



Synchro Swim Ontario Synchro-specific Concussion Guidelines 2016

These guidelines were developed from the latest Zurich Consensus Statement on Concussion in Sport (McCrory 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 Swim Ontario 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. Sample Return to Synchro Progress Tracking Form is attached (Appendix B).

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. 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)
 - Horizontal sculling
 - Ballet legs
 - Eggbeater and body boosts
 - Land-drill
- Athlete should not be in pattern
- 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

References:

McCorry, 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.

Prepared by:

Laura McClemont Steacy, MSc & Lynda Mainwaring, PhD C.Psych.

University of Toronto Concussion Lab

416-978-5307

www.concussion.utoronto.ca

APPENDIX A

Pocket CONCUSSION RECOGNITION TOOL

To help identify concussion in children, youth and adults



RECOGNIZE & REMOVE

Concussion should be suspected **if one or more** of the following visible clues, signs, symptoms or errors in memory questions are present.

1. Visible clues of suspected concussion

Any one or more of the following visual clues can indicate a possible concussion:

Loss of consciousness or responsiveness
Lying motionless on ground/Slow to get up
Unsteady on feet / Balance problems or falling over/Incoordination
Grabbing/Clutching of head
Dazed, blank or vacant look
Confused/Not aware of plays or events

2. Signs and symptoms of suspected concussion

Presence of any one or more of the following signs & symptoms may suggest a concussion:

- Loss of consciousness
- Seizure or convulsion
- Balance problems
- Nausea or vomiting
- Drowsiness
- More emotional
- Irritability
- Sadness
- Fatigue or low energy
- Nervous or anxious
- "Don't feel right"
- Difficulty remembering
- Headache
- Dizziness
- Confusion
- Feeling slowed down
- "Pressure in head"
- Blurred vision
- Sensitivity to light
- Amnesia
- Feeling like "in a fog"
- Neck Pain
- Sensitivity to noise
- Difficulty concentrating

© 2013 Concussion in Sport Group

3. Memory function

Failure to answer any of these questions correctly may suggest a concussion.

- "At what venue are we at today?"
"Which half is it now?"
"Who scored last in this game?"
"What team did you play last week / game?"
"Did your team win the last game?"

Any athlete with a suspected concussion should be IMMEDIATELY REMOVED FROM PLAY, and should not be returned to activity until they are assessed medically. Athletes with a suspected concussion should not be left alone and should not drive a motor vehicle.

It is recommended that, in all cases of suspected concussion, the player is referred to a medical professional for diagnosis and guidance as well as return to play decisions, even if the symptoms resolve.

RED FLAGS

If ANY of the following are reported then the player should be safely and immediately removed from the field. If no qualified medical professional is available, consider transporting by ambulance for urgent medical assessment:

- Athlete complains of neck pain
- Increasing confusion or irritability
- Repeated vomiting
- Seizure or convulsion
- Weakness or tingling/burning in arms or legs
- Deteriorating conscious state
- Severe or increasing headache
- Unusual behaviour change
- Double vision

Remember:

- In all cases, the basic principles of first aid (danger, response, airway, breathing, circulation) should be followed.
- Do not attempt to move the player (other than required for airway support) unless trained to do so
- Do not remove helmet (if present) unless trained to do so.

from McCrory et. al, Consensus Statement on Concussion in Sport. Br J Sports Med 47 (5), 2013

© 2013 Concussion in Sport Group



APPENDIX B

Return to Synchro Progress Tracker

Athlete Name: _____ **Date of Injury:** _____

Stage One: Physical and Cognitive Rest

Date Started: _____ **Date Completed:** _____

Comments: _____

Date of Medical Clearance: _____

Stage Two: Light Aerobic Exercise ($\leq 70\%$ Max HR)

Date Started: _____ **Date Completed:** _____

Activity Checklist:

Stationary Cycling

- 15 min
- 20 min
- 25 min
- 30+ min

Walking

- 15 min
- 20 min
- 25 min
- 30+ min

Kick

- 200m
- 400m
- 500m



Comments: _____

Stage Three: Synchro-Specific Activity

Date Started: _____

Date Completed: _____

Activity Checklist:

- Jogging
- Swimming (no turns)
 - Freestyle
 - Backstroke
 - Breaststroke
 - Butterfly
- Horizontal sculling
- Ballet legs
- Eggbeater
- Body boosts
- Land drill (no heads)

Comments: _____

Stage Four: Non-Contact Synchro Training Drills

Date Started: _____

Date Completed: _____

Activity Checklist:

- Flip turns
- Inverted Technical Drills
- Figure parts
- Routine parts (out of pattern)

Comments: _____

Stage Five: Full-Contact Synchro Practice

Date Started: _____

Date Completed: _____



Activity Checklist:

- Whole figures**
- Routine Swim-Throughs**
- Pattern Swimming**
 - Half laps**
 - Full laps**
 - Halves**
 - Full swim through**

Comments: _____

Stage 6: Full Return to Synchro

Date Reached: _____