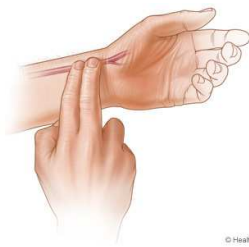


Carolina Sports Concussion Clinic

Exercise Progression Protocol Instructions

The following protocol can be used to *gradually* return you to activity.
After **ALL** concussion symptoms (including headache) have resolved, you can begin the protocol.

- 1) Determine your resting heart rate (HR), average is between 60-80 beats per minute. The radial pulse is located just below the thumb. The carotid pulse is located on the side of the neck. Use two fingers when checking your pulse, do not use your thumb. Press lightly until you feel the pulse. Remember to use a watch or clock and count the number of beats in one minute. This determines your resting heart rate.



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- 2) Determine your target heart rate. This is the average range of heart rate reached during exercise which enables your heart & lungs to receive the most benefit from the exercise. Use the following formula to calculate:

$$\text{Target HR} = (\text{Max HR (220-age)} - \text{Resting HR} \times \text{target \%}) + \text{Resting HR}$$

Example: 15 yr old at 50% exertion, resting HR of 60 bpm: $(205 - 60 \times .50) + 60 = 132$ bpm

- 3) Pay careful attention to your symptoms, your thinking, and your concentration skills at each stage of activity.
- 4) A 24-hour rest period should be taken before progressing to the next level/stage.
- 5) Move to the next stage of activity **only if you do not experience ANY symptoms** when completing the current exercise stage.
- 6) If your symptoms return, immediately discontinue activity and rest for 24 hours. If symptoms do not resolve or significantly worsen, consult your physician and/or athletic trainer.

Carolina Sports Concussion Clinic

Swimming Specific Exercise Progression

Name of Athlete: _____

Date of Concussion: _____

	EXERCISE	Day/Date	COMPLETED / COMMENTS	
Stage 1	Goal is to reach 30-40% of maximum heart rate Walking at 2.5 mph or Riding a stationary bike for 20-30 minutes.		YES NO	Supervisor's initials _____
Stage 2	Goal is to reach 40-60% of maximum heart rate Jogging (medium pace) for 20-30 minutes Sit-ups x 25, Push-ups x 20, Lunge walks x 20		YES NO	Supervisor's initials _____
Stage 3	Goal is to reach 60-80% of maximum heart rate Dry land drills: weight training, jogging 15-20 minutes, sit ups x50, Push ups x 40, lunge walks x 40. Pool drills: in own lane, use kickboard with arms stabilized, breast stroke, backstroke for total of 30-45 minutes. Can dolphin kick. No underwater turns or diving.		YES NO	Supervisor's initials _____
Stage 4	Goal is to reach 80% of maximum heart rate Warm up drills. Event specific strokes, utilizing those that turn head side to side (freestyle crawl). Can do underwater turns, total of 10. Can do butterfly stroke. Can do 10 starting dives into pool. Total practice 45-60 minutes.		YES NO	Supervisor's initials _____
	RETURN TO OFFICE FOR FINAL VISIT			
Stage 5	Goal is to reach full exertion. Participate in full-contact practice.		YES NO	Supervisor's initials _____
Stage 6	Goal is to reach & maintain full exertion. Resume full participation in competition		YES NO	Supervisor's initials _____

3700 NW Cary Pkwy, Ste. 110
Cary, NC 27513

8300 Health Park, Ste. 107
Raleigh, NC 27615

190 Rosewood Center Drive
Holly Springs, NC 27540

www.carolinasportsconcussionclinic.com

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