

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 & Stroke¹

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 and 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 provided by emailing swosn@lhsc.on.ca .

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

Program Protocol – Swim to Strength
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Reviewed & Revised: September 2023

Program Title: Swim to Strength

Statement of Purpose:

- To provide participants with the chance to use aquatic therapy to build on their physical abilities to enhance independence and overall quality of life

Program Description:

- Participants can anticipate a challenging yet enjoyable atmosphere to engage in rehabilitative aquatic exercise. Individuals taking part in this program will spend their forty-five minute sessions in the pool working towards strengthening and maintaining muscle groups, while building their independence. This program is ideal for those working towards rehabilitation, post-stroke stay in hospital.

Client Needs Program will Address:

- Develop physical strength and skill set
- Increase individual's independence
- Enhance overall quality of life pertaining to areas of physical and social domains

Selection/Referral Criteria:

- Participants must be registered with YMCA
- Participants must be referred to this program through their rehabilitation team located at their hospital
- Participants must have decreased muscle strength, decreased physical abilities
- Participants must have suffered a stroke within the past 2 years
- Participants must be able to tolerate 45 minute session 2x/week

Contradicted Criteria:

- Participant no longer shows enthusiasm or passion towards attending the program
- Participants no longer meet the various selection criteria of the program stated above
- Participants gained muscle strength and skill set needed for independence no longer permits relevant participation

Program Outcomes (goals):

- Improve participants confidence in water, and towards their own physical strength
- Improve clients physical strengths so that they may live a more independent life
- Each participant forms one meaningful relationship by the end of the six week program
- Attain a 70% attendance rate

Content and Process:

Content	Process
<ul style="list-style-type: none"> • Introduction and rules before getting into water • Ice breaker • Warm up • Work on range of motion • Stretch • Warm up • Use water resistance to increase muscle strength in arms • Stretch 	<ul style="list-style-type: none"> • Introduce leaders, and explain expectations of leaders and participants of the program • Icebreaker – pass or roll the beach ball • Warm-up – marching on the spot, moving arms, rotating arms in circles, knee slaps, etc. • Range of motion – move down body starting with neck, working through each joint clockwise and counter-clockwise • Stretch – move up the body stretching out muscle groups that were used
<ul style="list-style-type: none"> • Warm-up • Use water resistance to increase muscle strength in arms • Stretch 	<ul style="list-style-type: none"> • Warm-up; marching on the spot, moving arms, rotating arms in circles, knee slaps, etc. • Water resistance; use moderately fast movements, push against water in various ways to create resistance and improve muscle strength • Stretch; move up the body stretching out muscle groups that were used
<ul style="list-style-type: none"> • Warm-up • Use foam water weights to increase muscle strength in arms • Stretch 	<ul style="list-style-type: none"> • Warm-up; marching on the spot, moving arms, rotating arms in circles, knee slaps, etc. • Water weights; using handheld foam dumbbells do exercises underwater in various ways to create even more resistance, and promote greater increase in muscle strength • Stretch; move up the body stretching out muscle groups that were used
<ul style="list-style-type: none"> • Warm-up • Use foam water weights to increase muscle strength in legs • Stretch 	<ul style="list-style-type: none"> • Warm-up; marching on the spot, moving arms, rotating arms in circles, knee slaps, etc. • Water weights; using strap on foam ankle weights do exercises underwater in various ways to create even more resistance, and promote greater increase in muscle strength • Stretch; move up the body stretching out muscle groups that were used
<ul style="list-style-type: none"> • Warm-up • Overall body exercise 	<ul style="list-style-type: none"> • Warm-up; marching on the spot, moving arms, rotating arms in circles, knee slaps,

<ul style="list-style-type: none"> • Stretch 	<p>etc.</p> <ul style="list-style-type: none"> • Using both water resistance and weight resistance to do both leg and arm exercises to work on maintaining strength that has developed over the 6 week program • Stretch; move up the body stretching out muscle groups that were used
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Staff Requirements and Responsibilities:

- One lifeguard for every 5 participants depending on class size
- Two aquatic leaders to help with visual and other needs
- All staff: first aid and CPR certified

Program Evaluation:

- Consistency of participation of 70% or higher
- Verbal and non-verbal feedback from participants and other staff members

Research:

Noh, D. K., Lim, J. Y., Shin, H. I., & Paik, N. J. (2008). The effect of aquatic therapy on postural balance and muscle strength in stroke survivors—a randomized controlled pilot trial. *Clinical rehabilitation*, 22(10-11), 966-976.

- Benefits of aquatic therapy in stroke survivors
- Two groups – aqua therapy vs conventional therapy
- 1 hour participation session 3x a week for 8 weeks
- After the trial, groups were compared on progress – aqua therapy showed significant improvements in Berg Balance Scale scores, forward and backward weight-bearing abilities of the affected limbs and knee flexor strength

Zhu, Z., Cui, L., Yin, M., Yu, Y., Zhou, X., Wang, H., & Yan, H. (2016). Hydrotherapy vs. conventional land-based exercise for improving walking and balance after stroke: a randomized controlled trial. *Clinical rehabilitation*, 30(6), 587-593.

- Benefits of hydrotherapy on stroke survivors
- Progressive improvements hydro therapy has on stroke survivors
- Based on BBS and a 4 week trial with a 2-minute walk test and the timed up and go test
- Hydrotherapy is an effective tool for improving postural balance and mobility in chronic stroke patients
- This trial clearly expresses the benefits of hydrotherapy and the rehabilitation of stroke survivors

RT Signature and Date:

Appendices:

Acknowledgements

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