Clinical Guidelines for Stroke Management

Summary – Occupational Therapy

This summary is a quick reference to the recommendations in the Clinical Guidelines for Stroke Management most relevant to occupational therapy.

Any occupational therapist is an important member of the interdisciplinary stroke care team. Occupational therapists help stroke survivors manage day to day tasks, such as dressing and showering, as well as helping people to return to work and leisure activities after stroke. Occupational therapists also can help with thinking or memory problems, and upper limb (hand or arm) problems.

While this summary focuses on specific recommendations, stroke care is the most effective when all members of an interdisciplinary team are involved. For the comprehensive set of recommendations that covers the whole continuum of stroke care, please refer to further information on InformMe https://informme.org.au/Guidelines/Clinical-Guidelines-for-Stroke-Management.

The Stroke Foundation in partnership with Cochrane Australia is testing a model of continually reviewing and updating recommendations for the Clinical Guidelines for Stroke Management in response to new evidence on a monthly basis. For changes to recommendations based on new research evidence, please refer to further information on InformMe https://informme.org.au/Guidelines/Living-guidelines-for-stroke-management

The Clinical Guidelines uses an internationally recognised guideline development approach called GRADE (Grading of Recommendations Assessment, Development and Evaluation) and an innovative guidelines development and publishing platform known as MAGICapp (MAking Grade the Irresistible Choice). GRADE ensures a systematic process in developing recommendation, which are based on the balance of benefits and harms, quality of evidence, patient values, and resource considerations. MAGICapp enables transparent display of this process and access to additional practical information for recommendation implementation.

Recommendations

Each recommendation is given a strength based on GRADE. GRADE methodology includes four factors to guide the development of a recommendation and determine the strength of that recommendation.

- The balance between desirable and undesirable consequences
- Confidence in the estimates of effect (quality of evidence)
- Confidence in values and preferences and their variability (clinical and consumer preferences)
- Resource use (cost and implementation considerations).

The GRADE process uses only two categories for the strength of recommendation, based on how confidence the guideline developers are in that the "desirable effects of an intervention outweigh undesirable effect […] across the range of patients for whom the recommendation is intended" (GRADE Handbook):

- **Strong recommendations:** where guideline developers are certain that the evidence supports a clear balance towards either desirable or undesirable effects; or
- **Weak recommendations:** where guideline developers are not as certain about the balance between desirable and undesirable effects as the evidence base isn't as robust.

These strong or weak recommendations can either be for or against an intervention. If the recommendation is AGAINST an intervention this means it is recommended NOT to do that intervention.

Consensus-based recommendations: statements have been developed based on consensus and expert opinion (guided by any underlying or indirect evidence) for topics where there is either a lack of evidence or insufficient quality of evidence on which to base a recommendation but it was felt that advice should be made.

Practice points: for questions outside the search strategy (i.e. where no systematic literature search was conducted), additional considerations are provided.

Recommendations are presented as at June 2025 with a note if it has changed in the last two years and are also presented in Chapter order for easier reference to the relevant section of the full Clinical Guidelines.

For the full list of references, please refer to the individual MAGICapp chapters through InformMe https://informme.org.au/Guidelines/Clinical-Guidelines-for-Stroke-Management.

Chapter 3 of 8: Acute medical and surgical management

Stroke unit care

Strong recommendation

All stroke patients should be admitted to hospital and be treated in a stroke unit with an interdisciplinary team. (Langhorne et al. 2020)

Info box

Practice points

- All stroke patients should be admitted directly to a stroke unit (preferably within three hours of stroke onset).
- For patients with suspected stroke presenting to non-stroke unit hospitals, transfer protocols should be developed and used to guide urgent transfers to the nearest stroke unit hospital.
- Where transfer is not feasible, smaller isolated hospitals should manage stroke services in a manner that adheres as closely as possible to the criteria for stroke unit care. Where possible, stroke patients should receive care in geographically discrete units.

Strong recommendation

All acute stroke services should implement standardised protocols to manage fever, glucose and swallowing difficulties in stroke patients. (Middleton et al. 2011)

Assessment for rehabilitation

Info box

Practice points

- Every stroke patient should have their rehabilitation needs assessed within 24–48 hours of admission to the stroke unit by members of the interdisciplinary team, using an appropriate process or tool e.g. the Assessment for Rehabilitation Tool (Australian Stroke Coalition Working Group 2012).
- Any stroke patient with identified rehabilitation needs should be referred to a rehabilitation service.
- Rehabilitation service providers should document whether a stroke patient has rehabilitation needs and whether appropriate rehabilitation services are available to meet these needs.

Palliation

Strong recommendation

Stroke patients and their families/carers should have access to specialist palliative care teams as needed and receive care consistent with the principles and philosophies of palliative care. (Gade et al. 2008)

Practice statement

Consensus-based recommendations

- For patients with severe stroke who are deteriorating, a considered assessment of prognosis or imminent death should be made.
- A pathway for stroke palliative care can be used to support stroke patients and their families/carers and improve care for people dying after stroke.

Chapter 4 of 8: Secondary prevention

Lifestyle modifications

Info box

Practice points

All patients 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.

Weak recommendation

Interventions addressing secondary stroke risk factors may be used for all people with stroke and TIA. Such interventions should include multiple components including individual (support and counselling) and organisational approaches (regular reviews by relevant health care professionals) and include exercise training as a component. (Bridgwood et al. 2020; Liljehult et al. 2020; Wang et al. 2019; Deijle et al. 2017)

Physical activity

Info box

Practice points

Patients with stroke or TIA should be advised and supported to undertake appropriate, regular physical activity as outlined in one of the following existing guidelines:

- Australia's Physical Activity & Sedentary Behaviour Guidelines for Adults (18-64 years) (Commonwealth of Australia 2014) OR
- Physical Activity Recommendations for Older Australians (65 years and older) (Commonwealth of Australia 2005).

Chapter 5 of 8: Rehabilitation

Commencement of rehabilitation

Strong recommendation AGAINST

For stroke patients, starting intensive out-of-bed activities within 24 hours of stroke onset is not recommended. (Rethnam et al. 2020, Langhorne et al. 2018, Bernhardt et al. 2015)

Strong recommendation

All stroke patients should commence mobilisation (out-of-bed activity) within 48 hours of stroke onset unless otherwise contraindicated (e.g. receiving end-of-life care). (Bernhardt et al. 2015; Lynch et al. 2014)

Weak recommendation

For patients with mild and moderate stroke, frequent, short sessions of out-of-bed activity should be provided, but the optimal timing within the 48-hour post-stroke time period is unclear. (Bernhardt et al. 2015)

Amount of rehabilitation

Strong recommendation

- For stroke survivors, rehabilitation should be structured to provide as much scheduled therapy (occupational therapy and physiotherapy) as possible. (Lohse et al. 2014; Schneider et al. 2016; Veerbeek et al. 2014)
- For stroke survivors, group circuit class therapy should be used to increase scheduled therapy time. (English et al. 2015)

Practice statement

Consensus-based recommendations

Stroke survivors should be encouraged to continue with active task practice outside of scheduled therapy sessions. This could include strategies such as:

- self-directed, independent practice;
- semi-supervised and assisted practice involving family/friends, as appropriate.

Weak recommendation

A minimum of three hours a day of scheduled therapy (occupational therapy and physiotherapy) is recommended, ensuring at least two hours of active task practice occurs during this time. (Lohse et al. 2014; Schneider et al. 2016)

Early supported discharge services

Strong recommendation

Where appropriate home-based coordinated stroke services are available (see Practical information section), early supported discharge services should be offered to stroke patients with mild to moderate disability. (Langhorne et al. 2017)

Home-based rehabilitation

Weak recommendation

Home-based rehabilitation may be considered as a preferred model for delivering rehabilitation in the community. Where home rehabilitation is unavailable, stroke patients requiring rehabilitation should receive centre-based care. (Rasmussen et al. 2016; Hillier et al. 2010)

Goal setting

Strong recommendation

- Health professionals should initiate the process of setting goals, and involve stroke survivors and their families and carers throughout the process. Goals for recovery should be client-centred, clearly communicated and documented so that both the stroke survivor (and their families/carers) and other members of the rehabilitation team are aware of goals set. (Sugavanam et al. 2013; Taylor et al. 2012)
- Goals should be set in collaboration with the stroke survivor and their family/carer (unless they choose not to participate) and should be well-defined, specific and challenging. They should be reviewed and updated regularly. (Sugavanam et al. 2013; Taylor et al. 2012)

Sensorimotor impairments

Weakness

Strong recommendation

For stroke survivors with reduced strength in their arms or legs, progressive resistance training should be provided to improve strength. (Dorsch et al. 2018)

Weak recommendation

- For stroke survivors with arm weakness repetitive practice using assistive technology, constraint induced movement therapy (CIMT), and robotics may be used to improve arm strength. (de Sousa et al 2018)
- For stroke survivors with leg weakness task specific training, repetitive practice using cycling or electrical stimulation may be used to improve leg strength. (de Sousa et al 2018)

Loss of sensation

Weak recommendation

For stroke survivors with sensory loss of the upper limb, sensory-specific training may be provided. (de Diego et al. 2013; Carey et al. 2011; Doyle et al. 2010)

Loss of cardiorespiratory fitness

Strong recommendation

For stroke survivors, rehabilitation should include individually-tailored exercise interventions to improve cardiorespiratory fitness. (Saunders et al. 2020)

Practice statement

Consensus-based recommendations

- All stroke survivors should commence cardiorespiratory training during their inpatient stay.
- Stroke survivors should be encouraged to participate in ongoing regular physical activity regardless of their level of disability.

Visual field loss

Practice statement

Consensus-based recommendations

- All stroke survivors should have an:
    - assessment of visual acuity while wearing the appropriate glasses, to check their ability to read newspaper text and see distant objects clearly;
    - examination for the presence of visual field deficit (e.g. hemianopia) and eye movement disorders (e.g. strabismus and motility deficit).

Activity limitations

Sitting

Strong recommendation

For stroke survivors who have difficulty sitting, practising reaching beyond arm's length while sitting with supervision/assistance should be undertaken. (Veerbeek et al. 2014)

Standing up from sitting

Strong recommendation

For stroke survivors who have difficulty in standing up from a chair, practice of standing up should be undertaken. (Pollock et al. 2014; French et al. 2016)

Standing

Strong recommendation

For stroke survivors who have difficulty with standing, activities that challenge balance should be provided (French et al. 2016; van Duijnhoven et al. 2016; Hugues et al. 2019).

Weak recommendation

For stroke survivors who have difficulty with standing balance, one or more of the following interventions may be used in addition to practicing tasks that challenge balance:

- Virtual reality training, which may include treadmill training, motion capture or force sensing devices (e.g. Wii Balance Boards) (Zhang et al. 2021; Laver et al. 2017)
- Visual or auditory feedback e.g. force platform biofeedback (Veerbeek et al. 2014; Stanton et al. 2017)
- Electromechanically assisted gait or standing training (Zheng et al. 2019)

Walking

Strong recommendation

Stroke survivors with difficulty walking should be given the opportunity to undertake tailored repetitive practice of walking (or components of walking) as much as possible. (French et al. 2016)

The following modalities may be used:

- Circuit class therapy (with a focus on overground walking practice) (Veerbeek et al. 2014);
- Treadmill training with or without body weight support (Mehrholz et al. 2014; Nascimento et al 2021).

Weak recommendation

For stroke survivors with difficulty walking, one or more of the following interventions may be used in addition to those listed above:

- Virtual reality training. (Corbetta et al. 2015)
- Electromechanically assisted gait training. (Mehrholz et al. 2013)
- Biofeedback. (Stanton et al. 2017)
- Cueing of cadence. (Nascimento et al. 2015)
- Electrical stimulation. (Howlett et al. 2015)

Weak recommendation

For stroke survivors, individually fitted lower limb orthoses may be used to minimise limitations in walking ability. Improvement in walking will only occur while the orthosis is being worn. (Daryabor et al. 2021; Wada et al. 2021)

Arm activity

Strong recommendation

For stroke survivors with some active wrist and finger extension, intensive constraint-induced movement therapy (minimum 2 hours of active therapy per day for 2 weeks, plus restraint for at least 6 hours a day) should be provided to improve arm and hand use. (Corbetta et al. 2015)

Weak recommendation

For stroke survivors with at least some voluntary movement of the arm and hand, repetitive task-specific training may be used to improve arm and hand function. (French et al. 2016)

Weak recommendation

For stroke survivors with mild to severe arm weakness, mechanically assisted arm training (e.g. robotics) may be used to improve upper limb function. (Mehrholz et al. 2018)

Weak recommendation

Virtual reality and interactive games may be used to improve upper limb function. (Laver et al. 2017; Aminov et al. 2018)

Weak recommendation

For stroke survivors with mild to severe arm or hand weakness, electrical stimulation in conjunction with motor training may be used to improve upper limb function. (Howlett et al. 2015; Yang et al. 2019)

Weak recommendation

For stroke survivors with mild to moderate weakness of their arm, mental practice in conjunction with active motor training may be used to improve arm function. (Barcley-Goddard et al. 2020; Borges et al. 2018)

Weak recommendation

For stroke survivors with mild to moderate weakness, mirror therapy may be used as an adjunct to routine therapy to improve arm function after stroke. (Thieme et al. 2018)

Strong recommendation AGAINST

Hand and wrist orthoses (splints) should not be used as part of routine practice as they have no effect on function, pain or range of movement. (Tyson et al. 2011)

Weak recommendation AGAINST

Brain stimulation (transcranial direct stimulation or repetitive transcranial magnetic stimulation) should not be used in routine practice for improving arm function, and only used as part of a research framework. (Elsner et al. 2020; van Lieshout et al. 2019; Hao et al. 2013)

Participation restrictions

Activities of daily living

Strong recommendation

- Community-dwelling stroke survivors who have difficulties performing daily activities should be assessed by a trained clinician. (Legg et al. 2017)
- Community-dwelling stroke survivors with confirmed difficulties in personal or extended activities of daily living should have specific therapy from a trained clinician (e.g. task-specific practice and training in the use of appropriate aids) to address these issues. (Legg et al. 2017)

Weak recommendation

For stroke survivors, virtual reality technology may be used to improve activities of daily living outcomes in addition to usual therapy. (Laver et al. 2017)

Weak recommendation AGAINST

For older stroke survivors living in a nursing home, routine occupational therapy is not recommended to improve ADL function. (Sackley et al. 2015)

Weak recommendation AGAINST

Acupuncture is not routinely recommended to improve activities of daily living. (Yang et al. 2016)

Strong recommendation AGAINST

Administration of amphetamines to improve activities of daily living is not recommended. (Martinsson et al. 2007)

Weak recommendation AGAINST

Selective serotonin reuptake inhibitors should not be used to reduce disability. (Legg et al. 2021)

Weak recommendation AGAINST

Brain stimulation (transcranial direct stimulation or repetitive transcranial magnetic stimulation) should not be used in routine practice to improve activities of daily living and only used as part of a research framework. (Elsner et al. 2020; Hao et al. 2013)

Communication difficulties

Assessment of communication deficits

Info box

Practice point

- All stroke survivors should be screened for communication deficits using a screening tool that is valid and reliable.
- Those stroke survivors with suspected communication difficulties should receive formal, comprehensive assessment by a specialist clinician to determine the nature and type of the communication impairment.

Cognitive communication deficits

Practice statement

Consensus-based recommendations

Stroke survivors with difficulties in communication following right hemisphere damage should have input from a suitably trained health professional including:

- a comprehensive assessment,
- development of a management plan, and
- family education, support and counselling as required. (Lehman Blake et al. 2013; Ferre et al. 2011)

Management may include:

- Motoric-imitative, cognitive-linguistic treatments to improve use of emotional tone in speech production. (Rosenbek et al. 2006)
- Semantic-based treatment connecting literal and metaphorical senses to improve comprehension of conversational and metaphoric concept. (Lungren et al. 2011)

Cognition and perception difficulties

Assessment of cognition

Info box

Practice points

- All stroke survivors should be screened for cognitive and perceptual deficits by a trained person (e.g. neuropsychologist, occupational therapist or speech pathologist) using validated and reliable screening tools, ideally prior to discharge from hospital.
- Stroke survivors identified during screening as having cognitive deficits should be referred for comprehensive clinical neuropsychological investigations.

Perception

Practice statement

Consensus-based recommendations

- Stroke survivors with identified perceptual difficulties should have a formal perceptual (i.e. neurological and neuropsychological) assessment.
- Stroke survivors with an identified perceptual impairment and their carer should receive:
    - verbal and written information about the impairment;
    - an assessment and adaptation of their environment to reduce potential risk and promote independence;
    - practical advice/strategies to reduce risk (e.g. trips, falls, limb injury) and promote independence;

- intervention to address the perceptual difficulties, ideally within the context of a clinical trial.

Attention and concentration

Practice statement

Consensus-based recommendation

For stroke survivors with attentional impairments or those who appear easily distracted or unable to concentrate, a formal neuropsychological or cognitive assessment should be performed.

Weak recommendation

For stroke survivors with attention and concentration deficits, cognitive rehabilitation may be used. (Loetscher et al. 2019; Rogers et al. 2018; Virk et al. 2016)

Weak recommendation

For stroke survivors with attention and concentration deficits, exercise training and leisure activities may be provided. (Liu-Ambrose et al. 2015)

Memory

Weak recommendation

For stroke survivors with memory deficits, cognitive rehabilitation may be used to improve memory function in the short term. Memory rehabilitation strategies may include internal (mental) strategies (e.g. association, mental rehearsal, rhymes) and external compensatory aids (e.g. notebooks, diaries, calendars, alarms, audio recordings, photos, mobile phones). (das Nair et al. 2016; Withiel et al. 2019)

Practice statement

Consensus-based recommendations

Any stroke survivor found to have memory impairment causing difficulties in rehabilitation or adaptive functioning should:

- be referred to a suitably qualified healthcare professional for a more comprehensive neuropsychological and functional assessment of their memory abilities and needs;
- have their nursing and therapy sessions tailored to use techniques that capitalise on preserved memory abilities and existing memory strategies (both internal and external);
- be comprehensively trained on how to use internal strategies (e.g. association, mental rehearsal, rhymes) and external strategies (e.g. notebooks, diaries, audio recordings, smartphone apps and alarms);
- have therapy delivered in an environment as similar to the stroke survivor's usual environment as possible to encourage generalisation.

Executive function

Info box

Practice points

- Stroke survivors considered to have problems associated with executive functioning deficits should be formally assessed by a suitably qualified and trained person, using reliable and valid tools that include measures of behavioural symptoms.
- For stroke survivors with impaired executive functioning, the way in which information is provided should be tailored to accommodate/compensate for the particular area of dysfunction.

Weak recommendation

For stroke survivors with cognitive impairment, meta-cognitive strategy and/or cognitive training may be provided. (Zucchella et al. 2014; Skidmore et al. 2015)

Limb apraxia

Info box

Practice points

Stroke survivors who have suspected difficulties executing tasks but who have adequate limb movement and sensation should be screened for apraxia.

Weak recommendation

For stroke survivors with limb apraxia, interventions such as gesture training, strategy training and/or errorless learning may be provided. (Lindsten-McQueen et al. 2014)

Neglect

Info box

Practice points

Any stroke survivor with suspected or actual neglect or impairment of spatial awareness should have a full assessment using validated tools.

Weak recommendation

For stroke survivors with symptoms of unilateral neglect, cognitive rehabilitation (e.g. computerised scanning training, pen and paper tasks, visual scanning training, eye patching, mental practice) may be provided. (Bowen et al. 2013)

Weak recommendation

For stroke survivors with symptoms of unilateral neglect, mirror therapy may be used to improve arm function and ADL performance. (Thieme et al. 2018)

Practice statement

Consensus-based recommendations

Stroke survivors with impaired attention to one side should be:

- given a clear explanation of the impairment;
- taught compensatory strategies systematically, such as visual scanning to reduce the impact of neglect on activities such as reading, eating and walking;
- given cues to draw attention to the affected side during therapy and nursing procedures;
- monitored to ensure that they do not eat too little through missing food on one side of the plate.

Weak recommendation AGAINST

Non-invasive brain stimulation should not be used in routine clinical practice to decrease unilateral neglect, but may be used within a research framework. (Salazar et al. 2018; Kwon et al. 2018; Fan et al. 2018)

Telehealth in rehabilitation

Weak recommendation

Telehealth services may be used as an alternative approach to delivering rehabilitation, especially for patients who cannot access specialist rehabilitation in the community. It may also be used as an adjunct to in-person therapy. Delivering of specific interventions via telehealth should only be considered for those that have demonstrated benefits. (Laver et al. 2020)

Chapter 6 of 8: Managing complications

Spasticity

Weak recommendation

For stroke survivors with ***upper*** limb spasticity, Botulinum Toxin A in addition to rehabilitation therapy may be used to reduce spasticity, but is unlikely to improve activity or motor function. (Foley et al. 2013; Gracies et al. 2014)

Weak recommendation

For stroke survivors with ***lower*** limb spasticity, Botulinum Toxin A in addition to rehabilitation therapy may be used to reduce spasticity but is unlikely to improve motor function or walking. (Wu et al. 2016; McIntyre et al. 2012; Olvey et al. 2010)

Weak recommendation AGAINST

For stroke survivors with spasticity, acupuncture should not be used for treatment of spasticity in routine practice other than as part of a research study. (Lim et al. 2015)

Weak recommendation

For stroke survivors with spasticity, adjunct therapies to Botulinum Toxin A, such as electrical stimulation, casting and taping, may be used. (Stein et al. 2015; Mills et al. 2016; Santamato et al. 2015)

Weak recommendation AGAINST

For stroke survivors, the routine use of stretch to reduce spasticity is not recommended. (Harvey et al. 2017)

Contracture

Strong recommendation AGAINST

For stroke survivors at risk of developing contracture who are receiving comprehensive, active therapy the routine use of splints or stretch of the arm or leg muscles is not recommended. (Harvey et al. 2017)

Practice statement

Consensus-based recommendations

- For stroke survivors, serial casting may be trialled to reduce severe, persistent contracture when conventional therapy has failed.
- For stroke survivors at risk of developing contracture or who have developed contracture, active motor training or electrical stimulation to elicit muscle activity should be provided.

Subluxation

Weak recommendation

For stroke survivors at risk of shoulder subluxation, electrical stimulation may be used in the first six months after stroke to prevent or reduce subluxation. (Vafadar et al. 2015; Lee et al. 2017)

Weak recommendation AGAINST

For stroke survivors at risk of shoulder subluxation, shoulder strapping is not recommended to prevent or reduce subluxation. (Appel et al. 2014)

Practice statement

Consensus-based recommendation

For stroke survivors at risk of shoulder subluxation, firm support devices (e.g. devices such as a laptray) may be used. A sling maybe used when standing or walking.

Practice statement

Consensus-based recommendation

To prevent complications related to shoulder subluxation, education and training about correct manual handling and positioning should be provided to the stroke survivor, their family/carer and health professionals, and particularly nursing and allied health staff.

Pain

Shoulder pain

Weak recommendation

For stroke survivors with shoulder pain, shoulder strapping may be used to reduce pain. (Appel et al. 2014)

Weak recommendation

For stroke survivors with shoulder pain, electrical stimulation may be used to manage pain. (Qiu et al. 2019)

Weak recommendation

For stroke survivors with shoulder pain, shoulder injections (either sub acromial steroid injections for patients with rotator cuff syndrome, or methylprednisolone and bupivacaine for suprascapular nerve block) may be used to reduce pain. (Adey-Wakeling et al. 2013; Rah et al. 2012)

Weak recommendation

For stroke survivors with shoulder pain and upper limb spasticity, Botulinum Toxin A may be used to reduce pain. (Singh et al. 2010)

Weak recommendation

For stroke survivors with shoulder pain, acupuncture in addition to comprehensive rehabilitation may be used to reduce pain. (Liu et al. 2019)

Practice statement

Consensus-based recommendations

For stroke survivors with severe weakness who are at risk of developing shoulder pain, management may include:

- shoulder strapping;
- education of staff, carers and stroke survivors about preventing trauma;
- active motor training to improve function.

Info box

Practice point

For stroke survivors who develop shoulder pain, management should be based on evidence-based interventions for acute musculoskeletal pain.

Central post-stroke pain

Practice statement Updated

Consensus-based recommendations

For stroke survivors with central post-stroke pain tricyclic antidepressant or antiepileptic medication may be trialed to reduce pain. Any trial of medications to reduce pain needs to be undertaken with caution with planned follow up to minimise risks. Any non-pharmacological interventions trialed are strongly encouraged to be used within a research framework.

Swelling of the extremities

Practice statement

Consensus-based recommendations

For stroke survivors with severe weakness who are at risk of developing swelling of the extremities, management may include the following

- passive mobilisation;
- elevation of the limb when resting.

Practice statement

Consensus-based recommendations

For stroke survivors who have swelling of the hands or feet management may include the following:

- passive mobilisation;
- elevation of the limb when resting.

Fatigue

Practice statement

Consensus-based recommendations

- Therapy for stroke survivors with fatigue should be organised for periods of the day when they are most alert.
- Stroke survivors and their families/carers should be provided with information, education and strategies to assist in managing fatigue.
- Potential modifying factors for fatigue should be considered including avoiding sedating drugs and alcohol, screening for sleep-related breathing disorders and depression.
- While there is insufficient evidence to guide practice, possible interventions could include cognitive behavioural therapy (focusing on fatigue and sleep with advice on regular exercise), exercise and improving sleep hygiene.

Mood disturbance

Mood assessment

Info box

Practice points

- Stroke survivors with suspected altered mood (e.g. depression, anxiety, emotionalism) should be assessed by trained personnel using a standardised and validated scale for use in people with stroke.
- Diagnosis should only be made following clinical interview.

Falls

Practice statement

Consensus-based recommendations

- For stroke patients, a falls risk assessment, including fear of falling, should be undertaken on admission to hospital. A management plan should be initiated for all patients identified as at risk of falls.
- For stroke survivors at high risk of falls, a comprehensive home assessment for the purposes of reducing falling hazards should be carried out by a qualified health professional. Appropriate home modifications (as determined by a health professional) for example installation of grab rails and ramps may further reduce falls risk.

Weak recommendation

For stroke survivors who are at risk of falling, multifactorial interventions in the community, including an individually prescribed exercise program and advice on safety, should be provided. (Denissen et al. 2019; Gillespie et al. 2012)

Sleep Disorders

Info Box New

Practice point

If obstructive sleep apnoea or other sleep disorders have previously been diagnosed, patients with stroke should be encouraged to continue with their usual treatment while in hospital and monitor for any changes.

Info Box New

Practice point

If a sleep disorder is suspected, then appropriate investigations should be undertaken and referral to a specialist made.

Weak recommendation New

Stroke patients diagnosed with sleep-disordered breathing (e.g. obstructive sleep apnoea) can be prescribed continuous positive airway pressure (CPAP) treatment. (Toh et al. 2023; Fu et al. 2023).

Chapter 7 of 8: Discharge planning and transfer of care

Information and education

Strong recommendation

- All stroke survivors and their families/carers should be offered information tailored to meet their individual needs using relevant language and communication formats. (Crocker et al. 2021)
- Information should be provided at different stages in the recovery process. (Crocker et al. 2021)
- An approach of active engagement with stroke survivors and their families/carers should be used allowing for the provision of material, opportunities for follow-up, clarification, and reinforcement. (Crocker et al. 2021)

Info box

Practice points

- Stroke survivors and their families/carers should be educated in the FAST stroke recognition message to maximise early presentation to hospital in case of recurrent stroke.
- The need for education, information and behaviour change to address long-term secondary stroke prevention should be emphasized (refer to Secondary Prevention).

Discharge care plans

Strong recommendation

Comprehensive discharge care plans that address the specific needs of the stroke survivor should be developed in conjunction with the stroke survivor and carer prior to discharge. (Johnston et al. 2010; Goncalves-Bradley et al. 2016)

Info box

Practice point

Discharge planning should commence as soon as possible after the stroke patient has been admitted to hospital.

Practice statement

Consensus-based recommendation

A discharge planner may be used to coordinate a comprehensive discharge program for stroke survivors.

Practice statement

Consensus-based recommendation

To ensure a safe discharge process occurs, hospital services should ensure the following steps are completed prior to discharge:

- Stroke survivors and families/carers have the opportunity to identify and discuss their post-discharge needs (physical, emotional, social, recreational, financial and community support) with relevant members of the multidisciplinary team.
- General practitioners, primary healthcare teams and community services are informed before or at the time of discharge.
- All medications, equipment and support services necessary for a safe discharge are organised.
- Any necessary continuing specialist treatment required has been organised.
- A documented post-discharge care plan is developed in collaboration with the stroke survivor and family and a copy provided to them. This discharge planning process may involve relevant community services, self-management strategies (i.e. information on medications and compliance advice, goals and therapy to continue at home), stroke support services, any further rehabilitation or outpatient appointments, and an appropriate contact number for any post-discharge queries

A locally developed protocol or standardised tool may assist in implementation of a safe and comprehensive discharge process. This tool should be aphasia and cognition friendly.

Patient and carer needs

Practice statement

Consensus-based recommendation

Hospital services should ensure that stroke survivors and their families/carers have the opportunity to identify and discuss their post-discharge needs (including physical, emotional, social, recreational, financial and community support) with relevant members of the interdisciplinary team.

Home assessments

Practice statement

Consensus-based recommendation

Prior to hospital discharge, all stroke survivors should be assessed to determine the need for a home visit, which may be carried out to ensure safety and provision of appropriate aids, support and community services.

Carer training

Weak recommendation

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 and other specific stroke-related problems, safe swallowing and appropriate dietary modifications, and management of behaviours and psychosocial issues. (Forster et al. 2013)

Chapter 8 of 8: Community participation and long-term care

Self-management

Strong recommendation **New**

Self-management interventions that are directed by the stroke survivor, should be offered within the first four months of discharge into community living. The strongest evidence base exists for the 'Take Charge After Stroke' intervention. (Fu et al. 2020)

Weak recommendation

- Stroke survivors who are cognitively able and their carers should be made aware of the availability of generic self-management programs before discharge from hospital and be supported to access such programs once they have returned to the community.
- Stroke-specific self-management programs may be provided for those who require more specialised programs.
- A collaboratively developed self-management care plan may be used to harness and optimise self-management skills.

(Fryer et al. 2016; Oh et al. 2022)

Driving

Practice statement **Updated**

Consensus-based recommendations

- All stroke survivors or people who have had a transient ischaemic attack (TIA) who were driving prior to their stroke should be asked if they wish to resume driving.
- Any person wishing to resume driving after a stroke or TIA should be provided with information about how stroke-related impairments may affect their driving and the requirements and processes for returning to driving. Information should be consistent with the Austroads/Waka Kotahi New Zealand Transport Agency standards and any relevant state guidelines.
- For stroke survivors wishing to drive for the first time, the medical and other clinical team members should discuss the feasibility of driving and provide advice as to further steps in line with national standards and any relevant state guidelines.

- Health services where stroke survivors receive care should develop an appropriate site-specific post-stroke fitness to drive pathway in accordance with local legal requirements and resources, and ensure assessments and advice is communicated to the general practitioner.

Non-driving periods

- Stroke survivors should refrain from recommencing driving until both the mandated period of non-driving has elapsed and stroke deficits precluding safe driving (if present) have resolved, as confirmed by their treating doctors (in conjunction with other non-medical clinician/s). Minimum non-driving periods determined by the relevant national standards must be followed. Please note for fitness to drive purposes in Australia TIA is defined as cerebral ischaemic symptoms resolving within 24 hours, irrespective of MRI evidence of infarction.
- For private license holders:
    - In Australia the minimum timeframe is four weeks post stroke (mandated) and two weeks after a TIA (advisory only).(Austroads standards 2022).
    - In New Zealand the minimum timeframe is one month for a single event (stroke or TIA) and three months for those with recurrent or frequent events (if no further recurrence has occurred within this timeframe).(New Zealand Transport Agency 2014)
- For commercial license holders:
    - In Australia the minimum timeframe is three months post stroke (mandated) and four weeks after a TIA (advisory only). (Austroads standards 2022)
    - In New Zealand this generally means permanent stand down after stroke for commercial driving, but this may be appealed in special circumstances. The timeframe after TIA is six months and additional criteria apply (New Zealand Transport Agency 2014).

Fitness to drive assessments

- Any person with stroke or TIA discharged from hospital or seen in a TIA clinic should be screened/assessed for any ongoing neurological deficits that could influence driving safely. Visual, cognitive, physical and behavioural assessment findings should be documented.
- Stroke survivors without physical/sensory or cognitive impairments, and who meet the vision standards for driving (refer to relevant section in standards) should be instructed not to return to driving for a period of time.
- For private license holders:
    - In Australia, where no persisting deficits are identified, the person may recommence driving on their current license after the minimum exclusion period without license restriction or further review. In New Zealand, a follow-up assessment should be conducted by an appropriate specialist to determine medical fitness prior to return to driving. (New Zealand Transport Agency 2014)
    - If after the minimum exclusion period the treating clinician is uncertain whether persisting motor, sensory or cognitive changes preclude safe driving, an occupational therapy specialist driving assessment should occur.
    - A conditional license may be required depending on the nature of the deficits (for example vehicle modifications, local area driving only).
- For commercial license holders:

- In Australia, where no deficits which may impact driving are identified, a conditional license may be considered by the driver licensing authority after at least three months and subject to annual review, taking into account information provided by an appropriate specialist. After three months, if the treating clinician is uncertain whether persisting motor, sensory or cognitive changes preclude safe driving, an occupational therapy specialist driving assessment should occur.

- Stroke survivors who have physical/sensory or cognitive impairments that may impact driving, or who do not meet the vision standards for driving (refer to relevant section in standards), should be instructed not to return to driving and the medical and other clinical team members should discuss and provide advice as to further steps in line with national standards and any relevant state guidelines.
    - If further driving assessment is deemed necessary this may include clinic-based assessments to determine on-road assessment requirements (for example modifications, type of vehicle, timing), on-road assessment and rehabilitation recommendations, provided by a driver assessor occupational therapist.

Weak recommendation

For stroke survivors needing driving rehabilitation, driving simulation may be used. Health professionals using driving simulation need to receive training and education to deliver intervention effectively and appropriately, and mitigate driving simulator sickness. (George et al. 2014; Classen et al. 2014)

Practice statement

Consensus-based recommendation

On-road driving rehabilitation may be provided by health professionals specifically trained in driving rehabilitation.

Community mobility and outdoor travel

Weak recommendation

Stroke survivors who have difficulty with outdoor mobility in the community should set individualised goals and get assistance with adaptive equipment, information and referral on to other agencies. Escorted walking practice may be of benefit to some individuals and if provided, should occur in a variety of community settings and environments, and may also incorporate virtual reality training that mimics community walking. (Barclay et al. 2015; Logan et al. 2014)

Leisure

Weak recommendation

For stroke survivors, targeted occupational therapy programs including leisure therapy may be used to increase participation in leisure activities. (Dorstyn et al. 2014; Walker et al. 2004)

Return to work

Weak recommendation

- All stroke survivors should be asked about their employment (paid and unpaid) prior to their stroke and if they wish to return to work.
- For stroke survivors who wish to return to work, assessment should be offered to establish abilities relative to work demands. In addition, assistance to resume or take up work including worksite visits and workplace interventions, or referral to a supported employment service should be offered. (Ntsiea et al. 2015)

Sexuality

Practice statement

Consensus-based recommendations

Stroke survivors and their partners should be offered:

- the opportunity to discuss sexuality and intimacy with an appropriate health professional; *and*
- written information addressing issues relating to sexual intimacy and sexual dysfunction post stroke.

Any discussion or written information should address psychosocial as well as physical function.

Support

Peer support

Weak recommendation

Stroke survivors and their families/carers should be given information about the availability and potential benefits of a local stroke support group and/or other sources of peer support before leaving hospital and when back in the community. (Kruithof et al. 2013)

Carer support

Strong recommendation

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. (Legg et al. 2011; Eames et al. 2013)

Weak recommendation New

Carers should receive psychosocial support throughout the stroke recovery continuum to ensure carer wellbeing and the sustainability of the care arrangement. Carers should be supported to explore and develop problem solving strategies, coping strategies and stress management

techniques. The care arrangement has a significant impact on the relationship between caregiver and stroke survivor so psychosocial support should also be targeted towards protecting relationships within the stroke survivors support network (Minshall et al. 2019; Chen et al. 2014).

Practice statement

Consensus-based recommendations

- Where it is the wish of the stroke survivor, carers should be actively involved in the recovery process by assisting with goal setting, therapy sessions, discharge planning, and long-term activities.
- Carers should be provided with information about the availability and potential benefits of local stroke support groups and services, at or before the person's return to the community.
- Assistance should be provided for families/carers to manage stroke survivors who have behavioural problems.

For access to the full Clinical Guidelines and further information refer to InformMe https://informme.org.au/Guidelines/Clinical-Guidelines-for-Stroke-Management.