

Youth Sports Concussion Prevention and Response

A toolkit for school athletic programs and club sports

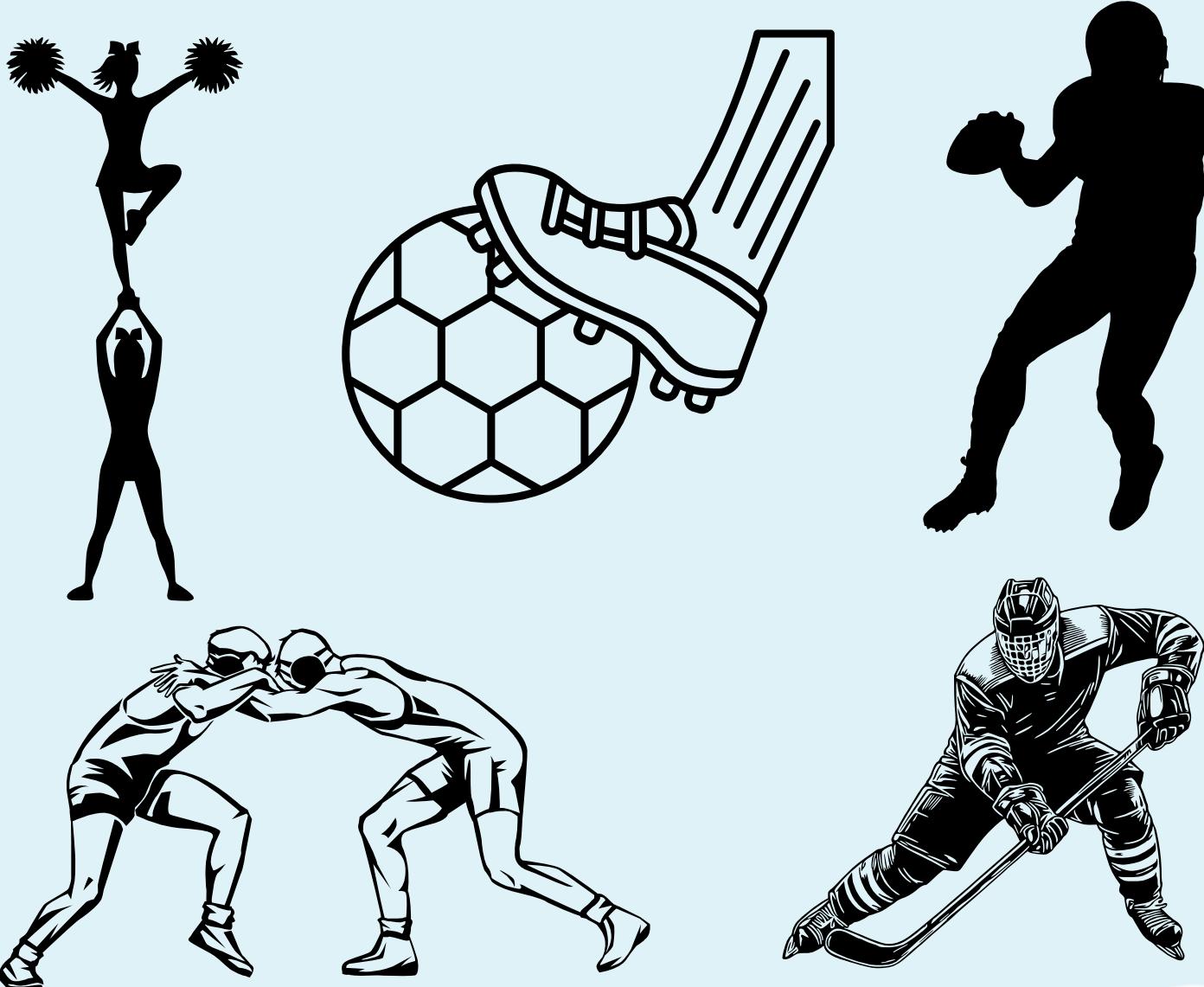


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Introduction

About this toolkit

Concussions are one of the most commonly reported injuries in children and adolescents who participate in sports and recreational activities. While many school districts and sports programs have concussion protocols in-place, we compiled additional resources that emphasize the importance of creating a culture of safety for sports programs. Concussion prevention and response requires a collaborative approach among coaches, athletic trainers, parents/guardians, teammates, and health care providers.

Resources in this toolkit are intended to supplement required concussion protocols for youth sports and are not a replacement. This toolkit can be used for trainings, and handout pages can be used as stand-alone educational tools.

Disclaimer: The information provided in this toolkit is for informational purposes only and is not intended as a substitute for professional medical advice, diagnosis, or treatment. Island County Public Health and Safe Kids Washington do not assume liability for information provided.

Legislation on sports concussions

To address serious injuries resulting from concussions, the Washington State Legislature passed the Zackery Lystedt Law (RCW 28A.600.190) in 2009. The Lystedt Law requires policies for the management of concussion and head injury in youth sports, aiming to mitigate serious effects of concussions through education, increased identification and reporting, and involvement of healthcare providers.

For public schools, each school district's board of directors works with the Washington Interscholastic Activities Association (WIAA) to adopt policies for concussion management in accordance with legislation.

To improve reporting by schools, starting in the 2022-2023 school year, Washington state law (RCW 28A.600.192) requires public schools to annually report information about each diagnosed concussion sustained by a student during athletic and other activities to the Washington State Department of Health. Legislative reports summarizing the data are available [online](#).

Prevent Concussions by Preventing Collisions

Enforce rules that limit contact and collisions

The most effective way to prevent a concussion is to minimize contact and restrict collisions by implementing and enforcing policies and rules designed to prevent collisions.

Limiting contact in practices and restricting collision time in practices in American football has led to a reduction in practice-related concussions. Disallowing body checks in child and adolescent ice hockey reduced concussion rates.

Referees and coaches need to have buy-in and prioritize safety. Rules need to be properly enforced for them to be effective.

The role of personal protective equipment

Personal protective equipment is an important part of injury prevention but should NOT be relied on to prevent concussions.

Helmets are designed to prevent skull fractures and other head injuries and are critical for player safety. While helmets can mitigate the force of a collision and may secondarily aid in concussion prevention, they cannot completely prevent concussions.

Mouthguards were associated with reduced concussion rates in ice hockey in a research study. Mouthguards are designed to prevent dental injury and need to be further evaluated regarding associations with reduced concussion rates.

A note on neuromuscular training warm-up programs

Neuromuscular training is a strength and fitness training method that combines sport-specific and fundamental movements, including resistance, balance, core strength, and agility, to improve skills and fitness. There is evidence that neuromuscular training warm-up programs reduce injuries, but more research is needed to evaluate the effectiveness on concussion prevention. In one promising research study, neuromuscular training warm-up programs are associated with reduced concussion rates in rugby but more evidence is needed, especially in other sports and for women athletes.

Pre-Game Safety Huddles

An underrecognized yet critical role of coaches is to create a culture of safety for their athletes and teams. Coaches can help lower an athlete's chance of getting a serious injury by building trust and prioritizing safety. Studies have shown that athletes who believe their coach wants them to report concussive symptoms are more likely to report. Immediate reporting of concussion symptoms allows for earlier evaluation and care, which is associated with earlier return to activity. One way to create a culture of safety is to implement pre-game safety huddles.



Pre-Game Safety Huddles



Forming safety huddles prior to games is a promising approach that may reduce the health impacts of concussions and may even lead to primary concussion prevention. Core components of pre-game safety huddles include:

- 1) Bringing athletes and coaches from both teams together before each game. Convening athletes in a collaborative rather than adversarial context can generate goodwill, humanize opponents, and emphasize the importance of fair play and sportsmanship, thus decreasing likelihood of actions leading to injuries.
- 2) Having coaches and other team leaders affirm safety-related messaging. Tools such as the myth busters or tips for teammates that are in this toolkit can be used to reinforce safety messages.
- 3) Reiterating to players the importance of reporting concussive symptoms immediately. Be positive and encouraging about reporting. Some players may not want to report because they do not want to be taken out and they don't want to let their teammates down.

[Concussion Space](#) provides guidance on leading pre-game safety huddles:

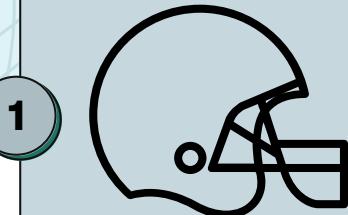
<https://concussionspace.org/index.php>

Creating a culture of safety: Tips for coaches

Pre-Season	<ul style="list-style-type: none">• Make sure equipment is functional, safe, and up-to-date.• Keep up with prevention strategies and trainings.• Update contact information for medical providers, school nurses, and others involved in caring for athletes after injuries.
Start of Season	<ul style="list-style-type: none">• Host an event to bring the team together so they can get to know you and other players.• Communicate with parents/guardians about importance of concussion reporting and encourage them to talk to their athletes about reporting in a positive way.• Develop and implement safety messages with the team. Be consistent to build trust with your team.
Throughout Season	<ul style="list-style-type: none">• Keep reminding athletes to report concussion symptoms and injuries. Immediate reporting of concussion symptoms allows for earlier evaluation and care, which is associated with earlier return to activity.• Find ways to practice without full contact plays and deliberate hitting when possible.• Use pre-game safety huddles to bring teams together before games.
Response	<ul style="list-style-type: none">• Remove players immediately after injury, especially if a concussion is suspected. This will limit the potential for additional trauma when the brain is more vulnerable.• Call 911 if there are red flag symptoms and EMS staff are not on-site.• Ensure athlete is assessed and connected with care. This requires communication with parents and guardians and health care providers.
Recovery	<ul style="list-style-type: none">• Stay in touch with athletes who are recovering by sending short updates so they feel included. If athletes feel isolated, this can affect their mental health.• Remind the team to get in touch with their teammate and share updates and positive messages.

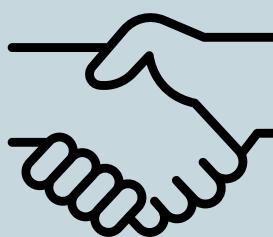
Concussion Prevention and Response

Tips for Coaches



Stay Updated

Make sure equipment is functional, safe, and up-to-date. Keep up with prevention strategies and trainings.



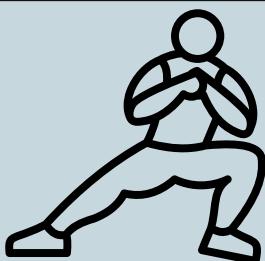
Build Trust

Communicate with positive, consistent messaging and encourage reporting. If athletes believe their coaches want them to report symptoms, they are more likely to do so.



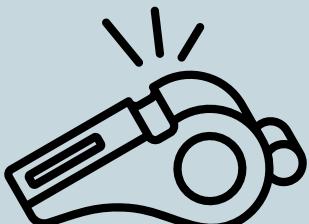
Prioritize Safety All Season

Integrate safety education during practice sessions and before games to remind players that safety is a priority.



Focus on Skills, Minimize Contact

Teach proper technique with drills focused on honing skills and find ways to practice without full contact plays and deliberate hitting.



Act Fast

Remove players immediately after injury, especially if a concussion is suspected. This will limit the potential for additional trauma when the brain is more vulnerable.

Concussion Prevention and Response

Tips for Teammates

1



Know signs and symptoms

Make sure you know signs and symptoms so you can watch out for yourself and your teammates. It is especially important to know red flag symptoms to help prevent serious health impacts.

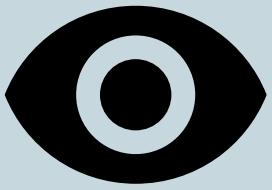
2



Encourage speaking up

Your teammates might not want to report potential concussion symptoms because they don't want to let the team down. Let teammates know reporting immediately is important and okay.

3



Watch out for your team

It is on everyone to make sure no one plays with a concussion. Talk with your teammates about reporting immediately. Playing with a concussion can lead to more serious injury and longer recovery times.

4



Respect the other team

Respect the game by emphasizing the importance of fair play and sportsmanship. Remember the opposing team is made of people like you and your teammates.

5



Reach out

Get in touch with teammates who are recovering and let them know they are not alone. Teammates who are temporarily out of school and sports may feel isolated.

Concussion Myth Busters

MYTH

Concussions are not serious.

Concussions only happen with a blow to the head.

An injury is a concussion only if the patient blacks out (loses consciousness).

Concussion patients should be awakened every few hours after injury.

Concussion patients should avoid all screens including cell phones, tablets, and computers while recovering.

Concussion patients should not attend school until they feel better.

Physical activities should not be allowed until concussion symptoms resolve.

FACT

Concussions are serious and cause serious health effects. Seeking care early leads to shorter recovery times.

A direct blow to the head OR body that results in force transmitted to the head can cause a concussion.

Concussion symptoms can be different for everyone. Over 90% of people who get a concussion do not lose consciousness.

After being stable for 4-6 hours, concussion patients should rest for the first 24-48 hours and follow their doctor's guidance.

Screens can be used in moderation to maintain social interactions.

Concussion patients can go to school as long as symptoms don't get worse. They may need some accommodations.

Light physical activity is recommended after an initial rest period, following a doctor's guidance.

Concussion Myth Busters

MYTH

You must be hit on the head to have a concussion.

You have to lose consciousness to have a concussion.

You must have imaging of your brain after having a concussion.

Wearing a helmet will prevent concussion.

The symptoms of a concussion begin right away.

Once an athlete's headache is gone they can return to their sport.

FACT

Any force to the body which is transmitted to the head can cause a concussion. One example is whiplash injury of the neck.

Over 90% of people who get a concussion do not lose consciousness.

Your doctor will tell you if imaging is needed. CT scans and MRIs will not show a concussion.

Wearing helmets and other protective equipment may protect you from more serious injuries, but no equipment can eliminate the risk of concussion.

Not all concussion symptoms develop immediately. Many will develop over the hours after a concussion. This is why it is important to stop playing and get evaluated by a doctor.

Headaches are one of many symptoms of a concussion. There are other symptoms that can persist once a headache has resolved. An athlete should only be cleared to return to sport by a qualified doctor.

Concussion Signs and Symptoms

When in Doubt, Sit It Out

If you have signs of a concussion, get evaluated right away. Symptoms may not appear right away, and can worsen over time.

Physical

- Headache
- Feeling of head pressure
- Nausea or vomiting
- Blurred, double, or fuzzy vision
- Dizziness or difficulty with balance
- Sensitivity to light or noise

Mental

- Confusion
- Difficulty concentrating
- Problems remembering
- Repeating the same question or comment
- Feeling foggy
- Feeling sluggish

Emotional

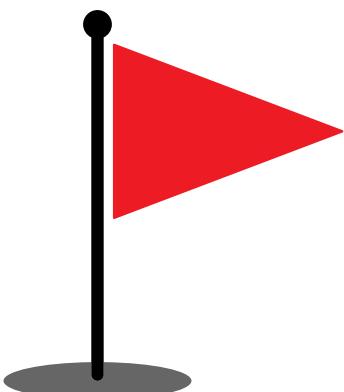
- Extreme highs and lows
- New irritability, moodiness, sadness, or anxiety
- Nervousness
- Don't feel right

Sleep

- Difficulty falling or staying asleep
- Sleeping more or less than usual
- Drowsiness
- Fatigue

Red Flags

Seek emergency care if someone has these symptoms:



- Neck pain or tenderness
- Seizure or convulsion
- Double vision
- Loss of consciousness
- Weakness, tingling, or burning in more than one arm or in the legs
- Deteriorating conscious state
- Vomiting
- Severe or increasing headache
- Increasingly restless, agitated or combative GCS < 15
- Visible deformity of the skull

Resources

National Federation of State High School Associations (NFHS) and CDC Heads Up Courses

For students: <https://nfhslearn.com/courses/concussion-for-students>

For coaches: <https://nfhslearn.com/courses/concussion-in-sports-2>

CDC HEADS UP resources for youth, parents, coaches, athletic trainers, and health care providers: <https://www.cdc.gov/heads-up/site.html>

InfoCabeza aims to provide parents with the tools and knowledge to support their child-athlete to recognize, report and recover from concussion. Available in Spanish and English:

<https://infocabeza.org/learn/>

Concussion Space provides guidance for coaches on leading pre-game safety huddles:

<https://concussionspace.org/index.php>

Brain Injury Association of Michigan handouts for students: [https://www.biiami.org/brain-injury/on-site-concussion-assessment/](https://www.biами.org/brain-injury/on-site-concussion-assessment/)

National Collegiate Athletic Association Concussion Safety Protocol Templates can be adapted to middle and high school settings to support concussion safety efforts:

<https://www.ncaa.org/sports/2018/7/16/concussion-safety-protocol-template.aspx>

Washington Interscholastic Activities Association (WIAA) has concussion management resources for school districts that meet Washington State requirements:

<https://www.wiaa.com/health-wellness/#Concussion%20Management>

For school personnel or contracted athletic trainers required to report student concussions, use the Washington State Department of Health Student Head Injury Information Reporting Tool (SHIRT) to report all diagnosed concussions of students participating in athletics or other school activities.

SHIRT form: <https://forms.office.com/g/F3h2j9sWZD>

University of Calgary Sport Injury Prevention Research Centre (SIPRC) SHRed Concussions (Surveillance in High School and Community Sport to REDuce Concussions) developed evidence-informed neuromuscular training warm-up programs to reduce injury in sports:

<https://www.ucalgary.ca/shred-injuries>

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<https://www.dshs.wa.gov/altsa/traumatic-brain-injury/washington-traumatic-brain-injury-strategic-partnership-advisory-council>

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