

### WHAT IS A CONCUSSION?

A Sport-related concussion is a traumatic brain injury caused by a direct blow to the head, neck or body resulting in an impulsive force being transmitted to the brain that occurs in sports and exercise-related activities. Even a “ding,” “getting your bell rung,” or what seems to be a mild bump or blow to the head can be serious.

You can't see a concussion. Symptoms and signs may present immediately, or evolve over minutes or hours, and commonly resolve within days, but may be prolonged. If your child reports any symptoms of concussion, or if you notice signs yourself, seek medical attention right away, including school athletic trainer.

### WHAT ARE THE SIGNS AND SYMPTOMS?

Problems could arise over the first 24-48 hours. Watch for any of the following signs or symptoms of a concussion. Monitoring for deterioration is essential over this time period after injury. A suspected diagnosis of a concussion can include one or more of the following symptoms:

#### ***Signs observed by coaches, parents, or guardians:***

- Appears dazed or stunned
- Is confused about assignments or position
- Forgets instructions
- Is unsure of game, score, or opponent
- Moves clumsily
- Answers questions slowly
- Loses consciousness (even briefly)
- Shows behavior or personality changes
- Can't recall events prior to hit or fall
- Can't recall events after hit or fall

#### ***Symptoms reported by athlete:***

- Headache or “pressure” in the head
- Nausea or vomiting

- Balance problems or dizziness
- Double or blurry vision
- Sensitivity to light and/or noise
- Feeling sluggish, hazy, foggy, or groggy
- Concentration or memory problems
- Confusion

### HOME INSTRUCTIONS:

- Do not give your child any aspirin, Tylenol (acetaminophen), Ibuprofen, Advil or any other pain medication for the first 24 hours. It's important not to mask the presence of potential symptoms. After that period, only Tylenol (acetaminophen) should be used to decrease the headache pain.
- Waking your child up at night to check on them is not necessary.
- Your child should not drive a vehicle until cleared by a physician.
- Your child should avoid screen time on a phone, television, or computer and avoid loud music or noise.
- Your child can wear sunglasses if sensitivity to light is an issue.
- Your child should not participate in any physical activity including physical education at school until cleared to do so by a physician trained in concussion management.

### **Your child should be seen in an emergency department right away if she/he has or develops:**

- One pupil larger than the other
- A headache that gets worse
- Cannot be awakened
- Weakness, numbness, or decreased coordination
- Vomiting
- Convulsions or seizures
- Increased confusion, restlessness, or agitation
- Is unsteady on her/his feet
- Has slurred speech

Loss of consciousness (even brief loss of consciousness needs to be taken seriously)

## RETURN TO ACTIVITY GUIDELINES:

- Per Indiana Law, a student athlete who is suspected of sustaining a concussion or head injury and has been removed from play may not return to play until they are evaluated and receive written clearance by a licensed health care provider (MD, DO) trained in the evaluation and management of concussions and head injuries.
- This return to activity cannot be less than twenty-four (24) hours since the student athlete was removed from play.
- Student athlete needs to be attending school full-time without academic accommodations.
- Student athlete has completed a return to sport progression (usually with athletic trainer under MD/DO direction).

## GRADUATED RETURN TO LEARN STRATEGY

STEP	MENTAL ACTIVITY	ACTIVITY AT EACH STEP	GOAL
1	ADLs that do not result in more than mild symptom exacerbation.	Typical activities during the day while minimizing screen time. Start with 5-15min and increase gradually.	Gradual return to typical activities.
2	School activities	Homework, reading or other cognitive activities outside of the classroom.	Increase tolerance to cognitive work.
3	Return to school part-time	Gradual introduction of schoolwork. May need to start with a partial school day or with increased breaks during the day.	Increase academic activities.
4	Return to school full-time	Gradually progress school activities until a full day can be tolerated without more than a mild symptom exacerbation.	Return to full academic activities and catch up on missed work.

*\*Not all athletes will need an RTL strategy or academic support. This should be considered by clinician at time of diagnosis and during recovery process if symptoms exacerbation occurs with screen time or cognitive activity, or other aspects of learning such as memory and concentration.*

*RTL and RTS strategies can occur parallel but full RTL should be completed before unrestricted RTS (steps 4-6).*

## GRADUATED RETURN TO SPORT STRATEGY

An initial period of 24-48 hours of both relative physical and cognitive rest is recommended before beginning the RTP progression. There should be at least 24 hours (or longer) for each step of the progression. If ANY symptoms worsen during exercise, the athlete should go back to the previous step.

Resistance training should be added only in the later stages (stage 3 or 4 at the earliest). If symptoms are persistent (eg, more than 10-14 days in adults or more than 1 month in children), the athlete should be referred to a healthcare professional who is an expert in management of concussions.

STEP	AIM	ACTIVITY	GOAL
1	Symptom-limited activity	Daily activities that do not exacerbate symptoms.	Gradual reintroduction of work/school activities.
2	2A - Light ( $\leq$ ~55% max HR) 2B - Moderate ( $\leq$ 70% max HR)	Walking or stationary cycling at slow to medium pace. May start light resistance training that does not result in more than a mild and brief symptom exacerbation*.	Increase heart rate.
3	Individual sport-specific exercise (If sport specific training involves any risk of inadvertent head impact, medical clearance should occur prior to this step)	Sport-specific training away from the team environment (running, change of direction, individual training drills). No activities at risk of head impact.	Add movement, change of direction.

Steps 4-6 should begin after the resolution of any symptoms, abnormalities in cognitive function, and any other clinical findings related to the current concussion, including with and after physical exertion.

4	Non-contact training drills	Exercise to high intensity including more challenging training drills; can integrate into team environment.	Resume usual intensity of exercise, coordination and increased thinking.
5	Full contact practice	Participate in normal training activities.	Restore confidence and assess functional skills by coaching staff.
6	Return to sport	Normal game play.	

*\*Mild and brief exacerbation of symptoms (i.e., an increase of no more than 2 points on a 0–10-point scale for less than an hour when compared with the baseline value reported prior to physical activity). Athletes may begin Step 1 (i.e., symptom-limited activity) within 24 hours of injury, with progression through each subsequent step typically taking a minimum of 24 hours.*

*If more than mild exacerbation of symptoms (i.e., more than 2 points on a 0–10 scale) occurs during Steps 1–3, the athlete should stop and attempt to exercise the next day. Athletes experiencing concussion-related symptoms during Steps 4–6 should return to Step 3 to establish full resolution of symptoms with exertion before engaging in at-risk activities.*

Information provided is taken from:

- CDC Heads Up: Concussion in Youth Sports: [www.cdc.gov/sports/index.html](http://www.cdc.gov/sports/index.html)
- Indiana Code 20-34-7v

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