurovascular clinic within 14 days of onset. They do not need admission to hospital **unless**:
  - the patient cannot be seen in a specialist neurovascular clinic within two weeks (C)
  - an underlying cause requiring urgent treatment is suspected (C)
  - the patient has had more than one TIA within a short period (crescendo TIA) (C).
- b Patients with hemispheric TIA should have brain imaging to exclude arterio-venous malformation, subdural haematoma and tumours (C).

### Early management of stroke

#### Imaging

- a Brain imaging should be undertaken in all stroke patients to detect intracerebral or subarachnoid haemorrhage, and to exclude other causes of the stroke syndrome, within 48 hours of onset unless there are good clinical reasons for not doing so (C).
- b Brain imaging should be undertaken as a matter of urgency if the patient has (B):
  - a depressed level of consciousness
  - unexplained progressive or fluctuating symptoms

- papilloedema, neck stiffness or fever
- severe headache at onset
- a history of trauma prior to onset
- indications for thrombolysis or early anticoagulation
- a history of anticoagulant treatment, or has a known bleeding tendency.

- c Brain imaging should always be undertaken before anticoagulant treatment is started (C).
- d The diagnosis should always be reviewed by an experienced clinician with expertise in stroke (B).
- e MRI should be considered if CT scan is normal and the diagnosis of stroke is in doubt, especially in patients with brain stem or cerebellar symptoms, or to exclude old haemorrhage (C).

### Acute (medical/surgical) interventions

- a Aspirin (160-300 mg) should be given as soon as possible after the onset of stroke symptoms if a diagnosis of haemorrhage is considered unlikely (A).
- b Thrombolytic treatment with tissue plasminogen activator (tPA) can be given only if (i) it is administered within 3 hours of onset of stroke symptoms; (ii) haemorrhage has been definitively excluded; (iii) the patient is in a specialist centre with appropriate experience and expertise (A).
- c No other drug treatment aimed at treatment of the stroke should be given unless as part of a randomised controlled trial (RCT) (A).
- d Neurosurgical opinion should be sought for cases of secondary hydrocephalus (B).
- e 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).
- f Centrally acting drugs should be avoided if possible (B).
- g Local policies should be agreed in relation to the early management of hypertension, hyperglycaemia, hydration and pyrexia (C).

### Secondary prevention

These guidelines apply to **all patients** with TIA and stroke, even those not admitted to hospital. Therefore they refer to patients either **before discharge from hospital** or **before 2 weeks have passed from stroke onset**, whichever is the sooner.

- a All patients should have their blood pressure checked, and hypertension persisting for over one month should be treated. The British Hypertension Society guidelines are: optimal blood pressure treatment targets are systolic blood pressure <140 mmHg and diastolic blood pressure <85 mmHg; the minimum accepted level of control recommended is <150 and <90 mmHg, respectively. For patients with diabetes the target level of control should be 140/85 (A).

- b Further reduction of blood pressure should be considered using a combination of long-acting ACE inhibitor (eg perindopril or ramipril) and a thiazide diuretic (eg Indapamide).
- c All patients with ischaemic stroke who are not on anticoagulation, should be taking an antiplatelet agent, ie aspirin (75–325 mg) daily (A), or clopidogrel, or a combination of low-dose aspirin and dipyridamole modified release (MR). Where patients are aspirin intolerant an alternative antiplatelet agent (clopidogrel 75 mg daily or dipyridamole MR 200 mg twice daily) should be used (A).
- d Anticoagulation:
  - should not be used after transient ischaemic attacks or minor strokes unless cardiac embolism is suspected (A)
  - should not be started until brain imaging has excluded haemorrhage, and 14 days have passed from the onset of an ischaemic stroke (A)
  - should be started in every patient in atrial fibrillation (valvular or non-valvular) unless contraindicated (A)
  - should be considered for all patients who have ischaemic stroke associated with mitral valve disease, prosthetic heart valves, or within 3 months of myocardial infarction (C).
- 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 considered where carotid stenosis is measured at greater than 70% (A).
- g All patients should be assessed for other vascular risk factors and be treated or advised appropriately (B).
- h Therapy with a statin should be considered for all patients with a history of ischaemic heart disease and a cholesterol >5.0 mmol/l following stroke (A).

## Rehabilitation

### Core principles

- a Any of the current therapeutic approaches to movement re-education should be used to improve function (A).
- b For the specific objectives of (i) improving reaching for objects, (ii) increasing walking speed, a task-specific approach should be used rather than an impairment focused approach (B).
- c Patients should be given as much opportunity as possible to practice tasks (B).
- d Clinicians should use validated assessment measures to assist clinical decision-making on therapeutic interventions, and monitor patients' progress during rehabilitation (C).

### Multidisciplinary assessment

- a A multidisciplinary assessment using a formal procedure or protocol should be undertaken and documented in the notes

within 48 hours of admission (A). The protocol should include assessment of:

- consciousness level (C)
- swallowing (C)
- pressure sores risk (C)
- nutritional status (B)
- cognitive impairment (C)
- communication
- the patient's needs in relation to moving and handling (C).

## Management

- a Protocols should be adhered to for:
  - Management of urinary and faecal incontinence and constipation (B)
  - Nutritional support and enteral feeding
  - Prevention and management of shoulder pain
  - Discharge planning.
- b Goal setting should involve the patient (B), and family if appropriate (C).
- c Patients with specific communication difficulties should be assessed by a speech and language therapist for their suitability for intensive therapy (B).
- d Patients should be screened for emotionalism, depression and anxiety within the first month of stroke, and their mood kept under review (C). Patients with persistently depressed mood (duration of at least one month) should be considered for a trial of antidepressant medication (A). If a good response has been achieved, antidepressants should be continued for at least six months (C).
- e A physiotherapist with expertise in neurodisability should co-ordinate therapy to improve movement performance of patients with stroke (C). Resisted exercise should be considered to improve motor function in targeted muscles (B).
- f All patients with difficulties in activities of daily living should be assessed by an occupational therapist with specialist knowledge in neurological disability (A).
- g Carers should receive all necessary equipment and training in moving and handling, in order to position and transfer the patient safely in the home environment (B).

## References

- 1 The Intercollegiate Working Party for Stroke. *National Clinical Guidelines for Stroke*. London: RCP, 2000.
- 2 The Intercollegiate Working Party for Stroke. *National Clinical Guidelines for Stroke – Update 2002*. London: RCP, in press.