

Clinical Guidelines for Stroke Management

Administrative report

September 2021

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1. Background

The Stroke Foundation has been developing stroke guidelines since 2002. The *Clinical Guidelines for Stroke Management 2017* were approved by the National Health and Medical Research Council (NHMRC) in July 2017, with further changes approved in November 2017, July 2018, November 2019, February 2021, and July 2021.

For the Australian Government to ensure that healthcare professionals have up-to-date, best practice clinical advice, the NHMRC requires clinical guidelines be reviewed and updated at least every five years. As a result, the Stroke Foundation in partnership with Cochrane Australia tested a model of continually reviewing and updating recommendations in response to new evidence. This project commenced in July 2018 and concluded in June 2021 and was funded by the Australian Government Department of Health via the Medical Research Future Fund. The Stroke Foundation is continuing to review literature monthly while further sustainable funding is secured.

This Administrative report details the information required by the NHMRC in accordance with the requirements of the *2016 NHMRC Standards for Guidelines*.

2. Content Development Group (CDG)

In September 2018, the Stroke Foundation called for an Expression of Interest (EOI) for healthcare professionals to be involved in the development of the guidelines. Requests for EOI were sent to all previous people involved in the 2017 update, as well as stroke care-related professional organisations (via representatives on the Australian Stroke Coalition). The EOI was also advertised on the Stroke Foundation's website and in our healthcare professional newsletter. The criteria for selection were:

- Good working relationship with their professional organisation,
- Extensive networks of peers to seek input as needed,
- Strong clinical expertise/experience with a very good practical knowledge of current practice,
- Detailed knowledge of research design and critical appraisal of evidence,
- Familiarity with systematic reviews and development of clinical guidelines, and
- Willingness and ability to commit to the necessary time commitment of this project (over a minimum 24-month period).

Applications in writing were assessed against the selection criteria by members of the Stroke Foundation Project Team and discussed with the co-chairs, who also co-chaired the previous update: Professor Bruce Campbell and Professor Coralie English.

The Content Development Group (CDG) and associated working groups are responsible for:

- reviewing the framework of the existing guidelines
- determining the clinical questions for the guideline update
- identifying, reviewing and classifying relevant literature;
- extracting data from the literature and inputting that information into the guideline development platform (MAGICapp)
- developing the draft guidelines
- evaluating and responding to feedback from the consultation process.

An overview of the roles and responsibilities and guidelines governance is provided in the Methodology Paper.

Review of the current topics (prehospital care, telehealth – acute, head position, management of atrial fibrillation, arm activity, activities of daily living, memory, telehealth in rehabilitation, swelling of extremities) was undertaken by the work group members outlined in Table 1. In addition, all consumers and specifically the acute medical working group members were asked to review draft changes and provide comments. Finally, the multidisciplinary Content Steering Committee signed off on the content prior to public consultation and discussed and agreed to the final copy after feedback was considered.

Table 1: Content Development Working Group Members specifically involved in the current topics

Prof Chris Bladin	Ambulance	Ambulance Victoria, VIC
Prof Hugh Grantham	Ambulance	Researcher Curtin University and Flinders Medical Centre, SA
Mr Lachlan Parker	Ambulance	Queensland Ambulance Service, QLD
Mr Wayne Loudon	Ambulance	Ambulance Metro North – QLD, QLD
Dr Amanda Patterson	Dietitian	University of Newcastle, NSW
Ms Lesley MacDonald-Wicks	Dietitian	University of Newcastle, NSW
Prof Bruce Campbell	Neurologist	Royal Melbourne Hospital and University of Melbourne, VIC
Prof Ken Butcher	Neurologist	Prince of Wales Clinical School and UNSW, NSW
Prof Thanh Phan	Neurologist	Monash Medical Centre, VIC
Dr Philip Choi	Neurologist	Box Hill Hospital, VIC
A/Prof Rene Stolwyk	Neuropsychologist	Monash University, VIC
Dr Dana Wong	Neuropsychologist	LaTrobe University, VIC
Mr Danny Kinsella	Nurse	Alfred Hospital, VIC
Ms Kristine Caprecho	Nurse	Calvary Hospital, ACT
Ms Danielle Sansonetti	Occupational therapist	ABI Rehabilitation Centre and Caulfield Hospital, VIC
Miss Emily Dalton	Occupational therapist	University of Melbourne, VIC
Dr Emma Schneider	Occupational therapist	Caulfield Hospital, VIC
A/Prof Kate Laver	Occupational therapist	Flinders University, SA
Dr Kylie Wales	Occupational therapist	School of Health Sciences and Uni of Newcastle,
Ms Lauren Christie	Occupational therapist	St Vincent's Hospital Sydney, NSW

Prof Natasha Lannin	Occupational therapist	LaTrobe University, VIC
Prof Coralie English	Physiotherapist	University of Newcastle, NSW
Dr Heidi Janseen	Physiotherapist	Hunter Medical Research Institute, NSW
Dr Jodie Marquez	Physiotherapist	University of Newcastle, NSW
Dr Kate Hayward	Physiotherapist	University of Melbourne, VIC
Mrs Sophie Watt	Physiotherapist	Gold Coast Hospital, QLD
Dr Jan Cameron	Public health and evaluation researcher	Monash University, VIC
Dr Annie Hill	Speech Pathology	University of Queensland, QLD
Dr Lyndal Hickey	Social worker	Department of Health and Human Services, VIC
Toni Arfaras, Clive Kempson, Kim Draper, Julie Davey	Consumers (Pre-hospital care)	
Toni Arfaras, Kevin English, Christine Owens, Brenda Booth, Julie Davey, Sally Byatt	Consumers (Telehealth – acute)	
Toni Arfaras, Peter Eriksen, Brenda Booth, Jessica D’Lima	Consumers (Management of atrial fibrillation)	
Toni Arfaras, Christine Owens, Sue Bowden, Tony Finneran	Consumers (Lifestyle modifications)	
Julie Davey, Karen Bayly, Clive Kempson	Consumers (Arm activity)	
Samantha Owen, Sally Byatt	Consumers (Memory)	
Brian Beh, Kevin English, Christine Owens, Hannah Derwent, Julie Davey, Sally Byatt, Toni Arfaras	Consumers (Telehealth in rehabilitation)	
Jessica D’Lima, Kevin English	Consumers (Swelling of extremities)	

3. Consumer involvement

Based on feedback from consumers on the Stroke Foundation Consumer Council an innovative model of consumer involvement is being used which involves involving a panel of consumers as ‘lived experts’ and who are active members of the CDG. The Guidelines CDG Consumer Panel will ensure options, values and preferences of consumers are central to the review and update of any clinical recommendations.

For each topic being updated, 2-4 individuals from the panel with experience of the topic are co-opted to join clinical experts to update the recommendations. The whole panel will then be invited to review and comment on the draft changes.

Responsibilities

People involved on the panel will be responsible for:

- Periodically providing input into questions the guidelines answers (and the research literature is searched specifically for). This may involve helping rank the most important outcomes we want to search for in the research.
- Review and comment on updated summaries of research, specifically information related to patient values and preferences
- Input into draft updates to any background text, specifically related to practical considerations and consumer considerations
- Respond to feedback from the public consultation (in cooperation with the interdisciplinary group).
- Assist in the evaluation of the model as needed

4. Managing conflicts of interest

The Guidelines are managed in accordance with the Stroke Foundation *Conflict of Interest Policy*, which is based on the NHMRC *Identifying and Managing Conflicts of Interest of Prospective Members and Members of NHMRC Committees and Working Groups Developing Guidelines* documents. Working group members were asked to review and update (at least annually) their previously disclosed potential conflicts of interest (COI). The form and policy will be provided to NHMRC for review along with summary of potential COIs (Att 2).

5. Systematic literature review

Any stroke related randomised controlled trials or systematic reviews are screened monthly and allocated to each relevant PICO. CDG members advise the final inclusion and determine the potential impact of the evidence to determine if it is a high or low priority workflow. High priority occurs when the new evidence is assessed to potentially impact the overall body of evidence and recommendations. A low priority is given where the new evidence is deemed to not change the recommendation/s or body of evidence.

Clinical question	Patient	Intervention	Comparator	Outcomes
What interventions by paramedics improve outcomes for people with acute stroke?	All people with suspected stroke	Pre-hospital intervention	No Pre-hospital intervention	Onset to treatment time Door to needle time Institutionalisation rate

Does the use of telehealth improve outcomes for patients with acute (or suspected) stroke?	All stroke patients	Teleinterventions	No intervention	Death Institutionalisation rate LOS
What is the optimal head position for patients in acute stroke management?	All stroke patients with acute stroke	Supine positioning	Sitting up	Death Disability Adverse events
What interventions improve outcomes for people with atrial fibrillation after stroke or TIA?	All people with stroke or TIA	anticoagulation therapy add groups (warfarin, NOACs)	No intervention	Death Institutionalisation rate Secondary stroke Bleeding complications
What non-pharmacological interventions reduce risk factors for recurrent stroke?	All patients with stroke	Lifestyle modification	No lifestyle modification	Death Disability Secondary stroke
What interventions improve upper limb activity in stroke patients who have difficulty using their upper limbs?	All patients with stroke with upper limb deficits	Rehabilitation	Usual care	ADLs Arm function Hand function
What interventions improve outcomes in stroke patients with memory difficulties?	All patients with memory difficulties	Interventions to improve memory	Usual care	Improved memory QOL Level of independence
Is telehealth an effective mode of delivery for rehabilitation interventions for people with stroke?	Adults with stroke	Telerehabilitation	In-person rehabilitation / usual care / no rehab	Communication ADL Arm function Balance Mood Other measures related to specific intervention as per other topics

What interventions are effective at managing and/or reducing oedema?	All people with stroke who are immobile	Interventions to improve mobility	Usual care	HRQoL ADL Reduction in swelling Improved function Girth measurements of the limb or hands
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6. Practice Statements (Consensus-based recommendations) and Practice Points

For some topics, a systematic review of the available evidence was conducted, but there was either a lack of evidence or insufficient quality of evidence on which to base a recommendation. In cases where the CDG determined that recommendations were important, statements and advice about topics were developed based on consensus and expert opinion (guided by any underlying or indirect evidence). These statements were labelled as 'Practice statements' and correspond to the 'consensus-based recommendations' outlined in the NHMRC procedures and requirements. These statements should be regarded with greater discretion by guideline users.

For topics outside the search strategy (i.e. where no systematic literature search was conducted), additional considerations are provided. These are labelled 'Info Box' and correspond to 'practice points' outlined in the NHMRC procedures and requirements.

Final decisions about Practice Statements (Consensus-based recommendations) and Practice Points were made using informal group processes after open discussion facilitated by the Co-Chairs. If there was divergent opinion with respect to Practice Statements (Consensus-based recommendations) and Practice Points, they were not included in the guideline.

7. Public consultation

The Stroke Foundation conducted the public consultation process in accordance with Section 14A of the *Commonwealth National Health and Medical Research Council Act 1992* and accompanying regulations.

We advertised the 'Notice of public consultation' publicly on the Stroke Foundation websites – www.strokefoundation.com.au; www.informme.org.au and www.enableme.org.au from 10 June to 31 July 2021. Electronic communications were also sent on 12 June to all organisations identified by the NHMRC as being mandatory to consult with, advising of the public consultation period (refer to Appendix 1 for a list of these organisations). Electronic communications were also sent to all professional and consumer organisations via the Australian Stroke Coalition and Stroke Foundation newsletter list. Feedback was received via email.

The Stroke Foundation received a small number of responses from individuals and organisations (refer to consultation summary).

All individuals and organisations that provided feedback during the public consultation period will be contacted via letter and thanked for their input and advised of the action taken by the CDG in response to their feedback.

Appendix 1: Names of organisations contacted for Public consultation

Organisation
The Director-General, Chief Executive or Secretary of each state, territory and Commonwealth health department
Therapeutic Goods Administration (TGA)
Pharmaceutical Benefits Advisory Committee (PBAC)
Consumer Health Forum (CHF)
Stroke Foundation consumer council
Content development group - NZ
Consumer panel
Australian Stroke Coalition –representatives of the member organisations which includes all relevant professional colleges/associations and state-based stroke clinical networks

Appendix 2: Summary of Conflict of Interest Declarations

Clinical Working Groups (Note: COI is formally reviewed annually)

Name	Discipline	Organisation	Conflicts declared	Date initially provided COI
Dr Amanda Patterson	Dietetics	University of Newcastle	None declared	Dec 2018
Prof Bruce Campbell	Neurology	Royal Melbourne Hospital	None declared	Dec 2018
Prof Christopher Bladin	Ambulance	Ambulance Victoria	None declared	Oct 2020
Prof Coralie English	Physiotherapy	University of Newcastle	None declared	Dec 2018
Dr Dana Wong	Neuropsychology	LaTrobe University	<i>Agreements:</i> Recently awarded a Stroke Foundation seed grant, and has signed the associated agreement	Mar 2019
Mr Daniel Kinsella	Nursing	Alfred Hospital	<i>Office holder:</i> - Nurse educator, Alfred Hospital – Public hospital	Dec 2018
Ms Danielle Sansonetti	Occupational therapy	ABI rehabilitation centre, Caulfield Hospital	None declared	Dec 2018
Miss Emily Dalton	Occupational Therapy	University of Melbourne	None declared	Mar 2021
Ms Emma Schneider	Occupational Therapy	Caulfield Hospital	None declared	Dec 2018
Dr Heidi Janssen	Physiotherapy	Hunter Medical Research Institute	None declared	Dec 2018
Prof Hugh Grantham	Ambulance	Flinders University	None declared	Dec 2018
Dr Janette (Jan) Cameron	Public health and evaluation	Monash University	None declared	Jul 2020

Ms Jodie Marquez	Physiotherapy	Uni of Newcastle	<i>Office holder:</i> <ul style="list-style-type: none"> - University of Newcastle, Public tertiary education 	Dec 2018
Dr Kate Hayward	Physiotherapy	Dept of Physiotherapy, University of Melbourne	<i>Office holder:</i> <ul style="list-style-type: none"> - Executive Member Stroke Society of Australasia (2018-present) - Co-Chair Emerging Stroke Clinician Scientist Special Interest Group of Society of Australasia (2017-present) - Research Advisor to SMART Arm Pty Ltd - Member Online Presence Committee American Society for NeuroRehabilitation <i>Shareholdings:</i> <ul style="list-style-type: none"> - SMART Arm Pty Ltd - received no commercialisation funds <i>Grants:</i> <ul style="list-style-type: none"> - Stroke Foundation seed, \$50k awarded 2018 and still going - Heard Foundation Vanguard, \$75k, awarded 2018 and still ongoing - Canadian Partnership for Stroke Recovery, \$200k CA, awarded 2019 - NHMRC GNT1171890, Hayward CIF, awarded 2019 - Melbourne Academic Centre for Health (MACC) \$275k, awarded 2019 - Canadian Institute of Health Research: \$669 Hayward CIB, \$550 Hayward CIC 	Nov 2019
Dr Kate Laver	Occupational therapy	Flinders University	None declared	Dec 2018
Prof Ken Butcher	Neurosciences	UNSW Sydney	<i>Other interests:</i> <ul style="list-style-type: none"> - Spouse is an employee of Boehringer-Ingelheim, the manufacturer of alteplase and tenecteplase. - Received speaker's/consultancy fees from Boehringer-Ingelheim, Medtronic, Bayer, Pfizer/BMS and Servier Canada. Has confirmed that the fees received were under \$10,000 per company, over the last 12 months. 	Oct 2020

Ms Kristine Caprecho	Nursing	Calvary Hospital	None declared	Apr 2021
Dr Kylie Wales	Occupational therapy	University of Newcastle	None declared	Sep 2020
Mr Lachlan Parker	Ambulance	Queensland Ambulance Service	None declared	Dec 2018
Ms Lauren Christie	Occupational therapy	St Vincent's hospital, Sydney	None declared	Sep 2020
Ms Lesley McDonald-Wicks	Dietetics	Uni of Newcastle	None declared	Dec 2018
Dr Lyndal Hickey	Social Work	Dept Health and Human Services	None declared	Feb 2019
Prof Natasha Lannin	Occupational therapy	LaTrobe Uni	<i>Office holder:</i> - 2016: Board of Directors Occupational Therapy Australia (Not for Profit) – no longer an office holder	Dec 2018
Dr Philip Choi	Neurology	Box Hill Hospital	None declared	Dec 2018
A/Prof Rene Stolwyk	Neuropsychology	Monash University	<i>Office holder:</i> - Monash University - Echuca Regional Health	Mar 2019
Mrs Sophie Watt	Physiotherapy	Gold Coast Hospital	None declared	Mar 2021
Prof Thanh Phan	Neurology	Monash Medical Centre	None declared	Dec 2018
Mr Wayne Loudon	Ambulance	Metro North - QLD	<i>Office holder:</i> - Queensland Ambulance Service (public) - Queensland University of Technology	Dec 2018

Consumer Panel

Name	Description	Conflicts declared
Brenda Booth	Stroke survivor	<i>Office holder:</i> <ul style="list-style-type: none"> - Stroke Foundation RAC – Consumer - Agency for Clinical Innovation NSW Executive - Consumer
Brian Beh	Stroke survivor	None declared
Christine Owens	Carer	None declared
Clive Kempson	Stroke survivor	<i>Office holder:</i> <ul style="list-style-type: none"> - Director, Secure Systems Australia Pty Ltd
Hannah Derwent	Stroke survivor	None declared
Jessica D'Lima	Carer	None declared
Julie Davey	Stroke survivor	None declared
Karen Bayly	Stroke survivor	None declared
Kevin English	Stroke survivor	<i>Office holder:</i> <ul style="list-style-type: none"> - Member of Stroke Foundation Consumer Council
Kim Draper	Stroke survivor	None declared
Peter Eriksen	Stroke survivor	None declared
Sally Byatt	Stroke survivor	None declared
Samantha Owen	Stroke survivor	None declared
Toni Arfaras	Stroke survivor	None declared