Stroke FOUNDATION

Clinical Guidelines for Stroke Management 2017

Dissemination and Implementation Report

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1. Background

The Stroke Foundation has been developing stroke guidelines since 2002. The existing *Clinical Guidelines for Stroke Management 2010* were approved by the National Health and Medical Research Council (NHMRC) in September 2010.

In order for the Australian Government to ensure up-to-date, best practice clinical advice is provided and maintained to healthcare professionals, the NHMRC requires clinical guidelines be kept current and relevant by reviewing and updating them at least every 5 years. As a result, the Stroke Foundation was contracted by the Australian Government Department of Health to update the Clinical Guidelines for Stroke Management, commencing July 2015.

The *Clinical Guidelines for Stroke Management 2017* updates and supersedes the 2010 version. Using the best available evidence, it provides a series of best-practice recommendations to assist decision-making in the management of stroke and transient ischaemic attack (TIA) in adults. The Clinical Guidelines should not be seen as an inflexible recipe for stroke management; rather, they provide a guide to appropriate practice to be followed subject to clinical judgment and patient preferences.

The Clinical Guidelines cover the most critical topics for effective management of stroke, relevant to the Australian context, and include aspects of stroke management across the continuum of care including pre-hospital, assessment and diagnosis, acute medical and surgical, secondary prevention, rehabilitation, discharge planning, community participation, and management of TIA. Some issues are dealt with in more detail, particularly where current management is at variance with best management, or where the evidence needs translation into practice.

The primary goal of the Clinical Guidelines is to help healthcare professionals improve the quality of the stroke care they provide.

This Dissemination and Implementation Plan details the information required by the NHMRC in accordance with the requirements of the *NHMRC 2011 Standard for developing clinical practice guidelines* [1].

2. Dissemination of the Clinical Guidelines

Reviewing current evidence and developing evidence-based recommendations for clinical care are only the first steps to ensuring that evidence-based quality stroke care is available. Following publication, the Clinical Guidelines must be disseminated to all those involved in stroke care to inform and assist stroke care delivery.

The Clinical Guidelines are intended for use by healthcare professionals, administrators, funders and policy makers who plan, organise and deliver care for people with stroke or TIA during all phases of recovery.

2.1. Target audience

The target audience for the Clinical Guidelines includes:

- Clinicians working directly within hospital and community settings (including public and private facilities);
- General practitioners and other community health providers;
- Emergency services (i.e. ambulance services);
- Hospital administrators;
- State health departments;
- Medical, nursing and allied health university programs; and
- Consumers.

2.2. Supporting resources

The dissemination of the Clinical Guidelines will be accompanied by the following resources:

- A 2-page summary document for healthcare professionals;
- A 2-page plain English summary document for consumer audiences;
- Discipline-specific summary documents;

- Implementation resources for healthcare professionals to use to assist with and support local education; and
- A series of presentations discussing the Clinical Guidelines.

These resources will be available on InformMe – a website developed by the Stroke Foundation and dedicated to helping healthcare professionals to improve the treatment of stroke care.

2.3. Dissemination plan

Initial dissemination of the Clinical Guidelines and supporting resources will take place via the following mechanisms:

- Official launch during Stroke Week (including information via various media platforms);
- Circulation electronically to members of the Australian Stroke Coalition; (representatives of all state-based clinical networks, and professional bodies including nursing, medical, ambulance and allied health);
- Distribution to all organisations who have endorsed the Guidelines;
- Distribution via the healthcare professional lists of the Stroke Foundation (several thousand current clinicians);
- Detailed information on InformMe;
- Publication of a content summary within relevant journals;
- Presentation at national and state conferences;
- Distribution electronically to research networks including various academic links; and
- Information about the updated guidelines integrated within the Stroke Foundation's EnableMe website (which is dedicated to consumers) and the main Stroke Foundation website.

3. Implementation of the Clinical Guidelines

In considering implementation of the Clinical Guidelines at a local level, healthcare professionals are encouraged to identify the barriers, enablers and facilitators to evidence-based practice within their own environment and determine the best strategy for local needs. Where change is required, initial and ongoing education is essential and is relevant to all recommendations in the Clinical Guidelines.

Evidence-based implementation strategies described in the literature will be used to facilitate use of the Clinical Guidelines in practice. The Stroke Foundation has previously developed a framework for implementation, *Implementing the Clinical Guidelines for Stroke Management: A guide to changing practice for stroke clinicians* [2], which will be updated and promoted for use.

3.1. Implementation strategies

Implementation strategies we suggest to facilitate use of the Clinical Guidelines include:

- **Education sessions**: for example, hosting interdisciplinary face-to-face meetings/seminars/workshops or internet-based webinars. Resources will be developed to assist facilitators with identifying barriers and solutions in the implementation phase.
- **Education outreach visits**: for example, a peer support model using centres viewed as 'champions' in aspects of stroke management may be used to assist other centres locally.
- **Education resources**: for example, educational resources will utilise key opinion leaders and assist with sharing their knowledge to a wide audience.
- **Audit and feedback**: data from the National Stroke Audits will be fundamental to the implementation of these guidelines. A copy of relevant indicators covering organisation of services and clinical care is available from InformMe along with key audit reports. Site reports are also available to assist sites identify and prioritise gaps in practice and to prompt development of a documented quality improvement action plan to address these gaps, based on locally identified barriers and enablers.

- **Team meetings and working group meetings**: for example, regular meetings of key stakeholders and team members should be used once local teams have identified key areas of quality improvement activities and commenced planning strategies for change.

A systematic review suggests the above strategies have modest effectiveness in implementing evidence-based care, but it is unclear if single interventions are any better or worse than multiple interventions [3]. Thus all of the above strategies may be used where appropriate for implementation of the Clinical Guidelines. Specific strategies will also be considered when targeting general practitioners, in line with the RACGP guidelines *Putting prevention into practice*.

3.2. Implementation support

The Stroke Foundation strongly recommends a systematic approach to identifying gaps in service delivery, understanding local barriers or enablers to reducing those gaps, and developing a clear plan of action to improve stroke services. The Stroke Foundation is committed to supporting routine monitoring of adherence to the Clinical Guidelines via the National Stroke Audit and providing healthcare professionals with a centralised online portal that incorporates education, tools and resources, opportunities to share ideas, review data, and develop action plans for quality improvement.

In addition, existing resources and networks can also support implementation of the Clinical Guidelines:

- The *National Acute and Rehabilitation Stroke Services Frameworks*, which outline how acute and rehabilitation stroke services, and stroke units in particular, should be organised in different parts of Australia and the resources that may be needed (available at strokefoundation.org.au);
- The Australian Stroke Coalition, which brings together representatives from groups and organisations working in the stroke field, such as clinical networks and professional associations/colleges, and works to tackle agreed priorities to improve stroke care, reduce duplication between groups and strengthen the voice for stroke care at a national and state level (see australianstrokecoalition.com.au); and
- Clinical networks, in NSW, QLD, and VIC particularly, which can help to take a more system-wide approach to quality stroke care.

4. Key recommendations for consideration in implementation

We have identified a number of key recommendations with high-quality evidence and large benefits to inform future implementation. These key recommendations were then cross-referenced against the Acute Stroke Clinical Care Standard [4], a set of quality statements developed by the stroke community in Australia, and the Australian Commission on Safety and Quality in Health Care.

The Acute Stroke Clinical Care Standard suggests that the key to implementation of high-quality care is an integrated systems-based approach supported by health services and networks of services. The Stroke Foundation is therefore very keen to support clinical networks and health services to implement the Clinical Guidelines.

Table 1: Key recommendations for consideration in implementation

Key recommendations	Acute Stroke Clinical Care Standard
Early assessment	
› All patients with suspected transient ischaemic attack (TIA, i.e. focal neurological symptoms due to focal ischaemia that have fully resolved) should have urgent clinical assessment. › Patients with symptoms that are present or fluctuating at time of initial assessment should be treated as having stroke and be immediately referred for emergency department and stroke specialist assessment, investigation and reperfusion therapy where appropriate. › In pre-hospital settings, high risk indicators (e.g. crescendo TIA, current or suspected AF, current use of	› A person with suspected stroke is immediately assessed at first contact using a validated stroke screening tool, such as the F.A.S.T. (Face, Arm, Speech and Time) test.

anticoagulants, carotid stenosis or high ABCD^2 score) can be used to identify patients for urgent specialist assessment. › All suspected stroke patients who have been pre-notified to the stroke or ED team, and who may be candidates for reperfusion therapy, should be met at arrival and assessed by the stroke team or other experienced personnel.	
Time-critical therapy	
› All stroke patients should be managed as a time-critical emergency. The dispatch of ambulances to suspected stroke patients who may be eligible for reperfusion therapies requires the highest level of priority. Furthermore, the highest level of priority should also be provided when transporting suspected stroke patients to hospitals capable of offering reperfusion therapies within appropriate timeframes. › Ambulance services should preferentially transfer suspected stroke patients to a hospital capable of delivering reperfusion therapies as well as stroke unit care. Ambulance services should pre-notify the hospital of a suspected stroke case where the patient may be eligible for reperfusion therapies. › For patients with potentially disabling ischaemic stroke who meet specific eligibility criteria, intravenous alteplase (dose of 0.9 mg/kg, maximum of 90 mg) should be administered. › Thrombolysis should commence as early as possible (within the first few hours) after stroke onset but may be used up to 4.5 hours after onset. › For patients with ischaemic stroke caused by a large vessel occlusion in the internal carotid artery, proximal cerebral	› A patient with ischaemic stroke for whom reperfusion treatment is clinically appropriate, and after brain imaging excludes haemorrhage, is offered a reperfusion treatment in accordance with the settings and time frames recommended in the Clinical guidelines for stroke management.

artery (M1 segment), or with tandem occlusion of both the cervical carotid and intracranial arteries, endovascular thrombectomy should be undertaken when the procedure can be commenced within six hours of stroke onset.	
Stroke unit care	
› All stroke patients should be admitted to hospital and be treated in a stroke unit with an interdisciplinary team. › All acute stroke services should implement standardised protocols to manage fever, glucose and swallowing difficulties in stroke patients.	› A patient with stroke is offered treatment in a stroke unit as defined in the Acute Stroke Services Framework.
Early rehabilitation	
› Every stroke patient should have their rehabilitation needs assessed within 24–48 hours of admission to the stroke unit by members of the multidisciplinary team, using the Assessment for Rehabilitation Tool (Australian Stroke Coalition Working Group 2012). › For stroke patients, starting intensive out-ofbed activities within 24 hours of stroke onset is not recommended. › All stroke patients should commence mobilisation (out-of-bed activity) within 48 hrs of stroke onset unless otherwise indicated (e.g. receiving end of life care).	› A patient's rehabilitation needs and goals are assessed by staff trained in rehabilitation within 24–48 hours of admission to the stroke unit. Rehabilitation is started as soon as possible, depending on the patient's clinical condition and their preferences.
Amount of rehabilitation	
› For stroke survivors, rehabilitation should be structured to provide as much scheduled therapy (occupational therapy and physiotherapy) as possible, with a minimum of three hours a day ensuring at least two hours of active task practice occurs during this time.	› No quality statement in Acute Care Standards, however the National Audit has indicators measuring various elements of rehabilitation

Minimising risk of another stroke	
❯ All people with stroke or TIA (except those receiving palliative care) should be assessed and informed of their risk factors for recurrent stroke and strategies to modify identified risk factors. This should occur as soon as possible and prior to discharge from hospital. ❯ All stroke and TIA patients, with a blood pressure of > 140/90 mmHg should have long-term blood pressure lowering therapy initiated or intensified. ❯ Long-term antiplatelet therapy (low-dose aspirin, clopidogrel or combined low-dose aspirin and modified release dipyridamole) should be prescribed to all people with ischaemic stroke or TIA who are not prescribed anticoagulation therapy, taking into consideration patient co-morbidities. ❯ For ischaemic stroke or TIA patients with atrial fibrillation (both paroxysmal and permanent), oral anticoagulation is recommended for long-term secondary prevention. ❯ All patients with ischaemic stroke or TIA with possible atherosclerotic contribution and reasonable life expectancy should be prescribed a high potency statin, regardless of baseline lipid levels.	❯ A patient with stroke, while in hospital, starts treatment and education to reduce their risk of another stroke.
Carer training and support	
❯ Relevant members of the interdisciplinary team should provide specific and tailored training for carers/family before the stroke survivor is discharged home. This training should include, as necessary, personal care techniques, communication strategies, physical handling techniques, information about ongoing prevention	❯ A carer of a patient with stroke is given practical training and support to enable them to provide care, support and assistance to a person with stroke.

and other specific stroke-related problems, safe swallowing and appropriate dietary modifications, and management of behaviours and psychosocial issues. › Carers of stroke survivors should be provided with tailored information and support during all stages of the recovery process. This support includes (but is not limited to) information provision and opportunities to talk with relevant health professionals about the stroke, stroke team members and their roles, test or assessment results, intervention plans, discharge planning, community services and appropriate contact details. Support and information provision for carers should occur prior to discharge from hospital and/or in the home and can be delivered face-to-face, via telephone or computer.	
Transition from hospital care	
› Comprehensive discharge care planning that addresses the specific needs of the patient should be developed in conjunction with the patient and carer prior to discharge.	› Before a patient with stroke leaves the hospital, they are involved in the development of an individualised care plan that describes the ongoing care that the patient will require after they leave hospital. The plan includes rehabilitation goals, lifestyle modifications and medicines needed to manage risk factors, any equipment they need, follow-up appointments, and contact details for ongoing support services available in the community. This plan is provided to the patient before they leave hospital, and to their general practitioner or ongoing clinical provider within 48 hours of discharge.

5. References

[1] NHMRC, Standards for developing clinical practice guidelines, Canberra, 2011.

[2] Stroke Foundation, Implementing the Clinical Guidelines for Stroke Management: A guide to changing practice for stroke clinicians, Melbourne, Australia, 2011.

[3] Jeremy MG, Martin PE, John NL, et al. Knowledge translation of research findings. Implementation Science, 2012, 7: 50.

[4] Australian Commission on Safety and Quality in Health Care, Acute Stroke Clinical Care Standard, Canberra, 2015.