

When a concussion occurs:

“Any school athlete who has been removed from a sport competition or practice session shall not return to competition or practice until the athlete is evaluated by a health care provider licensed by the state board of healing arts to practice medicine and surgery (MD/DO) and the health care provider provides such athlete a written clearance to return to play or practice.” – [Kansas House Bill 2182 - 2011]



Check list for getting athlete back into the game.

Once an athlete has experienced any type of potential head injury:

1. Remove athlete from all activity.
2. Activate the enclosed concussion protocol.
 - Start use of SCORE Card 1 (Athlete’s Symptoms) and SCORE Card 2 (Medical Assessment).
 - Contact parent/guardian.
 - Give Education Guides to parent/guardian and student athlete to review.
 - Distribute Education Guides to appropriate personnel (coach, athletic trainer, school, physician).
 - Activate School Concussion Team to coordinate Return to Learn Classroom Rx (SCORE Card 3).
3. Refer athlete for evaluation by a MD/DO.
 - Send SCORE Cards 1 and 2 directly to athlete’s physician or through parent/guardian.
4. MD/DO authorizes athlete to start Warm-up to Play (SCORE Card 4). **It’s the Law!**
 - Start Warm-up to Play progression (SCORE Card 4).
 - Return athlete to full activity if Warm-up to Play is completed symptom free.

Athlete: _____

Parent/Guardian Contacted: Name _____ Date _____

Notes: _____



Kansas Sports Concussion Partnership

A project sponsored by Kansas Medical Society

Concussion Packet

A game plan for the education, recognition and management of sports related head injuries.

Download additional packets and link to educational resources at:

www.KansasConcussion.org

Name _____ M F Birthdate _____ Date of Injury _____
 Sport/Team/School _____ Phone _____
 Parent/Guardian Contacted _____ Phone _____
 Initial Examiner _____ Phone _____
 Primary Care Physician _____ Phone _____
 Concussion Management Team Leader _____ Phone _____



This SCORE Card must be filled out each time you see a physician for a concussion. Kansas law requires a physician's authorization to get you "back in the game."

Symptom Evaluation		1	2	3	4	5	6	7	8	9	10	11	12	13	14
How do you feel now? Score the symptoms:															
none mild moderate severe 0 1 2 3 4 5 6															
Exam Date: _____															
By: _____															
PHYSICAL	1. Headache														
	2. Pressure in head														
	3. Neck pain														
	4. Nausea or vomiting														
	5. Dizziness														
	6. Blurred vision														
	7. Balance problems														
	8. Sensitivity (light)														
	9. Sensitivity (noise)														
	10. Fatigue or low energy														
	11. Don't feel right														
COGNITIVE	12. Feeling slowed down														
	13. Feeling like in a fog														
	14. Difficulty concentrating														
	15. Difficulty remembering														
	16. Confusion														
EMOTIONAL	17. More emotional														
	18. Irritability														
	19. Sadness														
	20. Nervous or anxious														
SLEEP	21. Drowsiness														
	22. Trouble falling asleep														

FOR OFFICE USE ONLY

1	Total # of Symptoms (22 max.)														
	Symptom Severity Score (132 max.)														
2	Total # of Balance Errors (30 max.)														
	F-to-N Coordination Task (1 max.)														
	Total Cognition Score (30 max.)														

If accommodations in school are necessary, go to **Classroom Rx Form 3** to direct their **Return to Learn** progression.

When the student athlete is symptom-free, with normal exams, and attending school without difficulty, consider clearing the athlete to start the **Warm-up to Play** using **Release Form 4**.

Name _____ M F Birthdate _____ Date of Injury _____

Sport/Team/School _____ Initial Examiner _____

Prior Concussions: How many? _____ Most Recent: Date _____ Length of Recovery _____

- | | |
|---|---|
| Yes No | Yes No |
| <input type="checkbox"/> <input type="checkbox"/> Ever been hospitalized or had MRI for a head injury? | <input type="checkbox"/> <input type="checkbox"/> Has any family member had a history of depression, migraines or psychiatric disorder? |
| <input type="checkbox"/> <input type="checkbox"/> Ever been diagnosed with headaches or migraines? | <input type="checkbox"/> <input type="checkbox"/> Do you suffer from neck pain? |
| <input type="checkbox"/> <input type="checkbox"/> Ever experience motion sickness? | Range of Motion _____ |
| <input type="checkbox"/> <input type="checkbox"/> Do you have a learning disability or dyslexia? | Tenderness _____ |
| <input type="checkbox"/> <input type="checkbox"/> Ever been diagnosed with ADD/ADHD, depression, anxiety or other psychiatric disorder? | Upper & Lower Limb sensation/strength _____ |
| <input type="checkbox"/> <input type="checkbox"/> Are you taking prescription medication for any of these? | |



Exam Date: _____
By: _____

Cognition/Balance Assessment 1 2 3 4 5

ORIENTATION Read these questions and check box if answered correctly: What month is it? What is today's date?
 What day of the week is it? What year is it? What time is it now (within 1 hour)?
Score 1 point for each correct response (checked box). 5 points possible. **Orientation Score**

	1	2	3	4	5
	/5	/5	/5	/5	/5

IMMEDIATE MEMORY Read a list of five words and have athlete repeat back as many words as can be remembered, in any order. Repeat the same list again for the second and third trials. Have athlete repeat back as many words as can be remembered in any order, even if they said the word before. Complete all 3 trials regardless of score on trials 1 & 2. Read the words at a rate of one per second.

	Exam 1	Exam 2	Exam 3	Exam 4	Exam 5	
	Elbow	Candle	Baby	Finger	Basket	
	Apple	Paper	Monkey	Penny	Hammer	
	Carpet	Sugar	Perfume	Blanket	Orange	
	Saddle	Sandwich	Sunset	Lemon	Stick	
	Bubble	Wagon	Iron	Insect	Plant	
Trial I	/5	/5	/5	/5	/5	/5
Trial II	/5	/5	/5	/5	/5	/5
Trial III	/5	/5	/5	/5	/5	/5
Immediate Memory Score	/15	/15	/15	/15	/15	/15

Score 1 point for each correct response. 5 points possible for each trial. Total equals sum of all 3 trials. (15 pts. possible)

CONCENTRATION

A. Read a string of digits at a rate of one per second. Have athlete repeat back the list of numbers in reverse order. If correct, score one point and go to next trial with one additional digit. If incorrect, score zero for that trial and subsequent trials.

	Exam 1	Exam 2	Exam 3	Exam 4	Exam 5	
	4-9-3	6-2-9	5-2-6	4-1-5	1-7-3	
	3-8-1-4	3-2-7-9	1-7-9-5	4-9-6-8	6-2-9-5	
	6-2-9-7-1	1-5-2-8-6	3-8-5-2-7	6-1-8-4-3	4-7-2-6-1	
	7-1-8-4-6-2	5-3-9-1-4-8	8-3-1-9-6-4	7-2-4-8-5-6	6-1-3-7-2-9	
Trial I	/1	/1	/1	/1	/1	/1
Trial II	/1	/1	/1	/1	/1	/1
Trial III	/1	/1	/1	/1	/1	/1
Trial IV	/1	/1	/1	/1	/1	/1
Total Concentration Score	/5	/5	/5	/5	/5	/5

B. Have athlete recite months of year in reverse order: Dec-Nov-Oct-Sept-Aug-Jul-Jun-May-April-Mar-Feb-Jan

A. Score 1 pt. if entire sequence per trial is correct. (4 pts. possible) Digits Backward Total

B. Score 1 pt. if entire sequence is correct. (1 pt. possible) Months in Reverse Order

BALANCE ERRORS Remove shoes, roll up your pant legs above the ankle (removing ankle taping). This test will consist of three, 20-second timed tests from different stances.

I. Double Leg Stance: Stand feet together, with hands on hips and eyes closed. Maintain stability for 20 seconds. Count number of times that person moves out of that position.

II. Single Leg Stance: Stand holding dominant leg off the floor a few inches and maintain stability for 20 seconds with hands on hips and eyes closed. Count number of times athlete moves out of that position. If they stumble, have them open eyes and return to the start position and continue balancing. Start timing when they are set and have their eyes closed.

III. Tandem Stance: Stand heel-to-toe with non-dominant foot in back. Weight is evenly distributed across both feet. Maintain stability for 20 seconds with hands on hip and eyes closed. Count number of times athlete moves out of that position. If they stumble out of this position, have them open eyes and return to the start position and continue balancing. Start time when they are set and eyes are closed.

Begin counting errors only after the athlete has assumed the proper start position. Score each stance test individually by counting the number of accumulated errors with a maximum of 10 errors per stance. If athlete commits multiple errors simultaneously, only one error is recorded but they must quickly return to the testing position, and counting resumes once they are set. If unable to maintain the stance for a minimum of 5 seconds, assign 10 errors.

Dominant Foot: Left Right
Testing Surface: _____

Types of Balance Errors:

- Hands lifted off iliac crest
- Opening eyes
- Step, stumble, or fall
- Moving hip into > 30° abduction
- Lifting forefoot or heel
- Remaining out of test position longer than 5 seconds

Stance I: # of Errors (10 max.)					
Stance II: # of Errors (10 max.)					
Stance III: # of Errors (10 max.)					
Total # Balance Errors (30 max.)					

Transfer total to athlete's SCORE Card 1.

FINGER-TO-NOSE COORDINATION TASK With athlete seated and either arm outstretched and index finger pointed out, have athlete touch finger to tip of nose and return to starting position. Perform five successive repetitions as quickly and accurately as possible. Score 1 pt. with 5 correct repetitions in < 4 seconds

Transfer total to athlete's SCORE Card 1. **Total F-to-N Coordination Task (1 max.)**

	1	1	1	1	1
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DELAYED RECALL Repeat back as many words as can be remembered from the group of 5 words from the Immediate Memory question above. Score one point for each word remembered (5 points possible). **Delayed Recall Score**

	/5	/5	/5	/5	/5
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TOTAL COGNITION SCORE Add individual (+) scores and transfer total to SCORE Card 1. (30 pts. possible) **TOTAL**

	/30	/30	/30	/30	/30
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Name _____ M F Birthdate _____ Date of Injury _____
 Sport/Team/School _____ Phone _____
 Primary Care Physician _____ Phone _____
 Concussion Management Team Leader _____ Phone _____



When can the student-athlete return to school? It will depend on the individual. Every student's injury and recovery is unique and requires careful observation from parents and doctors. Promote recovery and prevent ongoing symptoms by following a Return to Learn plan like the one below. The physician will customize a plan to allow recovery at student's own pace.

Schools should identify a team leader to work with each student-athlete who sustained a concussion to facilitate a safe return to learn. This identified team leader should establish a communication system between the physician, athletic trainer, school administrators, teachers, coaches, school nurse, school counselor and any other members.

STUDENT MAY NOT ATTEND SCHOOL AT THIS TIME. Student may not attend class and should not work on homework assignments, reading projects, etc. This includes no extracurricular activities, such as all athletic activity, weightlifting, gym class, band, music, debate, etc. Continue to limit at-home activities that can worsen symptoms, such as loud music, television, computer screen time, texting, etc.

PARTIAL SCHEDULE & ACCOMMODATIONS. Student may attend school with a partial class schedule. Work with the student to help determine the most appropriate schedule. Classes should be prioritized and not worsen symptoms. Special accommodations may be required to limit symptoms (e.g. longer time period to take exams, postponing research papers, quiet studying in the library, etc.) Homework should be limited during this time. Participation in all athletic activity, weightlifting, gym class, and extracurricular activities is still fully restricted.

FULL SCHEDULE & ACCOMMODATIONS. Student may participate in a normal classroom schedule, but will still require some accommodations, depending on their current symptoms. Continue to work with the student to identify any specific classroom activities that could be worsening symptoms. Student may be able to participate in band and music class if this does not worsen concussions symptoms. All athletic activity, weightlifting and gym class is still not allowed, but the student can start to participate in non-athletic extracurricular activities as tolerated.

Classroom options while student has not achieved 100% cognitive recovery could include:

- Offer a tutor, reader, or a note taker to assist with performance in the classroom.
- Give an extended period of time to complete quizzes, tests, papers, etc.
- Allow classroom attendance but postpone tests, quizzes, papers, etc. until cognitive function has improved.
- Offer accommodations to minimize noisy/stimulating environments or allow them preferential seating in the classroom

Gradually increase school participation and independence as tolerated by the student. Goal is to re-achieve full return to school without modification.

NORMAL CLASSROOM. Student is **NOT** allowed to participate in any physical activity, such as weights, jogging, drills, practice or games. The athlete is **NOT** cleared to start "Warm-up to Play" but may fully participate in normal classroom activities. Work with the student to ensure a classroom "catch-up" plan is in place, if necessary.

Do NOT allow student to participate in the following:

- PE class
- Weightlifting
- Band or Music
- Wood shop or Metal shop
- Debate and Forensics
- Homework
- Exams or Quizzes
- Research Papers
- Computer Use
- Videos or Movies
- Other: _____

Please accommodate the student in the classroom by:

- Extending test time
- Allowing quiet work time (in library, for example)
- Creating a planner with assignments, due dates, etc.
- Providing a tutor
- Creating an individualized learning plan
- Other: _____

Once participation in the classroom is normal and all concussion symptoms have resolved, physician should use 4 if authorization for Warm-up to Play can be safely started. Once the Warm-up to Play progression is fully completed without return of symptoms, the student will be cleared for all athletic activity, weightlifting and gym class without restrictions.

Concussion symptoms may develop within days after a head injury. The patient should continue to be observed for any new symptoms.

Medical Professional Signature: _____ Date _____

Scheduled Follow-up Date _____

Notes: _____

Name _____ M F Birthdate _____ Date of Injury _____
 Sport/Team/School _____ Phone _____
 Primary Care Physician _____ Phone _____
 Concussion Management Team Leader _____ Phone _____



An athlete's return to his/her sport will be a step-by-step process. Once the athlete has no symptoms or signs of concussion and is doing well in school and daily activities, a physician (MD/DO) will sign this form allowing the athlete to start the progression back to play. This will be monitored by a coach, athletic trainer or designated school official.

Athlete should spend a minimum of 30 minutes on each step. Athlete must wait 24 hours before progressing to the next step and remain completely symptom-free. STOP IMMEDIATELY if there is any return of signs/symptoms and report this right away. Go back to rest for the day, refrain from activities including bike riding, skateboarding, playful wrestling, etc. The following day — only if symptom free— athlete may repeat step that was previously symptom-free and resume progression. If symptoms persist or worsen for more than a day, please notify the physician.

Physician Release to Start Warm-up to Play. Proceed to Step 1.

This patient has had an injury to the head. Patient may "Return to Play" after normal classroom full participation is achieved and successfully completing Steps 1 through 4 of the "Warm-up to Play" below. Symptoms of concussion may develop within days after a head injury. Patient should continue to be observed for any new symptoms.

Physician Signature _____ Date _____

Step 1. Light aerobic exercise, including walking or riding an exercise bike. No weightlifting. (*increase heart rate*)

Step 1 completed successfully.
 Athlete reports no return of symptoms after 24 hours. Coach/Athletic Trainer _____ Date _____
 Okay to proceed to Step 2. Notes: _____

Step 2. Running in a gym or on the field. No helmet or equipment should be used. (*add movement*)

Step 2 completed successfully.
 Athlete reports no return of symptoms after 24 hours. Coach/Athletic Trainer _____ Date _____
 Okay to proceed to Step 3. Notes: _____

Step 3. Non-contact training drills and full equipment. Start light resistance training or light weight training. (*add coordination and cognitive load*)

Step 3 completed successfully.
 Athlete reports no return of symptoms after 24 hours. Coach/Athletic Trainer _____ Date _____
 Okay to proceed to Step 4. Notes: _____

Step 4. Full contact training under the supervision of the coach/athletic trainer. (*restore confidence and assess functional skills*)

Step 4 completed successfully.
 Athlete reports no return of symptoms after 24 hours. Coach/Athletic Trainer _____ Date _____
 Okay to "Return to Play." Notes: _____

Return to Play

Student may fully Return to Play if all the above steps were successfully completed without return of any symptoms. This includes full participation in live competition or practice. Symptoms of concussion may develop within days after a head injury. Patient should continue to be observed for any new symptoms.

Quick Facts >

1. ALWAYS remove athletes immediately after suspecting a concussion. Do NOT allow return to play the same day with a concussion.
2. Athletes do NOT have to be knocked out to have a concussion. 90% of concussions occur without a loss of consciousness.
3. CT scans don't diagnose concussions. Everyone with a concussion has a normal CT scan.
4. It is OK to let someone fall asleep after being hit in the head. With careful monitoring, rest and sleep will be helpful.
5. "Warm Up for Return" is a graded process that requires a minimum of five days.
6. 9 out of 10 athletes will be back to normal within two weeks. They may miss a few games.
7. Kansas law requires a physician's signature (MD/DO) to "Return to Play."
8. Athletes who return to full contact too early risk Second Impact Syndrome, a rare but devastating brain injury that may result in death.
9. Concussions can affect driving, school work, sleep, emotions, relationships and self worth.
10. The "game plan" is not just about returning an athlete to their sport; it is about returning the person back to their life.

Recognition >

SIGNS OBSERVED BY OTHERS

- Appears dazed or stunned
- Is confused about assignment
- Forgets plays
- Is unsure of game, score or opponent
- Moves clumsily or has slurred speech
- Answers questions slowly
- Loses consciousness
- Shows behavior or personality changes
- Cannot recall events prior to hit
- Cannot recall events after hit

SYMPTOMS REPORTED BY YOU

- Headache
- Nausea or vomiting
- Balance problems or dizziness
- Double or fuzzy vision
- Sensitivity to light or noise
- Feeling sluggish or drowsy
- Feeling foggy or groggy
- Concentration or memory problems
- Confusion

Definition >

A **concussion** is the most common form of head injury suffered by athletes. It is a form of traumatic brain injury that occurs when the brain is violently jarred back and forth or rotated inside the skull as a result of a blow to the head or body. This can "stun" the brain cells or even result in their death. You **do not** need to lose consciousness to suffer a concussion.

Any athlete in motion is at risk for a concussion. This may occur in any sport, to boys and girls alike. Symptoms may appear immediately or develop over several days. They may last a few days to several months and interfere with schoolwork and social life.

Management >

How do I know if I have a concussion?

If you have any of the signs or symptoms listed under the "Recognition" section of this guide, then you may have a concussion. Don't ever play through a concussion because it's not worth the risk to your health and your life.

What do I do if I think I might have a concussion?

Stop playing right away! Don't ignore a bump, blow or jolt to your head. Tell a referee, coach or athletic trainer about your symptoms. You should be immediately removed from practice or the game to avoid further injury. If symptoms develop at home or school, immediately tell a parent/guardian, teacher or coach.

What happens when I report a possible concussion?

An athletic trainer, coach, EMT/paramedic or physician will evaluate you as soon as you report your symptoms. If there are not qualified health care professionals available at your practice or game, you need to call your doctor or go to the Emergency Department as soon as possible. If you do have a concussion, you will not be able to play your sport until cleared by a physician.

What do I need to do while I continue to have symptoms of a concussion?

- Rest as much as possible. You may need frequent naps during the first few days after your injury.
- Avoid places with bright lights or loud noise and activities that stimulate your brain because mental rest is vital to your recovery. Eliminate or reduce watching television or movies, texting, reading, playing video games and browsing on a computer.
- Do not perform any physical activities, such as weightlifting, riding a bike, jogging, practice drills or other types of exercise.
- Stay home or only attend partial days if schoolwork makes your symptoms worse. Talk to your teachers. You may require more time to complete assignments and take tests, need written instructions for homework or need information repeated. Visit the school nurse if you have headaches.
- Do not drive because the symptoms from a concussion can slow your reaction times and lead to an accident.
- The more aggressively you rest your brain, the sooner you should heal from a concussion.

How often do I need to see the doctor?

This will vary depending on the situation. If your symptoms are severe, the physician may want to see you on a daily basis for a few days. You may only have to go into the physician's office once a week. A physician must sign a written clearance form that you will take to school that says you are allowed to participate in full contact practice again. This is now a state law in Kansas.

SCORE Card >

The first health care professional that evaluates you will fill out a concussion evaluation tool called a **SCORE Card**. If this first person is not your physician who you will visit during recovery, make sure you get a copy of **SCORE Card 1** to take to your physician appointment. This will contain important information that your physician will use to monitor your progression and return you to the game as soon as possible.

Return to Play >

When can I start playing my sport again?

Only consider starting the Warm Up to Play progression once you are fully participating in school again without any symptoms. Returning to your sport will be a step-by-step process. Once you have no symptoms or signs of concussion and achieve normalized results on **SCORE Card 2**, a medical authorization will start your **Warm Up to Play 4**. This process should be monitored by an athletic trainer, coach or designated school official.

Once you successfully complete the progression back to play, you will be authorized to start the "Warm up to Play." At any time that you do not feel quite right, tell your doctor, parent, coach or athletic trainer immediately.

After I am symptom-free, what is the progression back to play?

Think of this progression as a warm up for return to your sport. Taking at least 24 hours for each step before moving on to the next step is recommended.

If any symptoms recur, report this right away and stop and rest for the day. You must be completely symptom-free before starting the progression again.

- Step 1.** Light aerobic exercise, including walking or riding an exercise bike. No weightlifting.
- Step 2.** Running in a gym or on the field. No helmet or equipment should be used.
- Step 3.** Non-contact training drills and full equipment. Start light resistance training or light weight training.
- Step 4.** Full contact training under supervision of coach/athletic trainer.
- Step 5.** Return to competition or game play.

You must be seen by a physician (MD/DO) during the warm up progression to be legally released for return to competition or practice.

Concerns >

What are possible complications from a concussion?

While 90% of athletes are back to their baseline within 7-10 days, there are 10% of athletes who will experience prolonged symptoms or other complications.

This is called **Post-Concussive Syndrome** and occurs when symptoms from a concussion are prolonged. Difficulty with concentration, memory and persistent headaches are common symptoms.

Talk with the physician if symptoms last longer than a couple of weeks. A referral to a specialist for further evaluation and treatment may be required.

What might happen if the athlete returns to his/her sport too soon?

If an athlete receives another blow while still recovering from a first concussion, he/she could develop **Second Impact Syndrome**. This syndrome can cause serious life-long health difficulties or, in rare situations, even result in death.

This possibility is a major reason why health care professionals are concerned about carefully treating any concussion. While the brain is still healing, it may not be able to compensate and protect itself from a new injury.

Better to miss a game or two than
the whole season or your whole life!

Other Resources >

Kansas Law: www.kslegislature.org/li/b2011_12/year1/measures/hb2182/

KSHSAA Guidelines: www.kshsaa.org/Public/General/ConcussionGuidelines.cfm

Centers for Disease Control and Prevention: www.cdc.gov/concussion/HeadsUp/youth.html

Kansas Sports Concussion Partnership: www.kansasconcussion.org

A project sponsored by



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2. Athletes do NOT have to be knocked out to have a concussion. 90% of concussions occur without a loss of consciousness.
3. CT scans don't diagnose concussions. Everyone with a concussion has a normal CT scan.
4. It is OK to let someone fall asleep after being hit in the head. With careful monitoring, rest and sleep will be helpful.
5. "Warm Up for Return" is a graded process that requires a minimum of five days.
6. 9 out of 10 athletes will be back to normal within two weeks. They may miss a few games.
7. Kansas law requires a physician's signature (MD/DO) to "Return to Play."
8. Athletes who return to full contact too early risk Second Impact Syndrome, a rare but devastating brain injury that may result in death.
9. Concussions can affect driving, school work, sleep, emotions, relationships and self worth.
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PARENT'S CONCUSSION GUIDE

Definition >

A **concussion** is the most common form of head injury suffered by athletes. It is a form of traumatic brain injury that occurs when the brain is violently jarred back and forth or rotated inside the skull as a result of a blow to the head or body. This can "stun" the brain cells or even result in their death. You **do not** need to lose consciousness to suffer a concussion.

Any athlete in motion is at risk for a concussion. This may occur in any sport, to boys and girls alike. Symptoms may appear immediately or develop over several days. They may last a few days to several months and interfere with schoolwork and social life.

Management >

What do I do if I suspect my child has a concussion?

Pull your child out of practice or the game immediately to avoid further aggravating the injury. Look for signs or symptoms listed under the "Recognition" section of this guide and report them to an athletic trainer, coach, EMT/paramedic or physician who will evaluate your child. If your child has a concussion, he/she will not be able to participate in practice or a game until cleared by a physician (MD/DO) as required by Kansas law.

When does my child need to visit the Emergency Room?

Take your child to an Emergency Department if instructed to by the athletic trainer, coach, EMT/paramedic or physician who evaluated your child. If no qualified health professional is available to conduct an evaluation or if you have concerns about monitoring your child at home, proceed to an Emergency Department as soon as possible.

If the athlete is at home when severe symptoms appear, such as vomiting, severe headache, difficulty answering simple questions, loss of consciousness or seizures, proceed immediately to an Emergency Department for evaluation.

What should I watch for at home?

- If your child is at home when you first recognize any symptoms listed under the "Recognition" section of this guide, immediately consult a physician so your child can be evaluated.
- After your child has been evaluated and returned home, **pay attention to see if symptoms worsen** and report them to a physician or proceed to the closest Emergency Department.

How should I care for my child who still has symptoms of a concussion?

- Encourage your child to rest as much as possible. He/she may need frequent naps during the first few days after the injury. The more aggressive your child rests the brain, the sooner healing will occur.
- Your child should avoid places with bright lights or loud noise and activities that stimulate the brain because mental rest is vital to recovery. Eliminate or reduce watching television or movies, texting, reading, playing video games and browsing on a computer.
- Do not allow your child to perform any physical activities, such as weightlifting, riding a bike, jogging, practice drills or other types of exercise.
- Do not allow your child to drive because the symptoms from a concussion can slow his/her reaction times and lead to an accident.
- After your child has been evaluated, make sure a medical follow-up plan is in place.

Does my child need to stay home from school?

If schoolwork makes your child's symptoms worse, he/she should stay home or only attend partial days. While at school, your child may require more time to complete assignments and take tests, need written instructions for homework or need new

information repeated. Written assignments and/or tests may need to be delayed. Discuss these issues with your physician, teachers and school officials and develop a plan to help your child fully recover physically, mentally and academically. Encourage your child to visit the school nurse if he/she has headaches at school. Finally, communicate often with your school's concussion management team during your child's recovery. For more information, consult KSCP's Return-To-Learn Safe Progression guide.

How often do we need to see the doctor?

This will vary depending on the situation. Your child may only have to visit the physician once a week. If symptoms are severe, the physician may want to see your child on a daily basis for a few days.

A physician (MD/DO) must sign a written clearance form for the school that says he/she is allowed to participate in full contact practice again. This is now a state law in Kansas.

When should my child be referred to a specialist?

If symptoms persist beyond 2 weeks or are unusually severe, consider discussing with your physician the need for a referral to a concussion specialist, such as a sports medicine physician, neurologist, neuropsychologist or physical medicine and rehabilitation physician.

Concerns >

What are possible complications from a concussion?

While 90% of athletes are back to their baseline within 7-10 days, there are 10% of athletes who will experience prolonged symptoms or other complications.

This is called **Post-Concussive Syndrome** and occurs when symptoms from a concussion are prolonged. Difficulty with concentration, memory and persistent headaches are common symptoms.

Talk with the physician if symptoms last longer than a couple of weeks. A referral to a specialist for further evaluation and treatment may be required.

What might happen if the athlete returns to his/her sport too soon?

If an athlete receives another blow while still recovering from a first concussion, he/she could develop **Second Impact Syndrome**. This syndrome can cause serious life-long health difficulties or, in rare situations, even result in death.

This possibility is a major reason why health care professionals are concerned about carefully treating any concussion. While the brain is still healing, it may not be able to compensate and protect itself from a new injury.

Better to miss a game or two than
the whole season or a whole life!

SCORE Card >

The first health care professional that evaluates your child will fill out a concussion evaluation tool called a **SCORE Card**. If this first person is not the physician who will oversee your child's recovery, make sure to get a copy of **SCORE Card 1** for the physician. This will contain important information that the physician will use to determine how to care for your child's concussion and monitor his/her progression from the injury.

Return to Play >

When can my child start playing his/her sport again?

Only consider starting the Warm Up to Play progression once your child is fully participating in school again without any symptoms.

Your child's return to sports will be a step-by-step process. Once your child has no symptoms or signs of concussion and achieves normalized results on **SCORE Card 2**, a medical authorization will start a **Warm Up for Return 4**. This process should be monitored by an athletic trainer, coach or designated school official.

Encourage your child to tell you, the coach, athletic trainer or physician immediately if he/she does not feel quite right at any time.

After my child is symptom-free, what is the progression back to play?

Think of this progression as a warm up for return to his/her sport. Each step takes at least 24 hours before moving on to the next step.

If any symptoms recur, your child should report this right away so he/she can stop and rest for the day. Before starting the progression again, your child must be completely symptom-free.

- Step 1.** Light aerobic exercise, including walking or riding an exercise bike. No weightlifting.
- Step 2.** Running in a gym or on the field. No helmet or equipment should be used.
- Step 3.** Non-contact training drills and full equipment. Start light resistance training or light weight training.
- Step 4.** Full contact training under supervision of coach/athletic trainer.
- Step 5.** Return to competition or game play.

The athlete must be seen by a physician (MD/DO) during the warm up progression to be legally released for return to competition or practice.

Other Resources >

Kansas Law: www.kslegislature.org/li/b2011_12/year1/measures/hb2182/

KSHSAA Guidelines: www.kshsaa.org/Public/General/ConcussionGuidelines.cfm

Centers for Disease Control and Prevention: www.cdc.gov/concussion/HeadsUp/youth.html

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Recognition >

SIGNS OBSERVED BY OTHERS

- Appears dazed or stunned
- Is confused about assignment
- Forgets plays
- Is unsure of game, score or opponent
- Moves clumsily or has slurred speech
- Answers questions slowly
- Loses consciousness
- Shows behavior or personality changes
- Cannot recall events prior to hit
- Cannot recall events after hit

SYMPTOMS REPORTED BY ATHLETE

- Headache
- Nausea or vomiting
- Balance problems or dizziness
- Double or fuzzy vision
- Sensitivity to light or noise
- Feeling sluggish or drowsy
- Feeling foggy or groggy
- Concentration or memory problems
- Confusion

Definition >

A **concussion** is the most common form of head injury suffered by athletes. It is a form of traumatic brain injury that occurs when the brain is violently jarred back and forth or rotated inside the skull as a result of a blow to the head or body. This can "stun" the brain cells or even result in their death. You **do not** need to lose consciousness to suffer a concussion.

Any athlete in motion is at risk for a concussion. This may occur in any sport, to boys and girls alike. Symptoms may appear immediately or develop over several days. They may last a few days to several months and interfere with schoolwork and social life.

Management >

Who is involved in monitoring the student athlete's recovery after a concussion?

Any student athlete suspected of sustaining a concussion should be immediately pulled out of practice or the game to avoid further aggravating the injury. The student should be closely monitored by the coach, athletic trainer and/or a physician (MD/DO) until his/her symptoms return to baseline.

Parents are asked to monitor the student for increasing symptoms. They also are asked to alter the student's environment to allow as much rest as possible and to decrease exposure to loud noises or bright lights and external stimuli, such as television, texting, reading and computer use, while the brain is healing.

Symptoms can affect the student's emotions, sleep and ability to concentrate. Therefore, adequate healing time is imperative. Once the student returns to classes, school personnel play an important role in monitoring the student's recovery.

Which school personnel should be involved?

The student's teachers along with the school nurse, school counselor, school psychologist and administrators as needed should be informed about the student's concussion. In addition, they should be aware of the types of symptoms related to a concussion (see "Recognition" section) and look for any cognitive deficits the student may experience.

What symptoms may impact school performance?

Headaches, fatigue, irritability and decreased tolerance of stress are potential symptoms. Cognitive deficits, including difficulty paying attention without distraction, slowed speed of cognitive processing and difficulty learning and remembering information, could impact an injured student's schoolwork.

What accommodations may help the student return to school?

Initially, the student may require accommodations to allow for healing and to facilitate learning and adequate performance in the classroom. A plan aimed at the student's particular symptoms and rate of recovery should be developed in consultation with school personnel, coach, trainer, parents and the student.

- The student may need to stay home for a few days to rest and to allow for maximal healing.
- Upon returning to school, the student may need to initially attend partial days if he/she fatigues easily and develops headaches that require physical and cognitive rest. This can be done with partial days or shortened classes with rest breaks between classes.
- If the student has difficulty focusing and maintaining attention and/or slowed speed of processing, he/she may benefit from extended time to complete coursework and tests.
- If the student struggles to complete coursework with extra time allowed, the amount of coursework and homework may need to be reduced.

- The student also may benefit from information repeated and/or supplied in a written form to compensate for a slowed ability to follow along in class.
- The student should not participate in any strenuous activity such as physical education class. Return to PE should coincide with the medical authorization for the progression back to play.
- The student should not complete any standardized testing or significant examinations during recovery as results may be skewed and not reflect the student's true abilities.
- For more information, consult KSCP's Return-To-Learn Safe Progression guide.
- Use KSCP's **Return to Learn Classroom Rx 3** in coordination with the athlete's physician.
- Develop a school concussion Emergency Action Plan or a School Concussion Management Plan so you are prepared before a concussion occurs. An excellent guide to developing a School Concussion Management Plan can be found at: www.nationwidechildrens.org/academic-concussion-management

What should school personnel look for that could require additional medical evaluation?

The student's symptoms should gradually improve, though each individual improves at a different rate. School personnel should look for any increase in symptoms and any new symptoms that occur when the student returns to classroom participation, as these may represent complications in recovery. If these occur, the student's parents should be alerted along with the treating physician.

Concerns >

What are possible complications from a concussion?

While 90% of athletes are back to their baseline within 7-10 days, there are 10% of athletes who will experience prolonged symptoms or other complications.

This is called **Post-Concussive Syndrome** and occurs when symptoms from a concussion are prolonged. Difficulty with concentration, memory and persistent headaches are common symptoms.

Talk with the physician if symptoms last longer than a couple of weeks. A referral to a specialist for further evaluation and treatment may be required.

What might happen if the athlete returns to his/her sport too soon?

If an athlete receives another blow while still recovering from a first concussion, he/she could develop **Second Impact Syndrome**. This syndrome can cause serious life-long health difficulties or, in rare situations, even result in death.

This possibility is a major reason why health care professionals are concerned about carefully treating any concussion. While the brain is still healing, it may not be able to compensate and protect itself from a new injury.

SCORE Card >

The first health care professional that evaluates the student athlete will fill out a concussion evaluation tool called a **SCORE Card**. This contains important information that the treating physician will use to determine how to care for the student's concussion and monitor his/her progression from the injury.

Return to Play >

When can the student athlete start playing his/her sport again?

Only consider starting the Warm Up to Play progression once your student athlete is fully participating in school again without any symptoms. The student's return to sports will be a step-by-step process. Once he/she has no symptoms or signs of concussion and is doing well in school and daily activities, a medical authorization will start a **Warm Up for Return 4**. This process should be monitored by an athletic trainer, coach or designated school official.

Encourage the student to tell you, their parents, the athletic staff or physician immediately if he/she does not feel quite right at any time.

After the athlete is symptom-free, what is the progression back to play?

Think of this progression as a warm up for the athlete to return to his/her sport. Each step takes at least 24 hours before moving on to the next step.

If any symptoms recur, the student should report this right away and stop for the day and rest. Before starting the progression again, the athlete must be completely symptom-free.

- Step 1.** Light aerobic exercise, including walking or riding an exercise bike. No weightlifting.
- Step 2.** Running in a gym or on the field. No helmet or equipment should be used.
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Recognition >

SIGNS OBSERVED BY OTHERS

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- Cannot recall events prior to hit
- Cannot recall events after hit

SYMPTOMS REPORTED BY ATHLETE

- Headache
- Nausea or vomiting
- Balance problems or dizziness
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Coach/Athletic Trainer's CONCUSSION GUIDE

Definition >

A **concussion** is the most common form of head injury suffered by athletes. It is a form of traumatic brain injury that occurs when the brain is violently jarred back and forth or rotated inside the skull as a result of a blow to the head or body. This can "stun" the brain cells or even result in their death. You **do not** need to lose consciousness to suffer a concussion.

Any athlete in motion is at risk for a concussion. This may occur in any sport, to boys and girls alike. Symptoms may appear immediately or develop over several days. They may last a few days to several months and interfere with schoolwork and social life.

Management >

What key role do I play in concussion management?

As the coach/athletic trainer you play a critical role in preventing concussions and ensuring they are properly managed when it does occur. Ultimately it is all about the health and welfare of our student athletes. Insist that safety comes first. Encourage good sportsmanship at all times. Insist your athletes wear the right protective equipment for their sport. Ensure that equipment fits properly, is worn consistently and is well-maintained.

Talk with athletes and their parents about the dangers and potential long term consequences of a concussion. Review the signs and symptoms of concussion with your athletes. The "hit" may not be recognized but the symptoms should be. Your concern will be heard by your athletes and they will follow your lead.

Some players and parents wrongly believe that it shows strength and courage to play injured. Discourage anyone from pressuring an injured athlete to return too quickly, and guard against being persuaded that the athlete is "just fine." Educate yourself and your staff on this important topic.

Every concussion is potentially serious. When in doubt, sit them out!

What should I do when a concussion is suspected?

- Immediately remove the athlete from play.
- If the athlete is stable and no severe symptoms appear, the athlete can be examined by using the sideline concussion assessment SCORE Cards, or alternatively the SCAT3.
- If a concussion is suspected, do not allow the athlete to return to play. Ensure the athlete is evaluated right away by an appropriate health care professional. Details on the injury, force of the impact, loss of consciousness, recognized symptoms and history of previous concussions will be helpful to the health care provider.
- Inform the athlete's parents or guardian about the possible concussion and give them the fact sheet on concussion. Ensure that the athlete has a responsible party to monitor him/her for several hours after the injury.
- Encourage rest until the athlete is symptom free.
- Assist in the education of the athlete, parents and other students as needed.
- Help monitor his/her warm-up for return to play.

When should I send the athlete to the Emergency Room?

If severe symptoms appear, such as vomiting, severe headache, difficulty answering simple questions, declining mental status, focal neurologic deficits, loss of consciousness or seizures, call 911 or proceed to an Emergency Room immediately.

How can I help my athlete after a concussion?

- Implement an emergency action plan at your school in conjunction with local physicians and health professionals, school nurses, athletic training staff and school officials. This will help insure a prompt coordinated effort when a concussion is suspected.

- Encourage the athlete to rest as much as possible. He/she may need frequent naps the first few days after the injury. The more aggressively the brain is rested, the sooner it will heal.
- Recommend the athlete avoid bright lights, loud noises and activities that stimulate the brain because mental rest is vital to recovery. He/she should eliminate or reduce watching television or movies, texting, reading, playing video games and browsing on the computer.
- Do not allow the athlete to perform any physical activities such as weight lifting, riding a bike, jogging, practice drills or other types of exercise or sports activities at home.
- Encourage the athlete not to drive because the symptoms from a concussion can slow his/her reaction times and possibly lead to an accident.
- Inform school officials, training staff, teachers and other athletes about the injury.
- Discuss any concerns about the athlete's recovery with his/her physician when necessary. You may be asked to regularly report on the athlete's symptoms. Notify the physician immediately if the athlete worsens. Report to the physician when the athlete's symptoms return to zero.
- Communicate regularly with your school's concussion management team during your athlete's recovery.
- For more information, consult KSCP's Return-To-Learn Safe Progression guide.

Concerns >

What are possible complications from a concussion?

While 90% of athletes are back to their baseline within 7-10 days, there are 10% of athletes who will experience prolonged symptoms or other complications.

This is called **Post-Concussive Syndrome** and occurs when symptoms from a concussion are prolonged. Difficulty with concentration, memory and persistent headaches are common symptoms.

Talk with the physician if symptoms last longer than a couple of weeks. A referral to a specialist for further evaluation and treatment may be required.

What might happen if the athlete returns to his/her sport too soon?

If an athlete receives another blow while still recovering from a first concussion, he/she could develop **Second Impact Syndrome**. This syndrome can cause serious life-long health difficulties or, in rare situations, even result in death.

This possibility is a major reason why health care professionals are concerned about carefully treating any concussion. While the brain is still healing, it may not be able to compensate and protect itself from a new injury.

SCORE Card >

The first health care professional that evaluates the athlete will fill out a concussion evaluation tool called a **SCORE Card**. If this first person is not the physician who will oversee the recovery, make sure the physician receives a copy of **SCORE Card ①**. This will contain important information that the physician will use to determine how to care for the athlete's concussion and monitor his/her progression from the injury.

Discuss with the local physician the protocol for best coordinating and monitoring the athlete's recovery. You may fill out the symptom score page with the athlete on a daily basis and copy or fax to the physician.

Return to Play >

When can the student athlete start playing his/her sport again?

Only consider starting the Warm Up to Play progression once your student athlete is fully participating in school again without any symptoms. The student's return to sports will be a step-by-step process. Once he/she has no symptoms or signs of concussion and achieves normalized results on **SCORE Card ②**, a medical authorization will start a **Warm Up for Return ④**. This process should be monitored by an athletic trainer, coach or designated school official.

Encourage the student to tell you, their parents, the athletic staff or physician immediately if he/she does not feel quite right at any time.

After the athlete is symptom-free, what is the progression back to play?

Think of this progression as a warm up for return to his/her sport. Each step takes at least 24 hours before moving on to the next step.

If any symptoms recur, the student should report this right away and stop for the day and rest. Before starting the progression again, the athlete must be completely symptom-free.

- Step 1.** Light aerobic exercise, including walking or riding an exercise bike. No weightlifting. (*increase heart rate*)
- Step 2.** Running in a gym or on the field. No helmet or equipment should be used. (*add movement*)
- Step 3.** Non-contact training drills and full equipment. Start light resistance training or light weight training. (*add coordination and cognitive load*)
- Step 4.** Full contact training under supervision of coach/athletic trainer. (*restore confidence and assess functional skills*)
- Step 5.** Return to competition or game play.

The athlete must be seen by a physician (MD/DO) during the warm up progression to be legally released for return to competition or practice.

Other Resources >

Kansas Law: www.kslegislature.org/li/b2011_12/year1/measures/hb2182/

National Federation of State High Schools: www.nfhslearn.com/electiveDetail.aspx?courseID=15000

KSHSAA Guidelines: www.kshsaa.org/Public/General/ConcussionGuidelines.cfm

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Any athlete in motion is at risk for a concussion. This may occur in any sport, to boys and girls alike. Symptoms may appear immediately or develop over several days. They may last a few days to several months and interfere with schoolwork and social life.

Management >

What do I do if I suspect an athlete has a concussion?

If you are on the sideline, immediately pull the athlete out of practice or the game to avoid further aggravating the injury. If necessary, check airway, breathing and circulation and pay special attention to a possible cervical spine injury. Look for signs or symptoms listed under the "Recognition" section of this guide when conducting an evaluation and consider the need for emergency medical services. Notify parents/guardians of the athlete's injury.

If not on the sideline, see the athlete within 48-72 hours after the initial injury. While the athlete is symptomatic and if the physical exam is abnormal, do not allow him/her to participate in any physical activity and limit mental activities.

If the athlete has a concussion, he/she will not be able to participate in practice or a game until a written authorization form is signed by a physician (MD/DO) as required by Kansas law.

When does the athlete need to visit the Emergency Department?

If a focal neurological deficit is noted or severe symptoms appear, such as vomiting, severe headache, difficulty answering simple questions, declining mental status, loss of consciousness or seizures, call 911 or refer immediately to an Emergency Department for further evaluation.

How should I conduct the sideline evaluation?

Once stabilized, and if no severe symptoms appear, the athlete can be examined by using the sideline concussion assessment SCORE Cards, or alternatively the SCAT3. A history and full neurological exam should be performed. If a concussion is suspected, do not allow the athlete to return to play. Serious complications may occur if the athlete returns to play following a concussion.

When should I order a CT scan or MRI?

Concussions occur at a cellular level beyond our ability to clearly see during a physical exam or with CT or MRI scans. If the injury is truly a concussion, these scans will be completely within normal limits. However, if symptoms are severe, prolonged or if focal neurological deficits are present, advanced imaging should be considered.

How should the athlete be treated during the concussion recovery?

- The athlete should not be left unmonitored for the initial 12-24 hours in case of clinical worsening. While it is not necessary to keep the athlete awake, he/she should be observed periodically to ensure he/she is resting comfortably and breathing easily.
- Establish a medical follow-up plan after the athlete is evaluated. Closely monitor the athlete until he/she returns to a baseline in terms of pain, emotions, sleep habits and ability to concentrate. Seek assistance from the coach, athletic trainer, designated school official or parents for daily evaluation of the athlete's symptoms.
- Encourage the athlete to rest as much as possible. He/she may need frequent naps during the first few days after the injury. The more aggressive your patient rests the brain, the sooner healing will occur.
- The athlete should avoid places with bright lights or loud noise and activities that

stimulate the brain because mental rest is vital to recovery. Recommend eliminating or reducing watching television or movies, texting, reading, playing video games and browsing on a computer.

- Do not allow the athlete to perform any physical activities, such as weightlifting, riding a bike, jogging, practice drills or other types of exercise.
- Do not allow the athlete to drive because the symptoms from a concussion can slow his/her reaction times and lead to an accident.
- It may be necessary to keep the athlete out of school or reduce attendance to partial days. Upon return to school, it may be necessary to recommend that the athlete delay tests and major assignments. The athlete may benefit from written instructions for homework and repeated presentation of new information.
- For more information, consult KSCP's Return-To-Learn Safe Progression guide.
- Use KSCP's **Return to Learn Classroom Rx** ③ in coordination with the school concussion team.

When should I refer the athlete to a specialist?

If symptoms persist beyond 2 weeks or are unusually severe, consider referring your patient to a concussion specialist, such as a sports medicine physician, neurologist, neuropsychologist or physical medicine and rehabilitation physician.

What are possible complications from a concussion?

While 90% of athletes are back to their baseline within 7-10 days, there are 10% of athletes who will experience prolonged symptoms or other complications.

This is called **Post-Concussive Syndrome** and occurs when symptoms from a concussion are prolonged. Difficulty with concentration, memory and persistent headaches are common symptoms. A referral to a specialist for further evaluation and treatment may be required.

What might happen if the athlete returns to his/her sport too soon?

If an athlete receives another blow while still recovering from a first concussion, he/she could develop **Second Impact Syndrome**. This syndrome can cause serious life-long health difficulties or, in rare situations, even result in death. This possibility is a major reason why health care professionals are concerned about carefully treating any concussion. While the brain is still healing, it may not be able to compensate and protect itself from a new injury.

How can I help prevent concussions?

- Encourage a culture of safety within the local sports environment. This should include coaches, athletic trainers, school officials, parents and athletes – all who are concerned with an athlete's health and want to create a safe playing environment for each athlete.
- Establish yearly educational activities on concussions with coaches, athletic trainers, parents and student athletes.
- Help develop an emergency action plan for concussions with other local health professionals, school nurses, coaches, athletic trainers and school officials. This will ensure a prompt, coordinated response when a concussion is suspected.
- When an injury does occur, encourage athletes and parents to take the necessary time to heal.

SCORE Card >

The first health care professional that evaluates the athlete should complete a **SCORE Card**, a useful tool for monitoring and evaluating concussion symptoms. If you are not the first person to evaluate the athlete, make sure you receive a copy of **SCORE Card** ①. This will contain important information that will help you determine how to care for the athlete's concussion and monitor his/her progression from the injury.

At the initial visit, a complete neurological exam should accompany the **SCORE Card** ① and ② evaluation. Collect a history of previous concussions or head injuries.

Depending on the situation, the athlete may need to visit your office once a week or on a daily basis for a few days. Each time you see the patient, use the **SCORE Card** ① as a tool for serial monitoring.

Return to Play >

When can the student athlete start playing his/her sport again?

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After the athlete is symptom-free, what is the progression back to play?

Think of this progression as a warm up for the athlete to return to his/her sport. Each step takes at least 24 hours before moving on to the next step.

During this progression, the coach or athletic trainer should ask the athlete if any symptoms are starting to return. If symptoms recur, the athlete must stop for the day and rest. Before starting the progression again, the athlete must be completely symptom-free.

- Step 1.** Light aerobic exercise, including walking or riding an exercise bike. No weightlifting.
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