FOCUS GROUP UPDATE ON STROKE REHABILITATION

DISCHARGE

DISCLAIMER

This update was developed to be a guide for best clinical practice, based on the best available evidence at the time of development. Specific attempts were made to use local data and publications to ensure local relevance. The update was adapted mainly from the Australian Clinical Guidelines, Canadian Stroke Best Practices and NICE Stroke Rehabilitation for adults 2023 (1, 2. 3). Other sources were reviewed when necessary. The update will also be updated from time to time. Adherence to this update is at the discretion of the healthcare provider and does not necessarily lead to the best clinical outcome in individual patient care. Every healthcare provider is responsible for the management of his/her unique patient based on the clinical presentation and management options available locally.

1. https://informme.org.au/guidelines/living-clinical-guidelines-for-stroke-management
2. https://www.strokebestpractices.ca/recommendations
3. NICE Stroke rehabilitation in adults: Clinical Guideline, [NG236] 2023. www.nice.org.uk/guidance/ng236.

DISCHARGE

1. TRANSITION OF CARE & DISCHARGE PLANNING

(Adapted from Australian and New Zealand Living Clinical Guidelines for Stroke Management**)**

1.1. Discharge planning is essential for a smooth transition back into the community and for making efficient use of hospital resources.

1.2. Effective communication among healthcare teams, stroke survivors, families, and community providers is crucial. Key areas to focus on include setting goals, holding team and family meetings, sharing information, and planning for post-discharge care.

1.3. Stroke survivors and their families should receive personalized information in clear language at different stages of recovery. It's important to actively involve stroke survivors and their families by providing helpful materials and opportunities for follow-up. (Crocker et al 2021)

1.4. Discharge planning should begin as soon as the stroke patient is admitted ensuring a comprehensive approach.

2. SAFE DISCHARGE

(Adapted from Australian and New Zealand Living Clinical Guidelines for Stroke Management)

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

2.1. 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.

2.2. It is recommended for the primary team to prepare transfer of care / progress documents of the patients to be discharged into the community for smoother continuation of care.

2.3. All medications, equipments and support services necessary for a safe discharge are organised.

2.4. Any necessary continuing specialist treatment required has been organised.

2.5. 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.

2.6. 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.

3. EARLY SUPPORTED DISCHARGE

(Adapted from Canadian Stroke Best Practice)

3.1. Early supported discharge services, designed to reduce length of hospital stay and at the same time provide same intensity of inpatient rehabilitation could be offered to a select group of patients when available and provided by a well-resourced, coordinated specialized team [Evidence Level A].

3.2. Criteria for ESD candidacy include:

3.2.1. Mild to moderate disability [Evidence Level A];

3.2.2. Ability to participate in rehabilitation from the point of discharge [Evidence Level A];

3.2.3. Medically stable, availability of appropriate nursing care, necessary resources and support services (e.g., family, caregivers, and home care services) [Evidence Level A].

3.3. ESD services should be provided within 48 hours of discharge from an acute hospital or within 72 hours of discharge from inpatient rehabilitation [Evidence Level C].

3.4. Services should be provided five days per week at the same level of intensity as they would have received in the inpatient setting to meet patient needs [Evidence Level B]. Refer to Section 3 for more information.

3.5. Where possible, services should be provided by the same team that provided inpatient rehabilitation to ensure smooth transition [Evidence Level A]

3.6. Where different therapists are providing the home-based rehabilitation, close communication with the hospital-based rehabilitation team is important during the transition processes [Evidence Level C].

4. HOME ASSESSMENT

(Adapted from Australian and New Zealand Living Clinical Guidelines for Stroke Management)

4.1. Before discharge, all stroke survivors should be evaluated to determine if a home visit is necessary for ensuring safety and appropriate support and community services.

4.2. Ensuring a safe home environment is crucial for stroke survivors returning to the community after hospital care.

4.3. An occupational therapist should interview the stroke patient and their family or caregiver to assess the home and decide if a physical home visit is needed before discharge.

4.4. Limited studies compare the benefits of pre-discharge home visits to structured hospital interviews for stroke patients and other populations (Drummond et al. 2013; Lockwood et al. 2015; Clemson et al. 2016). Evidence suggests minimal differences between the two, but further research is needed. Factors to consider for home visits include the patient's physical, cognitive, and social needs, as well as therapist experience and practical issues like staff availability and competing demands (Godfrey et al. 2019).

5. CARER TRAINING

(Adapted from Australian and New Zealand Living Clinical Guidelines for Stroke Management)

5.1. Relevant members of the interdisciplinary team should provide specific and tailored training for carers/family before the stroke survivor is discharged home.

5.2. 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)

5.3. Moderate evidence shows inconsistent results in the effectiveness of carer training. However, it is expected stroke patient, and their caregivers would highly prefer to be provided with training in assisting daily activities. Therefore, training should be provided to carers of stroke patient but the effective forms of training remain unclear.

5.4. Training may need to encompass different types of information and advice based on the needs and preferences of the person and their family/carers e.g. written information along with practical demonstrations and practice with feedback. Furthermore, training often will require very practical strategies related to activities of daily living and ongoing rehabilitation after discharge which should be clearly explained and documented for future reference and provided for consistency for all those who will take on a carer role. Advice on emotional challenges (such as depression) and awareness and coping skills is very important for both the person affected by stroke and their family/carers.

5.5. Further resources such as face-to-face peer groups and online information or support groups should be discussed and written down or integrated within the discharge care plans (Australian and New Zealand Living Clinical Guidelines for Stroke Management)

6. OUTPATIENT REHABILITATION

6.1. Criteria for Outpatient Rehabilitation Services:

6.1.1 Patient meets the criteria for rehabilitation candidacy, medical stability, and rehabilitation readiness as defined below.

a) The patient's current medical, personal care, or rehabilitation needs can be met in the community.

b) The patient can attend therapy alone or if assistance is required a caregiver must be available to accompany the patient to attend therapy sessions.

6.2 The patient could be referred to an outpatient stroke rehabilitation service if:

6.2.1 He/she is clinically stable and is able to tolerate transportation to and from outpatient rehabilitation facility. (Wasti et. al, 2021)

6.2.2 He/she has sufficient physical and mental capacity level that does not that preclude effective participation in therapy sessions. (Wasti et. al, 2021)

6.2.3 He/she is able to engage cognitively in therapy sessions, re-engage in subsequent sessions with demonstrable carry over. (Wasti et. al, 2021)

6.3 Following stroke, people with ongoing rehabilitation goals should continue to have access to specialized stroke services after leaving hospital [Evidence Level A]. (Canadian Stroke Best Practice, 2019)

6.3.1 This should include facility-based outpatient services and/or in-home rehabilitation services [Evidence Level A].

6.4 Outpatient and/or in-home rehabilitation services should be provided by specialized interdisciplinary team members as appropriate to patient needs and in consultation with the patient and family [Evidence Level C]. (Canadian Stroke Best Practice, 2019)

6.5 The choice of setting for outpatient and/or in-home rehabilitation service delivery should be based on patient functional rehabilitation needs, participation-related goals, availability of family/social support, patient, and family preferences [Evidence Level C].

6.6 Patients and families should be involved in their management, goal setting, and transition planning [Evidence Level A].

6.7 Outpatient and/or in-home rehabilitation services should include the same elements as coordinated inpatient rehabilitation services [Evidence Level B], and include: . (Canadian Stroke Best Practice, 2019)

6.7.1 An interdisciplinary stroke rehabilitation team [Evidence Level A].

6.7.2 A case coordination approach including regular team communication to discuss assessment of new clients, review client management, goals, and plans for discharge or transition [Evidence Level B].

6.7.3 Therapy provided for a minimum of 45 minutes per day [Evidence Level B] per required discipline, 2 to 5 days per week, based on individual patient needs and goals [Evidence Level A]; ideally for at least 8 weeks [Evidence Level C].

6.7.4 Interprofessional care planning and communication is essential to ensure continuity of care, patient safety, and to reduce risk of complications and adverse events during stroke care particularly at transition points. [Evidence Level C]

6.7.5 At any point in their recovery, people with stroke who have experienced a change in functional status and who would benefit from additional rehabilitation services should be offered a further period of rehabilitation either inpatient or outpatient depending of the current needs. (Canadian Stroke Best Practice, 2019)

6.8 The outpatient stroke rehabilitation facility should be designed to offer multidisciplinary team rehabilitation. Patients should have access to all required therapies and interventions. The available services should include: (Adapted from Clinical Pathways in Stroke Rehabilitation: Evidence-based Clinical Practice Recommendations 2021)

6.9 Access to physician(s) with expertise in neurorehabilitation for continued management of residual effects of stroke including spasticity and pain.

6.9.1 Physiotherapy service with adequately designed treatment areas with availability of most required equipment.

6.9.2 Occupational therapy service with capacity to attend to issues such as extended activities of daily living and vocational rehabilitation.

6.9.3 Speech and language therapy services with capacity to work on issues related to dysphagia and communication.

6.9.4 Neuropsychological therapy for the treatment of cognitive, behavioural and emotional post-stroke disorders is recommended when available.

6.9.5 Optional or ancillary services include medical social workers, dietetics, orthotics and specialized nursing service particularly, continence management. These services may also be accessed through a referral arrangement.

6.9.6 If the patient is able to travel to and from the clinic and logistically it is possible to do so with the least level of disruption to family life, then outpatient rehabilitation is preferable to home-based rehabilitation.

7. REHABILITATION HEALTH SERVICES CENTRES

7.1 Public Government Health Centres (referral depends on the receiving medical facility)

- Government States Hospitals
- Universities Hospitals
- Government District Hospitals
- Selected Government Health Clinics
- PERKESO Rehab Centre

7.2. Private Centres

- Private Rehabilitation Hospital
- Private Hospital with MDT Rehabilitation Team
- Private Rehabilitation Centre with MDT Rehabilitation team
- Stroke Rehabilitation Therapy Centres with MDT

8. HOME REHABILITATION

(Adapted from Clinical Pathways in Stroke Rehabilitation: Evidence-based Clinical Practice Recommendations [Internet]. Cham (CH): Springer; 2021)

8.1 Home-based rehabilitation in the present context is defined as a form of rehabilitation, where the training is provided by members of the family and / or care givers.

8.2 The patient's family and / or care givers can be trained to provide task-based training, and members of the rehabilitation team can visit the patient at home as needed to provide required therapies.

8.2.1 Family participation at home reduces the need for travelling for outpatient appointments in centres, especially if distant from patients' homes.

9. DOMICILIARY HOME CARE (DHC).

(Adapted from Garis Panduan Perkhidmatan Perawatan Domisiliari Di Kesihatan Primer KKM 2020)

9.1. The Dormicillary Home Care Services) encompass care and rehabilitation services provided at home to ensure continuity of care for patients who are discharged early. It supports patients' families through caregiver training in aspects of home care and aims to reduce readmissions to the hospital by delivering quality healthcare in the home and community.

9.2. Objectives:

9.2.1. To assist in the care and management of bedridden patients at home to enhance their quality of life.

9.2.2. To provide guidance and instruction to patients and their families to improve self-care.

9.2.3. To support patients in continuing their treatment and care at home as a continuation of care following hospital discharge.

9.2.4. To encourage the involvement of families and the community in managing bedridden patients to reduce readmissions to the hospital

9.3. Patient's Criteria for DHC

9.3.1. The patient must be a Malaysian citizen.

9.3.2. Cases must be referred from government hospitals or health clinics to the Home Care Services (HCS).

9.3.3. The patient must have a clear home address.

9.3.4. The patient must have a suitable caregiver.

9.3.5. The patient must reside within the operational area.

9.3.6. Written consent must be obtained from the caregiver.

10. RETURN TO WORK

9.1. All stroke patient should be asked about their employment (paid and unpaid) prior to their stroke and if they wish to return to work.

9.2. For stroke patient who wish to return to work, periodic assessment should be offered to establish abilities relative to current work demands or if adaptation is needed. 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)

9.3. Stroke patient who is below 60 years old or still working and has PERKESO contribution should be referred to Return to Work Programme under PERKESO and RTW training at PERKESO REHAB CENTRE. (check with PERKESO re early rehab)

11. FAMILY AND PATIENT EDUCATION

(Adapted from Australian and New Zealand Living Clinical Guidelines for Stroke Management)

11.1. Stroke survivors and their families/carers should be educated in the BE 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 secondary stroke prevention and complications post-stroke should also be emphasized.

11.2. Family of stroke patients should also be made aware of available supports and support systems in their local community to facilitate re-integration into community.

12. RETURN TO DRIVE

(Adapted from Australian and New Zealand Living Clinical Guidelines for Stroke Management)

12.1. Any person wishing to resume driving after a stroke should be provided with information about how stroke-related impairments may affect their driving, the requirements and processes for returning to driving. The person should be referred to OT For pre driving assessments and /and the results be validated by attending physician.

12.2. For stroke survivors who are not licenced prior to stroke but wishes to drive for the first time, the medical and other clinical team members should discuss the feasibility of driving and provide advice on the next steps, on a case-by-case basis, in accordance with national standards and any relevant state guidelines.

12.3. Comprehensive Return To Drive assessment by the rehabilitation team according to patients impairments should be done prior allowing patient with stroke to return to drive.

12.4. Health services where stroke patient 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 are communicated to the general practitioner. If it is not possible, health providers in primary care services should refer the stroke patients to facilities with return to drive assessment.

REFERENCES

Australian and New Zealand Living Clinical Guidelines for Stroke Management. (n.d.). *InformMe*. https://informme.org.au/guidelines/living-clinical-guidelines-for-stroke-management

Canadian Stroke Best Practices. (n.d.). *Heart and Stroke Foundation of Canada*. https://www.strokebestpractices.ca/recommendations

Clemson, L., Lannin, N. A., Wales, K., Salkeld, G., Rubenstein, L., Gitlin, L., et al. (2016). Occupational therapy predischarge home visits in acute hospital care: A randomized trial. *Journal of the American Geriatrics Society, 64*(10), 2019–2026. https://doi.org/10.1111/jgs.14320

Crocker, T., Forster, A., Young, J., Brown, L., Ozer, S., Smith, J., et al. (2013). Physical rehabilitation for older people in long-term care. *Cochrane Database of Systematic Reviews, 2013*(2), CD004294. https://doi.org/10.1002/14651858.CD004294.pub3

Drummond, A. E. R., Whitehead, P., Fellows, K., Sprigg, N., Sampson, C. J., Edwards, C., et al. (2013). Occupational therapy predischarge home visits for patients with a stroke (HOVIS): Results of a feasibility randomized controlled trial. *Clinical Rehabilitation, 27*(5), 387–397. https://doi.org/10.1177/0269215512452908

Forster, A., Dickerson, J., Young, J., Patel, A., Kalra, L., Nixon, J., et al. (2013). A structured training programme for caregivers of inpatients after stroke (TRACS): A cluster randomised controlled trial and cost-effectiveness analysis. *The Lancet, 382*(9910), 2069–2076. https://doi.org/10.1016/S0140-6736(13)61603-7

Garis panduan perkhidmatan perawatan domisiliari di kesihatan primer. (2020). Kementerian Kesihatan Malaysia.

Lockwood, K. J., Taylor, N. F., & Harding, K. E. (2015). Pre-discharge home assessment visits in assisting patients' return to community living: A systematic review and meta-analysis. *Journal of Rehabilitation Medicine, 47*(4), 289–299. https://doi.org/10.2340/16501977-1933

Ntsiea, M. V., Van Aswegen, H., Lord, S., & Olorunju, S. S. (2015). The effect of a workplace intervention programme on return to work after stroke: A randomised controlled trial. *Clinical Rehabilitation, 29*(7), 663–673. https://doi.org/10.1177/0269215514554240

Platz, T. (2019). Evidence-based guidelines and clinical pathways in stroke rehabilitation: An international perspective. *Frontiers in Neurology, 10*, 200. https://doi.org/10.3389/fneur.2019.00200

Platz, T. (Ed.). (2021a). *Clinical pathways in stroke rehabilitation: Evidence-based clinical practice recommendations* (Chapter 2). Springer. https://doi.org/10.1007/978-3-030-58505-1_2

Wasti, S. A., Surya, N., Stephan, K. M., et al. (2021). Healthcare settings for rehabilitation after stroke. In T. Platz (Ed.), *Clinical pathways in stroke rehabilitation: Evidence-based clinical practice recommendations* (Chapter 14). Springer. https://doi.org/10.1007/978-3-030-58505-1_14

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