

Aerobic Exercise

Module 7



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Schedule

- What is aerobic exercise?
- Why is aerobic exercise important?
- Brain benefits of aerobic exercise
- Aerobic exercise & rehabilitation
- How to incorporate aerobic exercise & overcome barriers
- Review



What is aerobic exercise?

- Any type of exercise for your heart! (aka cardiovascular conditioning)
- Aerobic means "**with oxygen**"
- Exercises that make you breathe heavily
- Some examples include:
 - Walking, biking, swimming, dancing or even sit-to-stands



Why is aerobic exercise important?

- It is a cheap and effective way to:
 - Stay in shape
 - Boost your mood
 - Reduce controllable risk factors of chronic diseases
 - Keep weight within the healthy range
 - Improve strength and stamina
 - Keep your arteries clear
 - Strengthen your heart



Brain benefits of aerobic exercise

- Aerobic exercise can protect the brain against:
 - Depression
 - Alzheimer's disease
 - Dementia

Exercise stimulates the production of new brain cells and improves long term memory.

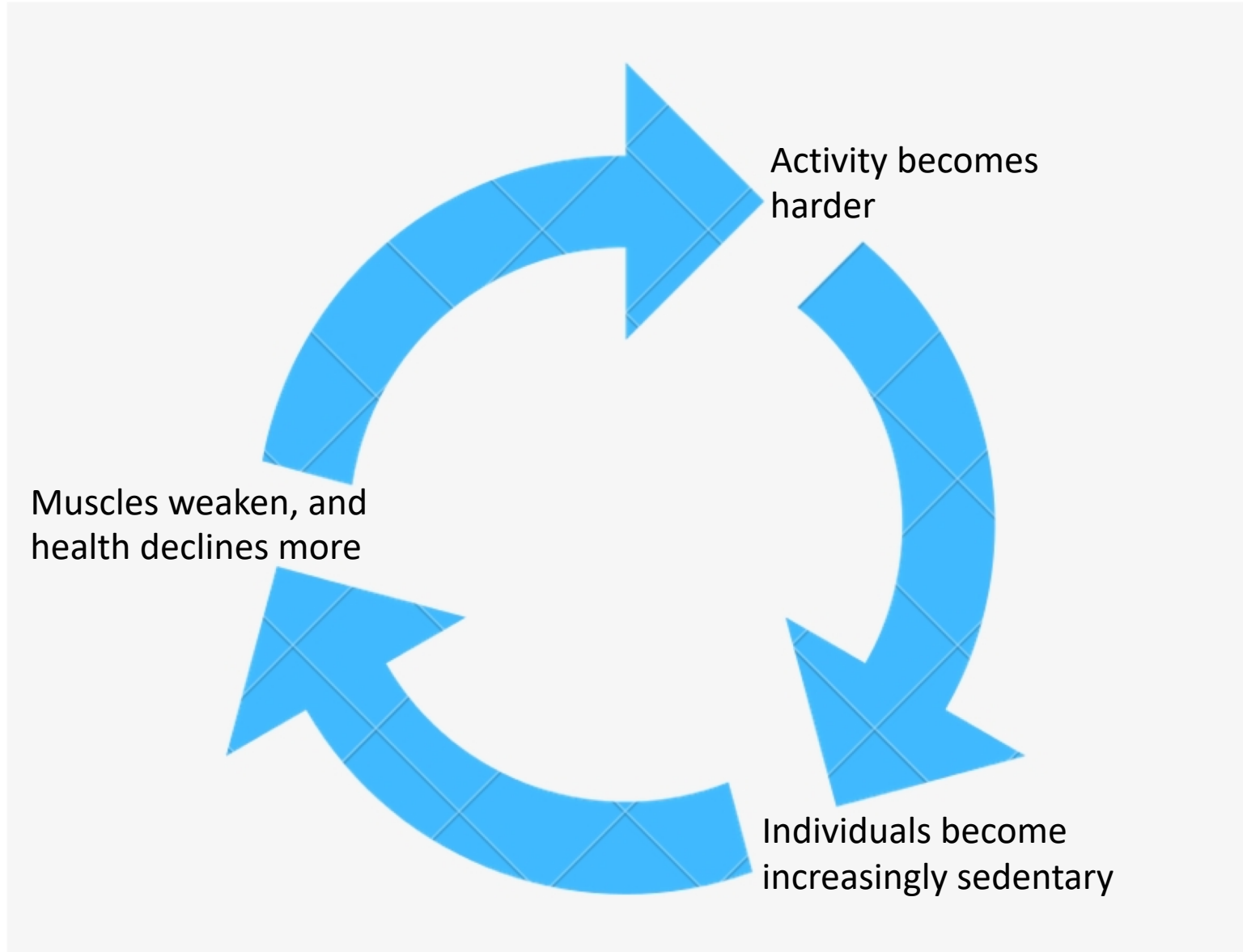


Aerobic exercise & rehabilitation

- Completing everyday activities is often difficult following a stroke.
- Moving less and sitting for longer periods of time often occurs following a stroke.
 - Muscle weakness eventually occurs
 - Muscle weakness makes it harder to be active and regain independence following stroke.



Aerobic Exercise & Rehabilitation





How to incorporate aerobic exercise & overcome barriers

1. Talk to your rehabilitation team
2. Figure out what's fun or useful for you to do
3. Exercise with others!



How to incorporate aerobic exercise & overcome barriers

- Some challenges you might encounter:
 - Beginning an aerobic exercise program
 - Weather
 - Safety (exercise environment)
 - Motivation
 - Confidence



How to incorporate aerobic exercise & overcome barriers

- Schedule time to exercise
 - Create "if... then" plans and stick to the plan!
- Talk to your rehab team to determine exercise intensity
- Talk to your STRIDE buddy about your workouts
- Find a form of exercise you enjoy

Review

- Beginning an aerobic exercise program is often the hardest part!
- Heart and brain benefits
- Second stroke prevention
- Improves your overall health and quality of life
- Make a detailed plan
- **TALK TO YOUR REHABILITATION TEAM BEFORE BEGINNING AN AEROBIC EXERCISE PROGRAM**

Resources

- Gordon, N. F., Neil F. Gordon Search for more papers by this author, Gulanick, M., Meg Gulanick Search for more papers by this author, Costa, F., Fernando Costa Search for more papers by this author, Fletcher, G., Gerald Fletcher Search for more papers by this author, Franklin, B. A., Barry A. Franklin Search for more papers by this author, Roth, E. J., Elliot J. Roth Search for more papers by this author, Shephard, T., & Tim Shephard Search for more papers by this author. (2004, April 27). *Physical Activity and Exercise Recommendations for Stroke Survivors*. Circulation.
<https://www.ahajournals.org/doi/full/10.1161/01.CIR.0000126280.65777.A4>.
- Mark W. Austin, Michelle Ploughman, Lindsay Glynn, Dale Corbett. (2014). Aerobic exercise effects on neuroprotection and brain repair following stroke: A systematic review and perspective, *Neuroscience Research*, 87, 8 - 15. <https://doi.org/10.1016/j.neures.2014.06.007>.
- Mitchell Carr & Jeffery Jones (2003) Physiological Effects of Exercise on Stroke Survivors, *Topics in Stroke Rehabilitation*, 9:4, 57-64, DOI: [10.1310/OJ2K-MDNX-1Q0L-8LX6](https://doi.org/10.1310/OJ2K-MDNX-1Q0L-8LX6)

Resources

- American Heart Association News. (2019, August 14). *Aerobic exercise could improve recovery after stroke*. [www.Heart.Org](https://www.heart.org/en/news/2019/08/14/aerobic-exercise-could-improve-recovery-after-stroke#:~:text=An%20analysis%20of%2019%20studies,of%20the%20American%20Heart%20Ass). <https://www.heart.org/en/news/2019/08/14/aerobic-exercise-could-improve-recovery-after-stroke#:~:text=An%20analysis%20of%2019%20studies,of%20the%20American%20Heart%20Ass>
[ociation](https://www.heart.org/en/news/2019/08/14/aerobic-exercise-could-improve-recovery-after-stroke#:~:text=An%20analysis%20of%2019%20studies,of%20the%20American%20Heart%20Ass).
- Pang, M. Y., Charlesworth, S. A., Lau, R. W., & Chung, R. C. (2013). Using aerobic exercise to improve health outcomes and quality of life in stroke: evidence-based exercise prescription recommendations. *Cerebrovascular diseases (Basel, Switzerland)*, 35(1), 7–22. <https://doi.org/10.1159/000346075>
- Pang, M. Y., Eng, J. J., Dawson, A. S., & Gylfadóttir, S. (2006). The use of aerobic exercise training in improving aerobic capacity in individuals with stroke: a meta-analysis. *Clinical Rehabilitation*, 20(2), 97–111. <https://doi.org/10.1191/0269215506cr926oa>
- Sheeran, P. (2016, September 1). *The Intention-Behavior Gap*. Wiley Online Library. <https://onlinelibrary.wiley.com/doi/abs/10.1111/spc3.12265>
- *The brain-changing benefits of exercise*. (2017). TED. https://www.ted.com/talks/wendy_suzuki_the_brain_changing_benefits_of_exercise?language=en.

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