

AMATEUR MUAY THAI ASSOCIATION (SINGAPORE) HEAD INJURY / CONCUSSION INFORMATION



What is a sport-related concussion?

Sport-related concussion (SRC) is a traumatic brain injury induced by biomechanical forces.

SRC may be caused either by a direct blow to the head, face, neck or elsewhere on the body with an **impulsive force transmitted to the head**.

SRC typically results in the rapid onset of **short-lived impairment of neurological function that resolves spontaneously**. However, in some cases, signs and symptoms evolve over a number of minutes to ours.

SRC may result in neuropathological changes, but the acute clinical signs and symptoms largely reflect a **functional disturbance** rather than a structural injury and, as such, **no abnormality is seen on standard structural neuroimaging studies** (ie. CT, MRI scans).

SRC results in a range of clinical signs and symptoms that **may or may not involve loss of consciousness**. Resolution of the clinical and cognitive features typically follows a sequential course. However, in some cases symptoms may be prolonged.

(Consensus statement on concussion in sport – the 5th international conference on concussion in sport held in Berlin, October 2016)

Return to sport after concussion

Concussion must be taken extremely seriously to safeguard the short and long-term health and welfare of fighters.

Recovery from concussion varies between individuals, hence return to sport should be individualized based on the individual's symptoms, rather than a pre-defined timeline. The majority of concussions resolve within a short period. Persistent post-concussive symptoms (ie. > 10-14 days in adults and > 4 weeks in youth) warrants a referral to a specialist healthcare professional, trained in managing concussions.

During the recovery period, the brain is more vulnerable to further injury. Returning to sport earlier than advised may result in:

- Prolonged concussion symptoms
- Possible long-term health consequences eg. Psychological and/or brain degenerative disorders
- Second Impact Syndrome ie. Fatality from brain swelling due to a subsequent concussive event

Rest

The first 48 hours post-injury should allow the fighter both physical and cognitive rest. Fighters are advised to avoid:

- Reading
- Watching television
- Use of mobile phones and computer games
- Driving

It is reasonable for a student to miss a day or two of academic studies but extended absence is uncommon.

Graduated Return to Play (GRTP) Protocol

Commencing the Graduated Return to Play protocol (GRTP) may begin when all symptoms at rest have resolved. Fighters are encouraged to seek clearance by a healthcare professional trained in concussion management or a doctor (for youth) before commencing the GRTP.

Fighters should follow the Graduated Return to Play (GRTP) progression to return to training and sport.

After the initial rest period of 48 hours, if all symptoms have resolved, fighters may commence Stage 1 of the GRTP. If symptoms remain present, fighters should spend more time at rest.

In youth athletes (under 18 years old), a more conservative approach is followed to return to sport. It is recommended that youth fighters spend a minimum of 14 days in Stage 1 after symptoms have ceased.

| STAGE | AIM | ACTIVITY | GOAL |
|-------|--|--|---|
| 1 | Symptom-limited activity *Minimum 14 days in Stage 1 for youth fighters | Daily activities that do not provoke symptoms. | Gradual reintroduction of work/school activities. |
| 2 | Light aerobic exercise | Walking or stationary cycling at slow to medium pace. No resistance training. | Increased heart rate. |
| 3 | Sport-specific exercise | Running, skipping, shadow-boxing. No head impact activities. | Add movement. |
| 4 | Non-contact training drills | Padwork. No head impact activities. May start progressive resistance training. | Exercise, coordination and increased thinking. |
| 5 | Full contact practice | Following medical clearance, participate in normal training activities. | Restore confidence and assess functional skills by coaches. |
| 6 | Return to sport | Normal training. | Return to normal sports |

In adults, a minimum period of 24 hours is required between stages. The fighter must be asymptomatic for 24 hours after each stage to progress to the next stage.

In youth fighters, a minimum period of 48 hours is required between stages. The fighter must be asymptomatic for 48 hours after each stage to progress to the next stage.

If any symptoms worsen during activity, the fighter should go back to the previous stage and repeat the process.

It is recommended that the fighter seeks medical clearance from a specialist sports physician or neurologist to confirm that he/she can participate in full contact training before entering Stage 5.

Fighters who have been concussed must be cleared to compete by a specialist sports physician or neurologist before they can be permitted to return to the ring. A written letter of approval from the physician must be produced to AMA(S). A rest period of 6 months away from competition is recommended to allow time for the brain to rest and recover.