

Patient name: _____

Date: _____

AEROBIC EXERCISE PRESCRIPTION

Your doctor has given you a prescription for light aerobic exercise. This means you will exercise each day, but you will keep your heart rate (HR) at a specific level.

First, calculate your age-appropriate maximum HR followed by the HRs for stages 1 – 7. Begin by exercising at 50% (Stage 1) of your maximum HR. Aerobic exercise (i.e., walking flat surface or incline, stationary cycling. **No** weight lifting or running), avoid a lot of neck motion during exercise. Exercise should include a warm-up, then a minimum of 20 minutes at the prescribed heart rate, and then a cool-down. Stop exercise before 20 minutes if your symptoms increase too much or you experience new symptoms (see below). You may exercise beyond 20 minutes if your symptoms do not increase by 2 or more points compared with your level before exercise.

You will need a heart rate monitor to successfully complete this exercise prescription.

Your goal is to gradually increase exercise intensity until you can exercise at 80% or more of your age-appropriate maximum HR without any increase in your concussion symptoms. Use the Daily Symptom Diary to track your progress.

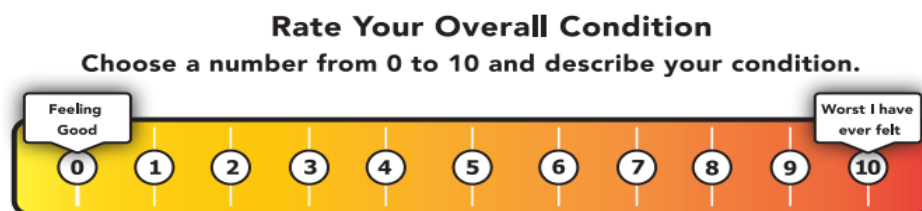
When to stop?

Chart resting state symptoms, When the symptoms increase by 2 or more points (on a 0-10 scale), or you experience new symptoms during exercise, please stop and try again the following day. If you experience a prolonged (more than 24 hours) or severe increase of your concussion-related symptoms during or after exercise, contact your **athletic trainer or doctor** before continuing the program.

When to progress?

If you are able to exercise for 20 minutes without any increase in your concussion symptoms and new symptoms do not appear, then you may attempt the next stage the following day. If you have a mild increase in symptoms (either 1 or 2 points out of 10), remain at same stage until you can exercise without any increase in symptoms. If your symptoms increase by 3-points or more, attempt an easier stage the following day. Please see the following table.

Exercise progression based on symptom score increase during aerobic exercise	
0	Continue to next stage
1-2	Remain at same stage until 2 continuous days without symptom increase
3+	Attempt previous stage



Note: The sub-symptom threshold exercise prescription is typically derived from the heart rate during a systematic exercise test. Supervised exercise is advised.

Reference: Bezherano I, Haider MN, Willer BS, Leddy JJ. Practical Management: Prescribing Sub-Symptom Threshold Aerobic Exercise for Sport-Related Concussion in the Outpatient Setting. Clin J Sport Med 2020;00:1–4.

Age	Predicted HR _{max} *	Stage 1 (50%)	Stage 2 (55%)	Stage 3 (60%)	Stage 4 (65%)	Stage 5 (70%)	Stage 6 (75%)	Stage 7 (80%)
	220 - age	HR _{max} x 0.50	HR _{max} x 0.55	HR _{max} x 0.60	HR _{max} x 0.65	HR _{max} x 0.70	HR _{max} x 0.75	HR _{max} x 0.80

*maximal heart rate predicted by conventional Karvonen method (220 – age)

Daily Symptom Diary

Day	Attempted stage	Target Heart rate	Rate your symptoms (0-10) before exercise	Rate your symptoms (0-10) during exercise	Rate your symptoms (0-10) after exercise	Post Exercise symptom duration
1	1 (50%)					
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						

*The following days' stage is dictated by the difference between symptom scores before and during exercise.



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