Creating a telerehabilitation plan with stroke survivors and caregivers

RISK ASSESSMENT GUIDE
FOR STROKE SURVIVIVORS WITH MODERATE TO SEVERE DISABILITY

This guide is designed to assist clinicians to identify and manage risks associated with the provision of **physical telerehabilitation** for stroke survivors with moderate to severe disability (i.e. who require assistance from another person to attend to daily needs, such as walking or toileting).

The guide is not designed to assess safety for discharge from hospital or replace discipline-specific assessment. There may be other potential risks and management strategies not listed here.

Assessment Component	Potential Risk *Tick if relevant*	Suggestions for Managing Risks *Tick all the strategies you will use to manage potential risks*
Technology	❑ Lack of access to stable internet connection ❑ Lack of appropriate devices (computer or tablet; video on smartphone may be inadequate) ❑ Limited digital literacy, skill or confidence using videoconferencing system (consider assessment using Technology Familiarity Scale or Modified Computer Self Efficacy Scale[1] (See Appendix)	❑ Consider mobile data plan, alternatives to access internet ❑ Consider availability of loan devices ❑ Provide additional support/ training in person if possible ❑ Provide in-person orientation sessions before commencement of telerehabilitation sessions ❑ Allow extra time during sessions for trouble shooting ❑ Other:
Cognition	❑ Difficulty comprehending clinical options (including benefits and risks, costs) ❑ Difficulty following instructions ❑ Risk of practising task incorrectly or completing exercises with poor technique ❑ Behavioural risk factors (e.g. impulsivity) ❑ Lack of insight (e.g. into impairments) ❑ Memory issues	❑ Coordinate care with neuropsychologist / occupational therapist ❑ Simplify the language ❑ Involving 'person responsible' for medical decisions ❑ Consider mode of information delivery (written, pictures, videos) ❑ Allow sufficient time to process, consider stroke survivor/ caregiver making their own notes.

		❑ Ensure caregiver is aware of behavioural risk factors has strategies to manage ❑ Education to the patient and caregiver regarding risks ❑ Modify sessions to reduce risk (e.g. seated exercises only) ❑ Other:
Communication	❑ Impaired expressive and/or receptive communication ability ❑ Hearing impairments ❑ Preferred language other than English	❑ Coordinate care with speech pathologist ❑ Check use of hearing aids ❑ Simplify the language ❑ Incorporate closed-ended questions where feasible ❑ Speak more slowly when communicating online ❑ Check understanding / clarify / summarise key information ❑ Avoid excessive movement which can impair audio quality ❑ If receptive communication is impaired, consider appointing a surrogate communicator (such as the caregiver) with patient consent ❑ Consider using additional audio speakers ❑ Minimise background noise ❑ Consider using alternative modes of communicating during and outside of telerehabilitation sessions E.g. written information (such as typed exercise instructions with pictures or the chat function in Zoom), or other options such as video recorded exercises for the stroke survivor and caregiver to replay as needed ❑ Interpreting services ❑ Other:
Medical history	❑ Cardiovascular/medical stability ❑ Precautions to exercise or physical activity	❑ Organise monitoring equipment (e.g. blood pressure monitor, pulse oximeter) in advance

	❏ Comorbidities (e.g. diabetes, asthma) and/or relevant past events ❏ Polypharmacy	❏ Teach the use of patient-reported outcome measures for exertion (e.g. Borg Rating of Perceived Exertion or Talk Test) ❏ Disease specific management plan where needed ❏ Educate stroke survivor / caregiver regarding risks and provide written resource if required ❏ Ensure fast acting medications easily accessible (e.g. Ventolin, glucose) ❏ Ensure there is a process in place for calling emergency services (see below *'What should I do in the event of an emergency?'*) Coordinate care with medical team / doctor ❏ Other:
Somatosensory impairments	❏ Sensory loss ❏ Neglect ❏ Vision impairment	❏ Ensure stroke survivor/ caregivers aware of impairment and associated risk (e.g. risk of injury such as pressure, skin tears, burns) ❏ Consider options to use larger screen (e.g. mirror sessions to television screen, or have larger screen available on laptop) ❏ Refer to *'home environment'* below (e.g. declutter) ❏ Check use of glasses ❏ Other:
Mobility	❏ Requires supervision or assistance for transfers or gait ❏ Requires gait aids ❏ At risk of falling	❏ Ensure there is a process in place for calling emergency services, see below *'What should I do in the event of an emergency?'* ❏ Consider equipment to be used during exercise sessions (see home environment section, below) ❏ Set up equipment required to assist with position changes i.e. transfers or getting up from the floor ❏ Education of stroke survivor and caregiver regarding mobility recommendations (e.g. aids, assistance, footwear) ❏ Caregiver training to assist mobility if appropriate

		❑ Floor to chair training (i.e. getting up from the floor) ❑ Arrange a mobile personal alarm with falls detection capability and hands-free calling enabled. ❑ Ensure mobile phone within reach while exercising ❑ Voice activated calling on mobile phone set up ❑ Other:

Home environment	❑ Inadequate space available
	❑ Unsafe or cluttered environment
	❑ Lack of aids required to optimise safety/function/independence (e.g. rails and other aids to optimise function and independence)
	❑ Poor lighting
	❑ Lack of temperature control or ventilation
	❑ Pets
	❑ Home visit risk assessment*
	Use the relevant organisational risk assessment as required for clinician home visits.
		❑ Assess home to determine most appropriate place to undertake telehealth sessions (in-person or via telehealth)
		❑ May require assistance re-arranging furniture or decluttering
		❑ Arrange installation of rails where able
		❑ Utilise walls, benches and **sturdy** furniture (e.g. chairs, desks) if safe. Refer to '*Setting up safe and effective home exercises*'
		❑ If pets are present, consider need to prevent access to the room during telerehabilitation sessions
		❑ OH&S assessment if clinician needs to attend an in-home visit*
		❑ Avoid back lighting to improve stroke survivor visibility during sessions
		❑ Consider wide angle lens if limited space limiting ability to visualise stroke survivor over telehealth
		❑ Tailor technology used to the participant:
		   o More than one device e.g. tablet for video conference and smart phone to film patient, or access apps to enhance treatment/observation options
		   o Increased technology increases complexity and demands on patient and caregiver
		❑ Modify sessions to ensure safety, examples include:
		   o Avoid higher intensity exercise if too hot

		o Safe placement of cords (including those connecting to telehealth equipment) ❑ Other:
Injury or pain	❑ Assessed at risk of shoulder pain ❑ Other pain ❑ Pressure areas/ impaired skin integrity	❑ Coordinate care with medical team (e.g. pain management), nursing (e.g. dressings) and occupational therapist (e.g. pressure relieving cushions) ❑ Ensure patient and/or caregiver understand management of the hemiplegic upper limb/shoulder and are educated about strategies to support this (e.g. collar and cuff use, careful handling and supportive positioning) ❑ Educate regarding pressure relieving strategies ❑ Monitor regularly ❑ Ensure there is a process in place for calling emergency services below (see '*What should I do in the event of an emergency?*' ❑ Other:
Orthoses and aids	❑ Ill-fitted or in need of repair ❑ Reduced skin integrity	❑ Ensure patient and/or caregiver understand how to regularly check orthoses and skin integrity and assess regularly ❑ Coordinate care with orthotist ❑ Other:
Emotional and psychological	❑ Fatigue ❑ Reduced willingness and motivation for rehabilitation	❑ Ensure stroke survivor has psychological and emotional supports available- this may include co-ordinating care with other health professionals such as psychologists, social work ❑ Monitor fatigue and modify sessions as appropriate ❑ Implement and monitor motivational strategies into telerehabilitation session ❑ Other:

Caregiver capacity (physical and psychological)	❑ Caregiver's ability (physical and psychological) and willingness to support stroke survivor through a telerehabilitation program ❑ Caregiver strain or stress	❑ Ensure caregiver has psychological and emotional supports available ❑ Regularly monitor caregiver strain or stress (consider assessment with Caregiver Strain Index) ❑ Consider referral to social worker or psychologist ❑ Regularly monitor caregiver's physical health, including confidence performing manual tasks *If caregiver has reduced physical ability:* ❑ Modify sessions as appropriate (e.g. shorter length with increased frequency, seated exercises only) ❑ Consider availability of other family members/ friends/ paid caregivers to assist ❑ Other:
Financial costs of program	❑ Costs of program not understood ❑ No funding assistance available to cover costs of program, or equipment	❑ Discuss financial costs of program, check understanding and ensure stroke survivor and caregiver have adequate support/plan to manage costs ❑ Co-ordinate with multidisciplinary team to arrange funding application if appropriate ❑ Consider loan or hire options to reduce costs ❑ Other:

SUMMARY OF INDIVIDUALISED RISK MANAGEMENT PLAN

Summarise the individualised risk management plan here.

	Risk management strategies
1.	
2.	
3.	
4.	
5.	

STROKE TELEREHABILITATION: ADDITIONAL RISKS IF NO IN-PERSON INTERVENTIONS

The following risks may not directly impact delivery of the telerehabilitation program; however, these risks may require monitoring if there is no/ limited in-person contact with a health care professional.

Assessment Component	Potential Risk *Tick if relevant*	Suggestions for Managing *Tick all the strategies you will use to manage potential risks*
Poor hygiene or pressure injuries	❑ Skin integrity ❑ Continence	❑ Specific monitoring of high-risk skin areas and continence management on regular basis ❑ Co-ordinate care with nursing

Domestic abuse, family violence, elder abuse	❑ Injury (physical or psychological) ❑ Neglect	❑ Refer to your organisational policies ❑ Refer to the 1800Respect website for guidance on how to support someone experiencing domestic and family violence: https://www.1800respect.org.au/violence-and-abuse/domestic-and-family-violence/support ❑ Co-ordinate care with social work
Reduced emotional and psychological wellbeing (stroke survivor/ caregiver)	❑ Low mood ❑ Depression ❑ Anxiety ❑ Stress	❑ Provide regular check-ins with the stroke survivor and caregiver ❑ Co-ordinate care with psychologist/ social worker
Lack of physical progress	❑ Lack of improvements in physical function or impairments	❑ Determine a plan for assessing and monitoring physical progress remotely

WHAT SHOULD I DO IN THE EVENT OF AN EMERGENCY?

Prior to commencing telerehabilitation, ensure that you and the stroke survivor/caregiver have a process in place in the event that emergency services need to be called. Considerations include:

- Identifying who will be responsible for calling emergency services,
- Ensuring the therapist has the address of the patient for the consultation, and
- Ensuring everyone has contact numbers for the therapist/ stroke survivor and/or caregiver in case of internet disconnection. (Consider whether internet or power disruption will limit ability to make/ receive calls)
- Providing the 'National Relay Service' contact details to people with speech or hearing impairments so they can use this support service during emergency calls if needed: https://www.communications.gov.au/what-we-do/phone/services-people-disability/accesshub/national-relay-service
- Ensuring relevant medical information is accessible in case it is needed during an emergency

References

1. Laver K, George S, Ratcliffe J, Crotty M: **Measuring technology self efficacy: reliability and construct validity of a modified computer self efficacy scale in a clinical rehabilitation setting**. *Disabil Rehabil* 2012, **34**(3):220-227.

Appendix

TECHNOLOGY FAMILIARITY TOOL

We would like to find out how often you use everyday technology items. Please read through these statements and tick the box (✓) that best represents how often you use these items.

How often do you_____?

	More than once a day	More than once a week	More than once a month	Rarely or more than once a year	Never
1. Search for information on the internet					
2. Use the TV remote control					
3. Withdraw money from the ATM					
4. Deal with recorded telephone menus					
5. Tape a TV program using a recording device					
6. Send and receive emails					
7. Use a mobile phone					
8. Operate a telephone answering service such as an answering machine or voice mail					
9. Use a microwave oven					
10. Use the automated check-in process at airport					
11. Play computer games					

Flinders University, SA Health. (2014) Toolkit for providing home based tele-rehabilitation services using an ipad. Adelaide, South Australia: pg 38.

THE MODIFIED COMPUTER SELF EFFICACY SCALE

Imagine that you have been given a new technology for some aspect of daily living (for example new alarm clock/cordless phone/ answering machine). It doesn't matter specifically what this technology does, only that it is intended to make your life easier and that you have never used it before.

The following questions ask you to indicate whether you could use this unfamiliar technology under a variety of conditions. For each of the conditions, please rate your confidence about using the new technology on the scale of 1–10.

I could use the new technology…

1. If there was no one around to tell me what to do as I go

1	2	3	4	5	6	7	8	9	10
Not at all confident									Completely confident

2. If I had never used a product like it before

1	2	3	4	5	6	7	8	9	10
Not at all confident									Completely confident

3. If I had only the product manuals for reference

1	2	3	4	5	6	7	8	9	10
Not at all confident									Completely confident

4. If I had seen someone else using it before trying it myself

1	2	3	4	5	6	7	8	9	10
Not at all confident									Completely confident

5. If I could call someone for help if I got stuck

1	2	3	4	5	6	7	8	9	10
Not at all confident									Completely confident

6. If someone else had helped me get started

1	2	3	4	5	6	7	8	9	10
Not at all confident									Completely confident

7. If I had a lot of time to complete the job for which the product was provided

1	2	3	4	5	6	7	8	9	10
Not at all confident									Completely confident

8. If I had just the built-in help facility for assistance

1	2	3	4	5	6	7	8	9	10
Not at all confident									Completely confident

9. If someone showed me how to do it first

1	2	3	4	5	6	7	8	9	10
Not at all confident									Completely confident

10. If I had used similar products before this one to do the same job

1	2	3	4	5	6	7	8	9	10
Not at all confident									Completely confident

Laver K, George S, Ratcliffe J, Crotty M. Measuring technology self efficacy: reliability and construct validity of a modified computer self efficacy scale in a clinical rehabilitation setting. *Disabil Rehabil.* 2012. 34(3):220-227.