



THEME

Stroke



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Community care after stroke

BACKGROUND

The key to life after stroke is to harness the best secondary preventive strategies and maximise functional outcome.

OBJECTIVE

This article discusses key assessment and secondary prevention strategies for the initial, and subsequent, general practitioner visits by patients poststroke.

DISCUSSION

Key to successful community medical treatment is an accurate diagnosis of the index event, as secondary preventive strategies differ depending on the pathology of stroke. There are hundreds of evidence based rehabilitation strategies to help improve aspects of stroke disability, and there is now good evidence to be more optimistic about brain recovery. Rehabilitation strategies can be effective after hospital discharge, and can help improve function should this deteriorate long after the initial stroke. Sadly, some people are left very disabled after stroke. When there is no prospect of further functional recovery, priorities should switch to overseeing complex care plans and providing appropriate comfort measures.

Stroke can be a miserable disease and support can make a big difference to the stroke survivor and their family. Many surveys have documented the feeling of abandonment felt by those who have suffered a stroke. The Australian National Stroke Foundation Guidelines for stroke rehabilitation and recovery provides a detailed list of recommendations.¹

Posthospital visit

The goal of the posthospital visit should be to check potentially urgent matters (*Table 1*). The initial diagnostic label will program what will probably be years of future treatment, but beware the immortal but inaccurate diagnosis list! The term 'cerebrovascular accident' is too general to be useful; the following categories are more informative:

- transient ischaemic attack
- ischaemic stroke
- primary intracerebral haemorrhage stroke
- subarachnoid haemorrhage
- nonstroke/stroke mimic.

Diagnoses to review

Transient ischaemic attack

Transient ischaemic attack (TIA) includes 'brain' attacks

such as transient weakness of the arm and face, and 'eye' attacks such as transient monocular blindness (amaurosis fugax). Transient ischaemic attacks are ischaemic events (clinically it is rare for a TIA to be due to a haemorrhagic event) that do not leave any functional deficit (as would a stroke) but crucially, the patient is at high risk of an early recurrent disabling stroke (8% in the first week after a TIA).² Results of initial investigations should be reviewed; and smoking cessation support and appropriate secondary prevention (antithrombotic medication, a statin and antihypertensives) should be a priority of the posthospital review (see the article by Dewey and Bernhart this issue) (*Table 2*). If the attack was in the carotid territory and the patient fit for surgery, has carotid duplex scanning excluded tight carotid stenosis? Local neurovascular or TIA clinics are increasingly available for further specialised assessment.

Ischaemic stroke

Ischaemic stroke and TIA are the same disease. As such, a nondisabling ischaemic stroke should be managed like a TIA (*Table 2*). Differences arise when the attack has been disabling. Additional complexities of disability and handicap are discussed later.

Primary intracerebral haemorrhage stroke

It is crucial to know the underlying pathology of stroke, as treatment, investigation and secondary prevention differ from ischaemic stroke. Hospital investigations may have revealed an underlying cause, eg. an aneurysm, or arterio-venous malformation, which will require specific interventions. Secondary prevention centres on:

- blood pressure lowering (extremely effective)³
- smoking cessation, and
- avoiding excessive alcohol.

Unlike postischaemic stroke, statins have not been shown to be beneficial for this subtype of stroke.⁴

Subarachnoid haemorrhage

Subarachnoid haemorrhage (SAH) is officially a subtype of stroke, however, the different presentation and management is beyond the scope of this article.

Nonstroke/stroke mimic

It is important to recognise that the initial medical assessment in hospital is often inaccurate. Only about 80–85% of initial diagnoses made in the emergency room are correct,⁵ and what has been labelled a stroke may turn out to be a mimic. Clues to mimics are usually in the history. Does the patient have typical stroke risk factors? Is there a neurological alternative diagnosis such as migraine, seizure or brain tumour?

The management of psychogenic stroke (sometimes referred to as ‘medically unexplained’ or hysterical stroke) will often require considerable support as patients can remain distressed and disabled by their symptoms, even after excluding organic disease.

Assessment of disability and handicap

The terms ‘activity’ and ‘participation’ describe the effects of disability and handicap, and emphasise the positive aspects of function and social interactions. In the initial visit it is important to review some key aspects that tend to overwhelm other aspects. These are:

- communication
- feeding
- walking and transfer abilities
- cognition
- continence, and
- mood.

You will obtain a visual examination of gait, communication and arm function as soon as the patient enters into the consultation and shakes your hand. A common problem is the difficulty of assessing aphasia when the patient is reasonably fluent. If in doubt, I still advise a careful check on verbal comprehension, as some people can have

Table 1. Priorities for the initial posthospital discharge visit

- Check diagnosis details
- Review investigations (especially those occurring after discharge)
- Support quitting smoking
- Check secondary prevention medication appropriate and renew prescription
- Review impairments and disability and check that the care plan is effective

remarkably severe receptive aphasia with intact social verbalisation and gestures. While dysphagia recovers rapidly for most patients, a minority will require a modified diet (with fluid thickening for example) or percutaneous endoscopic gastrostomy (PEG) feeding (although this will usually be for obviously disabled patients). Cough, recurrent chest infections and choking may reflect ongoing aspiration that requires urgent attention.

One of the most important factors to check for in those with significant disability is whether the care plan is appropriate. Has the patient been discharged home to a distressed spouse and too little help? Can the hostel cope with their new resident? Is the nursing home placement appropriate?

Early supportive discharge has been shown to achieve at least the same benefits of stroke unit care, and these patients may need earlier medical support.⁶ In these programs, patients with moderate disability have their multidisciplinary rehabilitation in the home; their level of disability assistance will depend on local services. In trials, average hospital length of stay was reduced by 8 days.

Finally, remember there are medicolegal issues. Does the patient drive? If so, you need to record your advice to them not to drive for a month after a stroke, and reassess their fitness to drive thereafter.

Subsequent visits

The priorities for subsequent visits are shown in *Table 3*. It is reasonable to apply intensive secondary preventive measures. Only 20% of the Perth Community Stroke Study cohort survived a decade;⁷ the majority of deaths being vascular. Self management programs may be beneficial but there are currently no proven stroke specific programs.

Support

Younger stroke survivors may need specialised support to return to the workplace, and the more severely affected will need guidance to obtain appropriate financial and practical support.

While most neurological recovery occurs within the first 6 months poststroke, further recovery can occur late and should be facilitated. Some patients may have

been prematurely admitted to institutionalised care and if spontaneous recovery has been significant, a trial of further rehabilitation is warranted, especially if a goal of returning home is feasible.

For others, it is important to perform a review of the patient's abilities, as there is good evidence that rehabilitation, whether it be occupational therapy or physiotherapy, can sometimes improve aspects of function late after stroke in domiciliary or day hospital programs.

Some stroke survivors are very disabled but cared for at home. Family carers need far more support than they currently tend to receive. Respite programs can be of enormous support. There are a range of interventions that can help solve certain problems for very disabled stroke survivors. For example, severe spasticity can be helped by dynamic splinting, stretch and vibration, and botulinum toxin can sometimes help improve quality of life by, for example, releasing hand flexion to improve hand hygiene.

Depression, anxiety and emotionalism occur commonly after stroke and psychological and pharmacological

approaches are justified in treatment, but unfortunately, the evidence base for treatment response in stroke survivors is poor.

Physical activity

In general, stroke survivors should be encouraged to be physically active, maintain walking and return to usual activities if possible. The risk of dying during sexual intercourse is probably no different from the nonstroke population. 'Sudden death from overactivity is much feared and rarely seen. Gradual death from underactivity is little feared and much seen'.⁸

Cognitive problems

Cognitive problems after stroke are common. Specific cognitive impairments such as language problems have well developed speech rehabilitation programs. Other problems such as neglect, attention and concentration have a far more limited evidence base. Overall it is true that practise will lead to important improvements for

Table 2. Secondary prevention strategies for ischaemic stroke and TIA

Strategy	Timing/drugs and dosage	Other comments
Antihypertensive medication	BP lowering medication appears safe if commenced 2–4 days poststroke	Patients with both 'normal' and 'high' BP benefit from antihypertensive treatment to prevent recurrent stroke ¹¹
Cigarette smoking cessation	Start immediately	Tailor behavioural and pharmacological approaches to the individual
Lipid lowering therapy	Statin therapy should be commenced in all patients with stroke or TIA	Two large RCTs showed benefits of lipid lowering in patients with ischaemic stroke or TIA, with no significant increase in haemorrhagic stroke ^{12,13}
Antiplatelet therapy	Options: <ul style="list-style-type: none"> • aspirin • aspirin/dipyridamole or • clopidogrel indicated when aspirin is not tolerated • patients should receive aspirin as soon as possible poststroke (within 48 hours) 	<ul style="list-style-type: none"> • Low doses of aspirin (75–150 mg) are effective and associated with less gastrointestinal side effects than higher doses¹⁴ • aspirin/dipyridamole is more effective than aspirin alone but has a greater side effect profile¹⁵ • a combination of low dose aspirin and clopidogrel is no more effective than clopidogrel alone, but greater risk of bleeding¹⁶
Carotid endarterectomy in patients with symptomatic high grade (>70%) carotid stenosis	Generally safe 2 weeks poststroke; should be performed soon as possible after TIA	Carotid duplex ultrasound should be performed urgently in selected patients following stroke or TIA
Warfarin therapy in patients with atrial fibrillation, valvular disease or recent myocardial infarction unless there is a clear contraindication	Commence as soon as possible after TIA, once CT scanning has excluded ICH ¹⁰ For patients with stroke, a delay of 1–2 weeks is reasonable ¹¹	<ul style="list-style-type: none"> • Benefit in these patients outweighs the risk of serious haemorrhage¹⁷ • Maintain INR 2–3
Good glycaemic control in diabetic patients		Essential for prevention of long term micro- and non-vascular complications of diabetes

Table 3. Priorities for subsequent visits

- Check concordance with lifestyle modification and secondary preventive measures and renew prescriptions
- Review impairments, disability and handicap (activities and participation)
- Review care plan
- Screen for depression

some people and as the brain is more 'plastic' than previously accepted, it is important to encourage such activity. Despite the best rehabilitation programs, a substantial proportion of stroke survivors will be left with significant cognitive problems or dementia, and they and their families will need access to appropriate services and support.

Other problems

Recurrent seizures occur in about 5% of long term stroke survivors.⁹ However, there is no stroke specific evidence to help guide practice other than using the usual recommended anticonvulsants.

Incontinence can greatly contribute to the misery of stroke and a nurse led functional approach can improve many patients. A rectal examination is mandatory as a faecal loading or impaction contributes to faecal and urinary incontinence in a substantial proportion of stroke survivors.¹

Central poststroke pain following stroke occurs in about 5% of patients and can be difficult to treat. Amitriptyline or carbamazepine are the best agents to try. Use in low doses initially and increase as tolerated.

Regular review

It is good practice to provide a regular medical review for the stroke survivor. Although they are at high risk of future vascular events, appropriate secondary prevention can probably reduce these risks by about two-thirds. On the other hand, this implies 'evidence based' polypharmacy with all the problems of multiple medication. Simplifying medication regimens and deciding to stop treatment should be considered from time to time. For example, if a stroke survivor is very disabled, bed bound and in high level 24 hour care, there is a very good argument to stop the statins, antihypertensives and other medications. Comfort care for quality of life should take priority in this situation.

But perhaps the most important aspect of the regular review is to provide continued support and help guide the stroke survivor through their often complex medical journey.

Conflict of interest: none declared.

Acknowledgment

Richard Lindley is supported by infrastructure grants from the Commonwealth and NSW Health.

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