

## Recreation Therapy Stroke Protocol Series

*“There are more than 400,000 Canadians living with long-term disability from stroke, and this number will almost double in the next 20 years. The effects range from mild to severe disability, and can be obviously physical limitations or more subtle such as memory changes. Recovery can take months or years, even for milder strokes, and many people never fully recover.”*

2017, Heart & Stroke<sup>1</sup>

This first of its kind document is a result of the hard work of various Recreation Therapy and Stroke professionals including individuals from the Recreation Therapy Stroke Professionals Network of the Southwestern Ontario Stroke Network, Georgian College, St. Thomas Elgin General Hospital, Woodstock General Hospital, and the Chatham-Kent Health Alliance.

The need for evidence based recreation therapy has increased as the needs of our clients are becoming continually complex. Evidence based practice (EBP) across professions is known to improve quality of care, provide continuity of care, improve health outcomes, as well as, act as a cost savings measure. EBP provides an opportunity for Recreation Therapists to provide their clients with interventions that are rooted in research. These protocols should be used together with the therapeutic process, and our professional standards of practice.

This document is a compilation of student work from the Georgian College Therapeutic Recreation Post Graduate program which has been vetted by Faculty professional Recreation Therapists currently working in the field. All of the program protocols were created by the student authors and include research evidence to justify their validity. As always, it is up to you as the Recreation Therapist to use these and other protocols as a tool to create positive change for your individual clients. These protocols, coupled with further research and your clinical judgment should align your clients well for success in their health goals.

This is a living document that will continue to grow and evolve. The committee plans to invite Recreation Therapists on an annual basis, to submit evidence based protocols for consideration for inclusion in this valuable resource. This invitation will occur every February to coincide with both Therapeutic Recreation Awareness Month and Heart and Stroke Month.

We encourage you provide us with feedback or suggestions for protocols for inclusion in future editions of this publication. Feedback can be provideby emailing [swosn@lhsc.on.ca](mailto:swosn@lhsc.on.ca) .

<sup>1</sup>Heart and Stroke. (2017). Stroke Report. Retrieved from <https://www.heartandstroke.ca>

**Program Protocol – Virtual Reality**  
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**Edited and Prepared By: Deborah Willems**  
**Reviewed & Revised: September 2023**

**Program Title:** Virtual Reality

**Statement of Purpose:**

- To maintain or improve balance, fine/gross motor skills and/or provide relaxation using a 3D environment.

**Program Description:**

- Occurring once or twice a week during the patient's admission, this program will expose participants to cognitive & physical stimulation interventions such as sports, reminiscing, immersive environment videos, relaxation and other tasks as deemed appropriate by the Recreation Therapist.
- Patient will participate in each session for a **maximum** of 20 minutes and will then take a mandatory break. Patient will then have a choice to continue the session or stop after that.

**Client Needs Program will Address:**

- Trying new activity/technology
- Balance
- Fine/gross motor skills
- Address visual neglect
- Reduce anxiety
- Reminiscing

**Selection/Referral Criteria:**

- Brain injury or CVA patients from the rehab unit
- Any continuing care patient that would benefit or has expressed interest
- For patients on Continuing Care with dementia, a sensory profile will be completed prior to program involvement, to assess risk and determine if patient would benefit from the experience
- the patient or SDM will sign waiver form prior to use

**Contradicted Criteria:**

- Participant complains of dizziness/vertigo when participating in activity
- Participant finds unit visually overstimulating
- Participant is at risk of falling due to balance issues
- Participant has specific sensory triggers that would impact use
- Participant has a history of seizure disorder/epilepsy
- Participants with a pacemaker need to consult a doctor prior to use
- Not to be used if the patient is tired or on any significant medications

**Program Outcomes (goals):**

- Promote standing balance and gross/fine motor skills through VR use
- Increase awareness of leisure resources that can be transferred to community
- Participate in activities that are of interest and value to the patient
- Provide patients an opportunity to engage in mindfulness and guided imagery
- Reduce visual neglect through use of VR
- Promote fine motor skills through use of VR

**Content and Process:**

Content	Process
1. Introduction to VR	<ul style="list-style-type: none"><li>• Patient will go over waiver form with TR outlining associated risks</li><li>• Patient will sign waiver form if agreeing to participate in session</li></ul>
2. Participation	<ul style="list-style-type: none"><li>• Patient will put on Oculus GO headset</li><li>• Staff will help adjust straps for comfort</li><li>• Staff will setup unit and instruct patient verbally. Anyone experiencing any symptoms will immediately discontinue use of VR.</li><li>• Patient will participate in game selected by staff and provide feedback on difficulty, experience and enjoyment level</li><li>• After a maximum of 20 minutes, patient will take a brief rest</li><li>• Patient will then voice to staff if they are done or would like to continue</li><li>• Stop and engage in evaluation if patient is done</li><li>• Clean goggles for infection control</li><li>• Continue session if patient would like to complete full 30 minute session</li></ul>
3. Evaluation	After session, have patient complete comfort scale provided by the Oculus VR  Receive verbal feedback from patient on: <ol style="list-style-type: none"><li>1) Comfort Level</li><li>2) Ease of use</li><li>3) Was unit visually over stimulating?</li><li>4) Any therapeutic benefit to use related to your therapy goals?</li></ol>

**Staff Requirements and Responsibilities:**

- The session will be run by the TR and can be done in a joint session with either PT or OT.
- Prior to the session, it is the responsibility of the TR to go over the waiver and the potential risks associated with use of the unit and have the patient complete a waiver form prior to participating in the session.
- It is the staff's responsibility to provide an open environment and ensure that the patient has support from staff during the entire session.
- Infection control for those patients in isolation (hand washing, wash glasses after use).
- Sensory sensitivities (sensory profile to be completed for Continuing Care patients).
- Severe balance or proprioception deficits will impact use and need to be accounted for. Not to be used if the patient is tired or on any significant medications.
- Adjust side/top straps if needed to ensure comfort and proper weight distribution.
- Remove any tripping hazards from the area before using the headset.
- Anyone experiencing any symptoms will immediately discontinue use of VR.
- Must be aware of stroke symptoms and have experience in the rehabilitation field
- All staff: first aid and CPR certified

**Program Evaluation:**

After the session, have the patient complete the comfort scale provided by the Oculus VR to determine level of comfort for that particular program if offered.

Receive verbal feedback from the patient on:

- Comfort Level
- Ease of use
- Was unit visually overstimulating?
- Did you find any therapeutic benefit to use related to your therapy goals?
- Is this something that you would be interested in purchasing outside of hospital?

**Research:**

Eswaran, V., Veezhinathan, M., Balasubramanian, G., & Taneja, A. (2018). Virtual Reality Therapy for Mental Stress Reduction. *Journal of Clinical and Diagnostic Research*, 12(10), 11-16.

Levac DE, Glegg SMN, Sveistrup H, Colquhoun H, Miller P, Finestone H, et al. (2016) Promoting Therapists' Use of Motor Learning Strategies within Virtual Reality-Based Stroke Rehabilitation. *PLoS ONE* 11(12): e0168311. doi:10.1371/journal.pone.0168311

Yung-Chin Tsao, Chun-Chieh Shu and Tian-Syung Lan. (2019) Development of a Reminiscence Therapy System for the Elderly Using the Integration of Virtual Reality and Augmented Reality. *Sustainability – Open Access Journal*, September 2019.

**RT Signature and Date:**

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