



Synchro Alberta Synchro-Specific Concussion Guidelines 2016

These guidelines were developed from the latest Zurich Consensus Statement on Concussion in Sport (McCroly et al., 2013) and research from the University of Toronto Concussion Lab. They are intended for use by synchronized swimming coaches to assist in recognizing and managing a concussion injury. **They are not intended to take the place of direct advice from a medical professional. When in doubt, contact a medical practitioner.**

What to do if you suspect a concussion:

1. Immediately remove athlete from the pool. Remove cap and goggles.
2. Go through a brief symptom checklist:
 - Headache (differentiate between headache and pain at the impact site)
 - Nausea
 - Dizziness
 - Confusion
 - Light and noise sensitivity
 - Balance problems
 - Feeling “not right”
 - Please see the attached Pocket Recognition Tool (Appendix A) for more
3. If athlete has any of these symptoms, cease all activity immediately and inform lifeguard. Call parent/guardian to pick up the athlete and advise they should be taken to see a medical professional immediately. Complete facility and SSO concussion incident report.
4. If athlete does not have any symptoms, allow them to remain poolside but not actively engaged in activity. Continue to monitor the athlete for symptoms every 10-15 minutes. Symptoms can set in gradually over time.
5. If athlete has no symptoms at the end of the training session, inform parent/guardian that an impact occurred and advise them to continue monitoring athlete for symptoms at home. If symptoms develop at any point, the athlete should be taken to a medical professional.

If the athlete loses consciousness at any time, immediately remove athlete from the pool and inform lifeguards. Conduct appropriate emergency procedures.

Synchro-Specific Concussion Return to Play Protocol

Each stage should be performed sequentially. Medical clearance is required to progress from Stage 1 to Stage 2. Within each stage, activity should be introduced and increased gradually. Athlete should be symptom-free for at least 24 hours before progressing to the next stage. **If symptoms return at any time, revert back to the previous stage until symptom-free for at least 24 hours.** Every concussion is different, therefore each synchronized swimmer may move through the protocol at a different pace. Communication between the coaching staff and the healthcare provider(s) in charge of the athlete's care is important and should be emphasized.

Stage 1 Limited Physical and Cognitive Activity:

- Physical and cognitive rest
- Avoid exposure to bright lights and loud noises
- Avoid all use of screens (phones, computers, tablets, televisions, etc.)
- Perform passive flexibility and breathing exercises

Medical Clearance to Exercise

Stage 2 Light Aerobic Exercise:

- Begin re-introducing light physical activity (no flip turns or inversions). Keep cognitive load low (e.g. no learning of new routines). Very limited water time, no inversions.
- Perform aerobic activity up to 70% of maximum heart rate, avoiding excessive head movement (i.e., no shaking or extensive bouncing of the head, no sharp head movements). Start with 15 minutes and gradually increase duration of activity.
 - Walking
 - Stationary bicycle
 - Kick with a board (cease if aggravates the neck)
- Continue to avoid bright light and loud noise. Wear sunglasses and earplugs to the pool when attending practice.
- Limit use of screens (<30 min/day).
- Continue passive flexibility exercises. Re-introduce active flexibility and extension exercises.

Stage 3 Sport-Specific Exercise:

- Re-introduce sport specific skills. Begin to increase cognitive load.
- Continue aerobic activity, gradually increasing the duration and intensity, allow some head movement
 - Jogging
 - Swimming (all strokes)—no flipturns
- Re-introduce some synchro-specific skills (no inversions, no flip turns)
 - Horizontal sculling
 - Ballet legs
 - Eggbeater and body boosts
 - Land-drill
- Athlete should not be in pattern (no inversions, no flip turns)
- Avoid resistance training and high-impact cardio
- Limit electronic use (<1 hour/day)
- Dampen light and sound exposure at the pool when possible (sunglasses and ear plugs)
- Continue flexibility and extension exercises

Stage 4 Non-Contact Training

Drills:

- Increase physical and cognitive load
- Resume full dryland training including resistance training
- Re-introduce inverted skills and whole-body movements
 - Technical drills, gradually increasing intensity
 - Figure parts
 - Routine sections
 - Flip turns
- Remain out of the pattern
- Re-introduce full light and sound stimulation at the pool
- Limited electronic use (<1 hour/day)

Stage 5 Full-Contact Practice:

- Resume normal training activity—full practice participation
- Gradually re-introduce athlete into the pattern
 - Start with small sections at a time and build up to big parts
- Increase electronics use (avoid screens for at least 1 hour before bed)

Stage 6 Return to Play:

- Full practice and competition participation

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References:

McCrory, P., Meeuwisse, W., Aubry, M., Cantu, B., Dvorak, J., ... Turner, M. (2013). Consensus statement on Concussion in Sport: The 4th International Conference on Concussion in Sport held in Zurich, November 2012. *Physical Therapy in Sport, 14*, e1-e13.

Pocket Concussion Recognition Tool, copyright Parachute Canada 2013.