

2012-13

Interscholastic Youth Sports Brain Injury Report

MSHSAA

Missouri State High School Activities Association

Interscholastic Youth Sports Brain Injury Prevention Report

SCS HCS HB 300, 334, and 387 became law in August 2011, and it mandates that an organization with public schools as members must publish and distribute an annual report regarding the impact of student athlete concussions and head injuries which should include efforts that may be made to minimize damages from school sports injuries. The Department of Health and Senior Services, along with a statewide association of school boards [Missouri School Board Association (MSBA)], a statewide activities association that provides oversight for athletic or activity eligibility for students and school districts, [Missouri State High School Activities Association (MSHSAA)], and an organization named by the Department of Health and Senior Services that specializes in support services, education, and advocacy of those with brain injuries [Brain Injury Association of Missouri (BIA-MO)] developed guidelines, pertinent information, and forms to educate coaches, staff members, athletes, and parents or guardians of youth athletes of the nature and risk of concussion and brain injury including continuing to play after a concussion or a brain injury (1).

MSHSAA has distributed and updated head injury materials annually since August of 2009 to its member schools using a variety of sources (2). These materials provide information that will educate parents, coaches, staff members, and athletes on the prevention, management, and dangers of head injuries in interscholastic sports (3). In December of 2011, MSHSAA conducted its first annual survey of member schools and the impact of head injuries. During the summer of 2013, a third survey was conducted to collect data from the MSHSAA member schools. Seven hundred and forty-nine schools were contacted to complete the survey (4). The survey window was from July 1 through August 16, 2013. Information that could not be completed on the survey was forwarded by e-mail to headinjury@mshsaa.org. Working with the Brain Injury Association of Missouri, Dr. Joseph Waeckerle, Department of Health and Senior Services, Missouri Athletic Trainers Association, Missouri School Nurses Association and Missouri School Board Association a pilot program has been put in place for the Winter and Spring of 2014, Sports Concussions: Facts, Fallacies and New Frontiers. The program will have four regional sites presenting a one day seminar educating staff members, coaches, nurses and Athletic trainers on the new research and policies pertaining to head injuries (5).

Harvey Richards, Associate Executive Director in charge of Sports Medicine for MSHSAA (6), was a part of the state legislative process for the head injury bill, responsible for the distribution of educational materials to member schools, and conducted the Head Injury Survey.

- (1) Time table of meetings, Appendix A.
- (2) Fall membership mailing, e-mails, website (mshsaa.org), district in-services.
- (3) Educational packet for member schools, Appendix B.
- (4) 2012-2013 Head Injury Survey, Appendix C.
- (5) Sports Concussions: Facts, Fallacies and New Frontiers, Appendix D.
- (6) Harvey Richards, Associate Executive Director, 1 N Keene St, Columbia MO 65201; harvey@mshsaa.org; (573) 875-4880.

Head Injury Survey

School Level	Total Schools		Completed Survey		Did Not Complete the Survey		% of Member Schools that Completed Survey	
	2013	2012	2013	2012	2013	2012	2013	2012
All Schools	749	751	613	584	136	167	82%	78%
High Schools 9-12	268	267	237	226	31	41	88%	85%
Combined Schools 7-12	322	322	285	279	37	43	89%	87%
Jr. High Schools 7-8	159	162	91	79	68	83	57%	49%

Use of Online Video

Did your school district use the NFHS video “concussion in Sports-What you Need to Know,” to educate your coaching staff for the 2012-13 school year?

Yes- 237 High Schools

Yes- 285 Combined Schools

Yes- 91 Jr. High Schools

Note: 14- St. Louis Public Schools used an In-service day to educate their staff, with the video available.

This means that 91% of our High Schools utilized the free, online video to educate their coaching staffs.

The National Federation of High School Activities (NFHS) has produced and made available for free, the online course “Concussions in Sports: What You Need to Know.” MSHSAA has approved this course for coaches to take as their educational component of the law. Many districts viewed this course as an in-service with the entire coaching staff, while others have taken it separately to meet this requirement. For the year July 1, 2012 through June 30, 2013, 5672 online courses have been completed in Missouri.

The next table reflects the number of participants for each sport and/or activity by our member schools. This number will include duplicates for students who are in multiple activities. Junior high seasons are set by the school and may not have taken place at the same time as the high school season. Music/Band, Sideline Cheerleading (Spirit) and Dance begin in the fall, but some schools will only participate in the winter or spring. The following table reflects the participation rates for the 2011-12 and 2012-13 school years.

Sport/Activity	Participants Junior High		Participants High Schools		Participants Total	
	2011-12	2012-13	2011-12	2012-13	2011-12	2012-13
Baseball	820	802	14,453	14,657	15,273	15,459
Sideline Cheerleading (Spirit)	3,521	3,610	9,648	9,602	13,169	13,212
Field Hockey	18	27	1,115	1086	1,133	1,113
11-man Football	9,783	9,707	22,869	22,836	32,652	32,543
8-man Football	291	295	425	490	716	785
Dance/Pom Team	131	140	2,992	3,097	3,123	3,237
Water Polo	0	0	564	587	564	587
Winter Guard	88	151	1,141	1,137	1,229	1,288
Wrestling	2,336	2,623	7,192	7,423	9,528	10,046
Music-Band	0	0	19,655	21,242	19,655	21,242
Basketball-Boys	8,516	8,451	13,962	14,121	22,478	22,572
Cross Country-Boys	2,060	2,099	5,243	5,328	7,303	7,427
Cross Country-Girls	1,876	1,957	4,007	3,824	5,883	5,781
Soccer-Boys	174	182	8,110	8,074	8,284	8,256
Swimming and Diving-Boys	51	47	1,811	1,969	1,862	2,016
Softball-Girls	1,187	1,338	9,908	9,835	11,095	11,173
Tennis-Girls	0	0	3,769	3,830	3,769	3,830
Volleyball-Girls	6,288	6,421	10,212	10,264	16,500	16,685
Softball-Boys	0	1	178	186	178	187
Golf-Boys	1	1	4,148	4,217	4,149	4,218
Tennis-Boys	0	0	3,607	3,432	3,607	3,432
Track and Field-Boys	8,478	8,586	13,924	14,223	22,402	22,809
Volleyball-Boys	0	0	1,138	1,155	1,138	1,155
Basketball-Girls	7,311	7,112	10,369	10,383	17,680	17,495
Golf-Girls	1	0	1,634	1,633	1,635	1,633
Soccer-Girls	81	79	7,991	7,930	8,072	8,009
Swimming and Diving-Girls	88	99	2,975	2,886	3,063	2,985
Track and Field-Girls	8,017	8,180	10,975	11,287	18,992	19,467
Lacrosse-Girls	0	0	1,228	1,243	1,228	1,243
Totals	61,117	61,908	195,243	197,977	256,360	259,885

Sport/Activity	Total Participation
Sport	220,906
*Taking into Account 20% Duplication of Athletes	44,181
Total Adjustment Participation Sport	176,725
Activity	38,979
*Taking into Account 20% Duplication of Students	7,796
Total Adjustment Participation Activity	31,183
Total Adjustment Participation Sport/Activity	207,908

*20% duplication is only an estimate and not an actual number.

Data Collected

ALL – HIGH SCHOOL AND JUNIOR HIGH SCHOOL SPORTS AND ACTIVITIES

Level	Sport/Activity	Sport Related	Non-Sport Related	Days/Class Sport	Days/Class Non-Sport	Days Missed Sport	Days Missed Non-Sport	Reporting Schools
HS	Scholar Bowl	0	0	0	0	0	0	0
JH	Scholar Bowl	0	0	0	0	0	0	0
HS	Baseball - Spring	64	10	40	11	636	64	38
JH	Baseball	0	0	0	0	0	0	0
HS	Basketball - Boys	174	11	185	25	1897	103	100
HS	Basketball - Girls	209	18	326	24	2409	270	113
JH	Basketball - Boys	9	3	10	13	60	30	10
JH	Basketball - Girls	13	2	10	5	141	24	12
HS	Sideline Cheerleading	169	10	162	15	2260	105	73
JH	Sideline Cheerleading	0	0	0	0	0	0	0
HS	Cross Country - Boys	1	0	1	0	0	0	1
HS	Cross Country - Girls	2	3	0	6	17	44	3
JH	Cross Country - Boys	0	0	0	0	0	0	0
JH	Cross Country - Girls	0	0	0	0	0	0	0
HS	Field Hockey	16	1	14	2	152	10	10
JH	Field Hockey	0	0	0	0	0	0	0
HS	11-Man Football	1295	52	1451	36	13944	522	217
JH	11-Man Football	65	7	65	10	589	63	38
HS	8-Man Football	30	0	29	0	339	0	14
JH	8-Man Football	0	0	0	0	0	0	0
HS	Golf - Boys	0	0	0	0	0	0	0
HS	Golf - Girls	1	0	3	0	21	0	1
JH	Golf - Boys	0	0	0	0	0	0	0
JH	Golf - Girls	0	0	0	0	0	0	0
HS	Gymnastics	0	0	0	0	0	0	0
JH	Gymnastics	0	0	0	0	0	0	0
HS	Music Activities	2	0	0	0	7	0	2
JH	Music Activities	0	0	0	0	0	0	0
HS	Dance/Pom Team	7	5	24	11	72	95	9
JH	Dance/Pom Team	0	0	0	0	0	0	0
HS	Soccer - Boys	194	18	236	16	2077	149	86
HS	Soccer - Girls	198	8	232	12	2287	67	81
JH	Soccer - Boys	0	0	0	0	0	0	0
JH	Soccer - Girls	0	0	0	0	0	0	0
HS	Softball - Boys	0	0	0	0	0	0	0
HS	Softball - Girls Fall	61	6	69	27	931	65	44
JH	Softball - Boys	0	0	0	0	0	0	0
JH	Softball - Girls	2	0	1	0	24	0	2
HS	Speech and Debate	0	2	0	0	0	0	1
JH	Speech and Debate	0	0	0	0	0	0	0
HS	Swimming & Diving - Boys	7	1	5	0	51	6	7
HS	Swimming & Diving - Girls	11	1	32	1	206	25	9
JH	Swimming & Diving - Boys	0	0	0	0	0	0	0
JH	Swimming & Diving - Girls	0	0	0	0	0	0	0
HS	Tennis - Boys	0	1	0	0	0	2	1

HS	Tennis - Girls	6	2	7	5	31	19	6
JH	Tennis - Boys	0	0	0	0	0	0	0
JH	Tennis - Girls	0	0	0	0	0	0	0
HS	Track and Field - Boys	7	3	11	2	71	20	9
HS	Track and Field - Girls	11	6	11	3	111	69	13
JH	Track and Field - Boys	3	1	3	3	12	10	4
JH	Track and Field - Girls	1	0	0	0	1	0	1
HS	Volleyball - Boys	3	0	2	0	24	0	3
HS	Volleyball - Girls	87	9	83	4	1068	107	55
JH	Volleyball - Boys	0	0	0	0	0	0	0
JH	Volleyball - Girls	9	1	10	2	79	7	8
HS	Water Polo	21	1	12	2	269	7	7
JH	Water Polo	0	0	0	0	0	0	0
HS	Winter Guard	2	0	0	0	17	0	2
JH	Winter Guard	0	0	0	0	0	0	0
HS	Wrestling	218	8	234	14	2637	65	79
JH	Wrestling	3	0	2	0	29	0	3
HS	Baseball - Fall Season	3	2	3	7	37	30	4
HS	Softball - Girls Spring	4	1	4	40	22	32	5
HS	Lacrosse - Girls	33	1	28	3	372	15	15
HS	Bass Fishing	0	0	0	0	0	0	0
JH	Bass Fishing	0	0	0	0	0	0	0
HS	Bowling	0	0	0	0	0	0	0
JH	Bowling	0	0	0	0	0	0	0
HS	Chess	0	0	0	0	0	0	0
JH	Chess	0	0	0	0	0	0	0
HS	Target Shooting	0	0	0	0	0	0	0
JH	Target Shooting	0	0	0	0	0	0	0
TOTAL		2941	194	3305	299	32900	2025	1086

HIGH SCHOOL ACTIVITIES

Level	Activity	Sport Related	Non-Sport Related	Days/Class Sport	Days/Class Non-Sport	Days Missed Sport	Days Missed Non-Sport	Reporting Schools
HS	Scholar Bowl	0	0	0	0	0	0	0
HS	Sideline Cheerleading	169	10	162	15	2260	105	73
HS	Music Activities	2	0	0	0	7	0	2
HS	Dance/Pom Team	7	5	24	11	72	95	9
HS	Speech and Debate	0	2	0	0	0	0	1
HS	Winter Guard	2	0	0	0	17	0	2
HS	Bass Fishing	0	0	0	0	0	0	0
HS	Bowling	0	0	0	0	0	0	0
HS	Chess	0	0	0	0	0	0	0
HS	Target Shooting	0	0	0	0	0	0	0
TOTALS		180	17	186	26	2356	200	87

HIGH SCHOOL SPORTS

Level	Activity	Sport Related	Non-Sport Related	Days/Class Sport	Days/Class Non-Sport	Days Missed Sport	Days Missed Non-Sport	Reporting Schools
HS	Baseball - Spring	64	10	40	11	636	64	38
HS	Basketball - Boys	174	11	185	25	1897	103	100
HS	Basketball - Girls	209	18	326	24	2409	270	113
HS	Cross Country - Boys	1	0	1	0	0	0	1
HS	Cross Country - Girls	2	3	0	6	17	44	3
HS	Field Hockey	16	1	14	2	152	10	10
HS	11-Man Football	1295	52	1451	36	13944	522	217
HS	8-Man Football	30	0	29	0	339	0	14
HS	Golf - Boys	0	0	0	0	0	0	0
HS	Golf - Girls	1	0	3	0	21	0	1
HS	Gymnastics	0	0	0	0	0	0	0
HS	Soccer - Boys	194	18	236	16	2077	149	86
HS	Soccer - Girls	198	8	232	12	2287	67	81
HS	Softball - Boys	0	0	0	0	0	0	0
HS	Softball - Girls Fall	61	6	69	27	931	65	44
HS	Swimming & Diving - Boys	7	1	5	0	51	6	7
HS	Swimming & Diving - Girls	11	1	32	1	206	25	9
HS	Tennis - Boys	0	1	0	0	0	2	1
HS	Tennis - Girls	6	2	7	5	31	19	6
HS	Track and Field - Boys	7	3	11	2	71	20	9
HS	Track and Field - Girls	11	6	11	3	111	69	13
HS	Volleyball - Boys	3	0	2	0	24	0	3
HS	Volleyball - Girls	87	9	83	4	1068	107	55
HS	Water Polo	21	1	12	2	269	7	7
HS	Wrestling	218	8	234	14	2637	65	79
HS	Baseball - Fall Season	3	2	3	7	37	30	4
HS	Softball - Girls Spring	4	1	4	40	22	32	5
HS	Lacrosse - Girls	33	1	28	3	372	15	15
TOTALS		2656	163	3018	240	29609	1691	921

JUNIOR HIGH SCHOOL ACTIVITIES

Level	Activity	Sport Related	Non-Sport Related	Days/Class Sport	Days/Class Non-Sport	Days Missed Sport	Days Missed Non-Sport	Reporting Schools
JH	Scholar Bowl	0	0	0	0	0	0	0
JH	Sideline Cheerleading	0	0	0	0	0	0	0
JH	Music Activities	0	0	0	0	0	0	0
JH	Dance/Pom Team	0	0	0	0	0	0	0
JH	Speech and Debate	0	0	0	0	0	0	0
JH	Winter Guard	0	0	0	0	0	0	0
JH	Bass Fishing	0	0	0	0	0	0	0
JH	Bowling	0	0	0	0	0	0	0
JH	Chess	0	0	0	0	0	0	0
JH	Target Shooting	0	0	0	0	0	0	0
TOTAL		0	0	0	0	0	0	0

JUNIOR HIGH SCHOOL SPORTS

Level	Sport	Sport Related	Non-Sport Related	Days/Class Sport	Days/Class Non-Sport	Days Missed Sport	Days Missed Non-Sport	Reporting Schools
JH	Baseball	0	0	0	0	0	0	0
JH	Basketball - Boys	9	3	10	13	60	30	10
JH	Basketball - Girls	13	2	10	5	141	24	12
JH	Cross Country - Boys	0	0	0	0	0	0	0
JH	Cross Country - Girls	0	0	0	0	0	0	0
JH	Field Hockey	0	0	0	0	0	0	0
JH	11-Man Football	65	7	65	10	589	63	38
JH	8-Man Football	0	0	0	0	0	0	0
JH	Golf - Boys	0	0	0	0	0	0	0
JH	Golf - Girls	0	0	0	0	0	0	0
JH	Gymnastics	0	0	0	0	0	0	0
JH	Soccer - Boys	0	0	0	0	0	0	0
JH	Soccer - Girls	0	0	0	0	0	0	0
JH	Softball - Boys	0	0	0	0	0	0	0
JH	Softball - Girls	2	0	1	0	24	0	2
JH	Swimming & Diving - Boys	0	0	0	0	0	0	0
JH	Swimming & Diving - Girls	0	0	0	0	0	0	0
JH	Tennis - Boys	0	0	0	0	0	0	0
JH	Tennis - Girls	0	0	0	0	0	0	0
JH	Track and Field - Boys	3	1	3	3	12	10	4
JH	Track and Field - Girls	1	0	0	0	1	0	1
JH	Volleyball - Boys	0	0	0	0	0	0	0
JH	Volleyball - Girls	9	1	10	2	79	7	8
JH	Water Polo	0	0	0	0	0	0	0
JH	Wrestling	3	0	2	0	29	0	3
TOTAL		105	14	101	33	935	134	78

Conclusion 2012-13 Concussion Survey Results

	Number of Athletes	Number of Days Sport was Missed	Number of Days Class Time Missed
Male	2097	22672	2289
Female	635	7845	760
Total	2732	30,517	3049
	Number of Students	Number of Days Activity was Missed	Number of Days Class Time Missed
Total	180	2356	186

During the 2012-13 school year we asked that the schools keep track of days missed in the classroom. The total number of days missed reported to our office was 3,049. Looking at the total number of days missed at practice and or a contest, 30,517 I find this number to be low.

The number of athletes and the days being withheld from the activity rose dramatically during this school year. One contributing factor could be that the schools, on the third year of the survey, have started to keep better records. Second, the fact that schools have all started to put into place procedures for a safe return to play protocol and have established family support for this issue.

Top 7 Head Injury Sports/Activities	
Sport/Activity	Number of Head Injuries
Football	1325
Wrestling	218
Basketball (G)	209
Soccer (G)	198
Soccer (B)	194
Basketball (B)	174
Sideline Cheer	169

There were a total of 2097 males and 635 females held out of practices and contests due to a head injury, for a total of 22,672 and 7,845 days respectively. This means that the male athletes were held out on an average of 10.8 days per incident and females were held out 12.4 days. This was up from the previous year when males were on average held out 6.5 days and females 10.4 days. This does show a good correlation to the gradual return-to-play guidelines which indicate at a minimum 7-day return rate.

Percentage of Head Injuries per Total Occurrences	
Sport/Activity	% of total reported Head Injuries
Football	45.8%
Soccer B/G	13.88%
Basketball B/G	13.45%
Wrestling	7.71%
Cheerleading	5.98%

According to the Article, *Athletic Trainer, Doctors Assess, Manage Most Concussions in High School Sports*: “Nearly half (47.2%) of the total number of concussions were sustained by football players.” Our data is reporting 45.8% of the total number is by football players.

MSHSAA 2012-13 Concussion Rates per 10,000 athletic exposures	
Sport/Activity	Rate
Football	5.52
Soccer Girls	3.17
Wrestling	2.78
Soccer Boys	3.01
Basketball Girls	1.59
Basketball Boys	1.02

Athletic exposure was calculated from the first day of practice to the end of districts for that sport. This is not a true actual count of participation but very accurate assumption. Example:

Football had on the average 72 days of practice and or contests.
 $72 \times 33,328 \text{ participates} = 2,399,616 \text{ exposures.}$
 1325 reported head injuries.

$$\begin{array}{r} \underline{1325} \\ 2,399,616 \end{array} \times \begin{array}{r} \underline{5.52} \\ 10,000 \end{array}$$

Concussion Rates per 10,000 athletic exposures From the top 10 high school sports*	
Sport/Activity	Rate
Football	4.8
Soccer Girls	3.1
Wrestling	2.2
Soccer Boys	1.8
Basketball Girls	2.0
Basketball Boys	Not reported

*The Pediatric Injury Prevention, Education and Research Program at the Colorado school of Public Health, reported the top 10 high school sports ranked per 10,000 athletic exposures from 2008-12 school years.

Educational materials were distributed to all member schools and are available for the public to access through our website (www.mshsaa.org). Awareness of this serious issue has come to the forefront. Several schools have requested an in-service to educate their coaching staffs with professionals conducting the program. Our Staff along with several others have put programs in place to continue the educational effort and stay abreast of any new research available.

MSHSAA will conduct an annual survey during the summer to collect year-long data. The Sports Medicine Committee will evaluate the questions to be asked at its December meeting.

APPENDIX A

Time Table of Meetings

Place	Date of Meeting
MSHSAA Office - Sports Medicine Committee	April 28, 2010
NFHS Summer Meeting - Sports Medicine Committee	July 6-9, 2010
Parkway School District - Concussion Presentation	August 12, 2010
MSHSAA Office - Sports Medicine Committee	January 6, 2011
Capitol, Jefferson City, MO - Concussion Bill	January 11, 2011
Capitol, Jefferson City, MO - Meeting – House Bill 300	February 7, 2011
Phone Conference - House Bill 300	February 25, 2011
St. Louis Children’s Hospital - Press Conference House Bill 300	March 4, 2011
MSHSAA Office - Phone Conference - House Bill 300	March 7, 2011
NFHS Summer Meeting - Sports Medicine Committee	June 27 – July 1, 2011
MSHSAA Office - Conference Call - Concussions	August 16, 2011
MSHSAA Office - Concussion Meeting	August 25, 2011
MSHSAA Office - Sports Medicine Committee	January 5, 2012
Conference Call - Adult Brain Injury (MO Dept. of Health/Sr. Svc.)	January 19, 2012
Conference Call - Adult Brain Injury (MO Dept. of Health/Sr. Svc.)	February 14, 2012
Meeting in St. Louis - St. Louis Brain Association Meeting	March 1, 2012
MSHSAA Office - Adult Brain Injury (MO Dept. of Health/Sr. Svc.)	August 30, 2012
Coaches Training Meeting (Chillicothe) - Head/Spinal Injuries (Hedrick Medical Building) - St. Luke’s College of Health Sciences	October 12, 2012
MSHSAA Office - Sports Medicine Committee	December 13, 2012
MSHSAA Office - Meeting with Dr. Hubbard, St. Luke’s	April 3, 2013
Conference Call - Brain Injury Association of Missouri	April 16, 2013
NFHS Summer Meeting - Sports Medicine Committee	June 24-28, 2013
Stoney Creek Inn - Brain Injury Association of Missouri - Annual Meeting Planning	September 6, 2013
Coaches Training Meeting - St. Luke’s College of Health Sciences	October 2, 2013

APPENDIX B

REMINDER TO ALL ATHLETIC DIRECTORS

Concussion Information and Materials

- All coaches must take a course on the signs, symptoms, and prevention of concussions.
 - There is a free-of-charge course that is located on the NFHS Learning Center website (www.nfhslearn.com). Once there, go to the FREE/ELECTIVE COURSES section. Click on the right arrow until you come to the “Concussion in Sports – What You Need To Know” course.
 - There is also a link to this course on our website located at (www.mshsaa.org) located on the Sports Medicine Tab in the CONCUSSION section.
- All **parents and athletes** must receive and sign for the concussion materials as indicated on the MSHSAA Preparticipation Physical Form.
- The concussion information for parents and athletes can be found in the following three locations:
 - The free NFHS “Concussion in Sports” course described above;
 - The materials that are provided on our website (www.mshsaa.org) by clicking on the Sports Medicine Tab and then on “MSHSAA Concussion Information Packet;” and
 - The Concussion Information PowerPoint located on our website (www.mshsaa.org) by clicking on the Sports Medicine Tab and then on “MSHSAA Concussion Video Introduction.”
- **Athletic Directors** must keep accurate records of this information and be able to provide it to MSHSAA if asked to do so.

MSHSAA



All concussions are serious.
If you think you have a

CONCUSSION:

- * Don't hide it.
- * Report it.
- * Take time to recover.



It's better to miss one game
than the whole season.

For more information and to order additional materials
free-of-charge, visit: www.cdc.gov/Concussion.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION



Heads Up to Schools: KNOW YOUR CONCUSSION ABCs

Assess the situation | **B**e alert for signs and symptoms | **C**ontact a health care professional



A Fact Sheet for Parents

What is a concussion?

A concussion is a type of brain injury that changes the way the brain normally works. A concussion is caused by a bump, blow, or jolt to the head. Concussions can also occur from a blow to the body that causes the head and brain to move rapidly back and forth. Even what seems to be a mild bump to the head can be serious.

Concussions can have a more serious effect on a young, developing brain and need to be addressed correctly.

What are the signs and symptoms of a concussion?

You can't see a concussion. Signs and symptoms of concussion can show up right after an injury or may not appear or be noticed until hours or days after the injury. It is important to watch for changes in how your child or teen is acting or feeling, if symptoms are getting worse, or if s/he just "doesn't feel right." Most concussions occur without loss of consciousness.

If your child or teen reports *one or more* of the symptoms of concussion listed below, or if you notice the symptoms yourself, seek medical attention right away. Children and teens are among those at greatest risk for concussion.

SIGNS AND SYMPTOMS OF A CONCUSSION

SIGNS OBSERVED BY PARENTS OR GUARDIANS

- Appears dazed or stunned
- Is confused about events
- Answers questions slowly
- Repeats questions
- Can't recall events *prior* to the hit, bump, or fall
- Can't recall events *after* the hit, bump, or fall
- Loses consciousness (even briefly)
- Shows behavior or personality changes
- Forgets class schedule or assignments

SYMPTOMS REPORTED BY YOUR CHILD OR TEEN

Thinking/Remembering:

- Difficulty thinking clearly
- Difficulty concentrating or remembering
- Feeling more slowed down
- Feeling sluggish, hazy, foggy, or groggy

Physical:

- Headache or "pressure" in head
- Nausea or vomiting
- Balance problems or dizziness
- Fatigue or feeling tired
- Blurry or double vision
- Sensitivity to light or noise
- Numbness or tingling
- Does not "feel right"

Emotional:

- Irritable
- Sad
- More emotional than usual
- Nervous

Sleep*:

- Drowsy
- Sleeps *less* than usual
- Sleeps *more* than usual
- Has trouble falling asleep

**Only ask about sleep symptoms if the injury occurred on a prior day.*

To download this fact sheet in Spanish, please visit: www.cdc.gov/Concussion. Para obtener una copia electrónica de esta hoja de información en español, por favor visite: www.cdc.gov/Concussion.

DANGER SIGNS

Be alert for symptoms that worsen over time. Your child or teen should be seen in an emergency department right away if s/he has:

- One pupil (the black part in the middle of the eye) larger than the other
- Drowsiness or cannot be awakened
- A headache that gets worse and does not go away
- Weakness, numbness, or decreased coordination
- Repeated vomiting or nausea
- Slurred speech
- Convulsions or seizures
- Difficulty recognizing people or places
- Increasing confusion, restlessness, or agitation
- Unusual behavior
- Loss of consciousness (even a brief loss of consciousness should be taken seriously)

Children and teens with a concussion should **NEVER** return to sports or recreation activities on the same day the injury occurred. They should delay returning to their activities until a health care professional experienced in evaluating for concussion says they are symptom-free and it's OK to return to play. This means, until permitted, not returning to:

- Physical Education (PE) class,
- Sports practices or games, or
- Physical activity at recess.

What should I do if my child or teen has a concussion?

1. **Seek medical attention right away.** A health care professional experienced in evaluating for concussion can determine how serious the concussion is and when it is safe for your child or teen to return to normal activities, including physical activity and school (concentration and learning activities).
2. **Help them take time to get better.** If your child or teen has a concussion, her or his brain needs time to heal. Your child or teen may need to limit activities while s/he is recovering from a concussion. Exercising or activities that involve a lot of concentration, such as studying, working on the computer, or playing video games may cause concussion symptoms (such as headache or tiredness) to reappear or get worse. After a concussion, physical and cognitive activities—such as concentration and learning—should be carefully managed and monitored by a health care professional.
3. **Together with your child or teen, learn more about concussions.** Talk about the potential long-term effects of concussion and the dangers of returning too soon to normal activities (especially physical activity and learning/concentration). For more information about concussion and free resources, visit: www.cdc.gov/Concussion.

How can I help my child return to school safely after a concussion?

Help your child or teen get needed support when returning to school after a concussion. Talk with your child's teachers, school nurse, coach, speech-language pathologist, or counselor about your child's concussion and symptoms. Your child may feel frustrated, sad, and even angry because s/he cannot return to recreation and sports right away, or cannot keep up with schoolwork. Your child may also feel isolated from peers and social networks. Talk often with your child about these issues and offer your support and encouragement. As your child's symptoms decrease, the extra help or support can be removed gradually. Children and teens who return to school after a concussion may need to:

- Take rest breaks as needed,
- Spend fewer hours at school,
- Be given more time to take tests or complete assignments,
- Receive help with schoolwork, and/or
- Reduce time spent reading, writing, or on the computer.

*To learn more about concussion and to order materials **FREE-OF-CHARGE**, go to: www.cdc.gov/Concussion or call 1.800.CDC.INFO.

HEADS+UP

CONCUSSION IN HIGH SCHOOL SPORTS

A FACT SHEET FOR **ATHLETES**

What is a concussion?

A concussion is a brain injury that:

- Is caused by a bump, blow, or jolt to the head or body.
- Can change the way your brain normally works.
- Can occur during practices or games in any sport or recreational activity.
- Can happen even if you haven't been knocked out.
- Can be serious even if you've just been "dinged" or "had your bell rung."

All concussions are serious. A concussion can affect your ability to do schoolwork and other activities (such as playing video games, working on a computer, studying, driving, or exercising). Most people with a concussion get better, but it is important to give your brain time to heal.

What are the symptoms of a concussion?

You can't see a concussion, but you might notice **one or more** of the symptoms listed below or that you "don't feel right" soon after, a few days after, or even weeks after the injury.

- Headache or "pressure" in head
- Nausea or vomiting
- Balance problems or dizziness
- Double or blurry vision
- Bothered by light or noise
- Feeling sluggish, hazy, foggy, or groggy
- Difficulty paying attention
- Memory problems
- Confusion

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

- **Tell your coaches and your parents.** Never ignore a bump or blow to the head even if you feel fine. Also, tell your coach right away if you think you have a concussion or if one of your teammates might have a concussion.
- **Get a medical check-up.** A doctor or other health care professional can tell if you have a concussion and when it is OK to return to play.
- **Give yourself time to get better.** If you have a concussion, your brain needs time to heal. While your brain is still healing, you are much more likely to have another concussion. Repeat concussions can increase the time it takes for you to recover and may cause more damage to your brain. It is important to rest and not return to play until you get the OK from your health care professional that you are symptom-free.

How can I prevent a concussion?

Every sport is different, but there are steps you can take to protect yourself.

- Use the proper sports equipment, including personal protective equipment. In order for equipment to protect you, it must be:
 - The right equipment for the game, position, or activity
 - Worn correctly and the correct size and fit
 - Used every time you play or practice
- Follow your coach's rules for safety and the rules of the sport.
- Practice good sportsmanship at all times.

If you think you have a concussion:
Don't hide it. Report it. Take time to recover.

It's better to miss one game than the whole season.

For more information and to order additional materials **free-of-charge**, visit: www.cdc.gov/Concussion.

MSHSAA Concussion Return to Play Form

This form is adapted from the Acute Concussion Evaluation (ACE) care plan on the CDC website (www.cdc.gov/injury). All medical providers are encouraged to review this site if they have questions regarding the latest information on the evaluation and care of the scholastic athlete following a concussion injury. **Please initial any recommendations that you select below.**

Athlete's Name: _____

Date of Birth: _____

Date of Injury: _____

THIS RETURN TO PLAY IS BASED ON TODAY'S EVALUATION

Date of Evaluation: _____ Care Plan Completed By: _____

Return to This Office (Date/Time): _____

Return to School On (Date): _____

RETURN TO SPORTS

PLEASE NOTE:

1. Athletes should not return to practice or play for at least 24 hours after their head injury has occurred.
2. Athletes should never return to play or practice if they still have **ANY symptoms**.
3. Athletes: Be sure that your coach and/or athletic trainer are aware of your injury and symptoms, and that they have the contact information for the treating physician.

The following are the return to sports recommendations at the present time:

Physical Education: Do **NOT** return to PE class at this time.

May return to PE class at this time.

Sports: Do **NOT** return to sports practice or competition at this time.

May gradually return to sports practices under the supervision of the healthcare provider for your school or team.

May be advanced back to competition after phone conversation with attending physician (MD/DO/PAC/ATC/ARNP/Neurophysiologist)

Must return to physician (MD/DO/PAC/ATC/ARNP/Neurophysiologist) for final clearance to return to competition.

- OR -

Cleared for full participation in all activities and restrictions. Return of symptoms should result in re-evaluation by physician (MD/DO/PAC/ATC/ARNP/Neurophysiologist) for assessment.

Medical Office Information (Please Print/Stamp):

Evaluator's Name: _____ Office Phone: _____

Evaluator's Signature: _____

Evaluator's Address: _____

Return to Play (RTP) Procedures After a Concussion

1. Return to activity and play is a medical decision. The athlete must meet all of the following criteria in order to progress to activity:

Asymptomatic at rest and with exertion (including mental exertion in school) AND have written clearance from their primary care provider or concussion specialist (athlete must be cleared for progression to activity by a physician other than an Emergency Room physician, if diagnosed with a concussion).
2. Once the above criteria are met, the athlete will be progressed back to full activity following the step-wise process detailed below. (This progression must be closely supervised by a Certified Athletic Trainer. If your school does not have an athletic trainer, then the coach must have a very specific plan to follow as directed by the athlete's physician).
3. Progression is individualized, and will be determined on a case by case basis. Factors that may affect the rate of progression include: previous history of concussion, duration and type of symptoms, age of the athlete, and sport/activity in which the athlete participates. An athlete with a prior history of concussion, one who has had an extended duration of symptoms, or one who is participating in a collision or contact sport may be progressed more slowly.
4. Stepwise progression as described below:
 - Step 1:** Complete cognitive rest. This may include staying home from school or limiting school hours (and studying) for several days. Activities requiring concentration and attention may worsen symptoms and delay recovery.
 - Step 2:** Return to school full-time.
 - Step 3:** Light exercise. This step cannot begin until the athlete is no longer having concussion symptoms and is cleared by a physician for further activity. At this point the athlete may begin walking or riding an exercise bike. No weight-lifting.
 - Step 4:** Running in the gym or on the field. No helmet or other equipment.
 - Step 5:** Non-contact training drills in full equipment. Weight-training can begin.
 - Step 6:** Full contact practice or training.
 - Step 7:** Play in game. Must be cleared by physician before returning to play.
 - The athlete should spend 1 to 2 days at each step before advancing to the next. If post-concussion symptoms occur at any step, the athlete must stop the activity and the treating physician must be contacted. Depending upon the specific type and severity of the symptoms, the athlete may be told to rest for 24 hours and then resume activity at a level one step below where he or she was at when the symptoms occurred.



"The MSHSAA promotes the value of participation, sportsmanship, team play and personal excellence to develop citizens who make positive contributions to their community and support the democratic principles of our state and nation."



Heads Up to Schools: KNOW YOUR CONCUSSION ABCs

Assess
the
situation

Be alert for
signs and
symptoms


Contact a
health care
professional

A Fact Sheet for Teachers, Counselors, and School Professionals

What is a concussion?

A concussion is a type of brain injury that changes the way the brain normally works. A concussion is caused by a bump, blow, or jolt to the head. Concussions can also occur from a fall or blow to the body that causes the head and brain to move rapidly back and forth. Even what seems to be a mild bump to the head can be serious.

Children and adolescents are among those at greatest risk for concussion. The potential for a concussion is greatest during activities where collisions can occur, such as during physical education (PE) class, playground time, or school-based sports activities. However, concussions can happen any time a student's head comes into contact with a hard object, such as a floor, desk, or another student's head or body. Proper recognition and response to concussion can prevent further injury and help with recovery.



THE FACTS:

- * All concussions are serious.
- * Most concussions occur without loss of consciousness.
- * Recognition and proper response to concussions when they first occur can help aid recovery and prevent further injury, or even death.

To download this fact sheet in Spanish, please visit: www.cdc.gov/Concussion.
Para obtener una copia electrónica de esta hoja de información en español, por favor visite: www.cdc.gov/Concussion.

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CENTERS FOR DISEASE CONTROL AND PREVENTION



What are the signs and symptoms of concussion?

The signs and symptoms of concussion can show up right after an injury or may not appear or be noticed until hours or days after the injury. Be alert for any of the following signs or symptoms. Also, watch for changes in how the student is acting or feeling, if symptoms are getting worse, or if the student just “doesn’t feel right.”



SIGNS OBSERVED BY TEACHERS AND SCHOOL PROFESSIONALS

- Appears dazed or stunned
- Is confused about events
- Answers questions slowly
- Repeats questions
- Can’t recall events *prior* to the hit, bump, or fall
- Can’t recall events *after* the hit, bump, or fall
- Loses consciousness (even briefly)
- Shows behavior or personality changes
- Forgets class schedule or assignments

SYMPTOMS REPORTED BY THE STUDENT

Thinking/Remembering:

- Difficulty thinking clearly
- Difficulty concentrating or remembering
- Feeling more slowed down
- Feeling sluggish, hazy, foggy, or groggy

Physical:

- Headache or “pressure” in head
- Nausea or vomiting
- Balance problems or dizziness
- Fatigue or feeling tired
- Blurry or double vision
- Sensitivity to light or noise
- Numbness or tingling
- Does not “feel right”

Emotional:

- Irritable
- Sad
- More emotional than usual
- Nervous

Sleep*:

- Drowsy
- Sleeps *less* than usual
- Sleeps *more* than usual
- Has trouble falling asleep

**Only ask about sleep symptoms if the injury occurred on a prior day.*

What are concussion danger signs?

Be alert for symptoms that worsen over time.

The student should be seen in an emergency department right away if s/he has:

- One pupil (the black part in the middle of the eye) larger than the other
- Drowsiness or cannot be awakened
- A headache that gets worse and does not go away
- Weakness, numbness, or decreased coordination
- Repeated vomiting or nausea
- Slurred speech
- Convulsions or seizures
- Difficulty recognizing people or places
- Increasing confusion, restlessness, or agitation
- Unusual behavior
- Loss of consciousness (even a brief loss of consciousness should be taken seriously)



Children and teens with a concussion should NEVER return to sports or recreation activities on the same day the injury occurred. They should delay returning to their activities until a health care professional experienced in evaluating for concussion says they are symptom-free and it's OK to return to play. This means, until permitted, not returning to:

- Physical Education (PE) class,
- Sports practices or games, or
- Physical activity at recess.

For more information and tool kits for youth sports coaches and high school coaches, visit www.cdc.gov/Concussion.

How can I recognize a concussion?

Teachers and school counselors may be the first to notice changes in their students. The signs and symptoms can take time to appear and can become evident during concentration and learning activities in the classroom.

Send a student to the school nurse, or another professional designated to address health issues, if you notice or suspect that a student has:

1. Any kind of forceful blow to the head or to the body that results in rapid movement of the head,
-and-
2. Any change in the student's behavior, thinking, or physical functioning. (See the signs and symptoms of concussion.)

What do I need to know about my students returning to school after a concussion?

Supporting a student recovering from a concussion requires a collaborative approach among school professionals, health care providers, and parents, as s/he may need accommodations during recovery. If symptoms persist, a 504 meeting may be called. Section 504 Plans are implemented when students have a disability (temporary or permanent) that affects their performance in any manner.



What to look for after a concussion

When students return to school after a concussion, school professionals should watch for:

- Increased problems paying attention or concentrating
- Increased problems remembering or learning new information
- Longer time needed to complete tasks or assignments
- Difficulty organizing tasks
- Inappropriate or impulsive behavior during class
- Greater irritability
- Less ability to cope with stress or more emotional



Students who return to school after a concussion may need to:

- Take rest breaks as needed,
- Spend fewer hours at school,
- Be given more time to take tests or complete assignments,
- Receive help with schoolwork, and/or
- Reduce time spent on the computer, reading, or writing.

Services and accommodations for students may include speech-language therapy, environmental adaptations, curriculum modifications, and behavioral strategies.

Students may need to limit activities while they are recovering from a concussion. Exercising or activities that involve a lot of concentration, such as studying, working on the computer, or playing video games, may cause concussion symptoms (such as headache or tiredness) to reappear or get worse.

It is normal for students to feel frustrated, sad, and even angry because they cannot return to recreation or sports right away, or cannot keep up with their schoolwork. A student may also feel isolated from peers and social networks. Talk with the student about these issues and offer support and encouragement. As the student's symptoms decrease, the extra help or support can be removed gradually.



*For more information on concussion and to order additional materials for school professionals **FREE- OF-CHARGE**, visit: www.cdc.gov/Concussion.



Heads Up to Schools: KNOW YOUR CONCUSSION ABCs

Assess the situation **B**e alert for signs and symptoms **C**ontact a health care professional

A Fact Sheet for School Nurses

What is a concussion?

A concussion is a type of brain injury that changes the way the brain normally works. A concussion is caused by a bump, blow, or jolt to the head. Concussions can also occur from a fall or blow to the body that causes the head and brain to move rapidly back and forth. Even what seems to be a mild bump to the head can be serious.

How can I recognize a concussion?

To help you recognize a concussion, ask the injured student or witnesses of the incident about:

1. Any kind of forceful blow to the head or to the body that resulted in rapid movement of the head.

-and-

2. Any change in the student's behavior, thinking, or physical functioning. (See the signs and symptoms of concussion.)

THE FACTS:

- * All concussions are serious.
- * Most concussions occur without loss of consciousness.
- * Recognition and proper response to concussions when they first occur can help aid recovery and prevent further injury, or even death.

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U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION



How can concussions happen in schools?

Children and adolescents are among those at greatest risk for concussion. Concussions can result from a fall, or any time a student's head comes into contact with a hard object, such as the floor, a desk, or another student's head or body. The potential for a concussion is greatest during activities where collisions can occur, such as during physical education (PE) class, playground time, or school-based sports activities.

Students may also get a concussion when doing activities outside of school, but then come to school when symptoms of the concussion are presenting. For example, adolescent drivers are at increased risk for concussion from motor vehicle crashes.

Concussions can have a more serious effect on a young, developing brain and need to be addressed correctly. Proper recognition and response to concussion symptoms in the school environment can prevent further injury and can help with recovery.



What are the signs and symptoms of concussion?

Students who experience **one or more** of the signs and symptoms listed below after a bump, blow, or jolt to the head or body should be referred to a health care professional experienced in evaluating for concussion.

There is no one single indicator for concussion. Rather, recognizing a concussion requires a symptom assessment. The signs and symptoms of concussion can take time to appear and can become more noticeable during concentration and learning activities in the classroom. For this reason, it is important to watch for changes in how the student is acting or feeling, if symptoms become worse, or if the student just “doesn't feel right.”

SIGNS OBSERVED BY SCHOOL NURSES

- Appears dazed or stunned
- Is confused about events
- Answers questions slowly
- Repeats questions
- Can't recall events *prior* to the hit, bump, or fall
- Can't recall events *after* the hit, bump, or fall
- Loses consciousness (even briefly)
- Shows behavior or personality changes

SYMPTOMS REPORTED BY THE STUDENT

Thinking/Remembering:

- Difficulty thinking clearly
- Difficulty concentrating or remembering
- Feeling more slowed down
- Feeling sluggish, hazy, foggy, or groggy

Emotional:

- Irritable
- Sad
- More emotional than usual
- Nervous

Physical:

- Headache or “pressure” in head
- Nausea or vomiting
- Balance problems or dizziness
- Fatigue or feeling tired
- Blurry or double vision
- Sensitivity to light or noise
- Numbness or tingling
- Does not “feel right”

Sleep*:

- Drowsy
- Sleeps *less* than usual
- Sleeps *more* than usual
- Has trouble falling asleep

**Only ask about sleep symptoms if the injury occurred on a prior day.*



Remember, you can't see a concussion and some students may not experience or report symptoms until hours or days after the injury. Most young people with a concussion will recover quickly and fully. But for some, concussion signs and symptoms can last for days, weeks, or longer.



What are concussion danger signs?

In rare cases, a dangerous blood clot may form on the brain in a person with a concussion and crowd the brain against the skull. The student should be taken to an emergency department right away if s/he exhibits any of the following danger signs after a bump, blow, or jolt to the head or body:

- One pupil larger than the other
- Is drowsy or cannot be awakened
- A headache that gets worse and does not go away
- Weakness, numbness, or decreased coordination

- Repeated vomiting or nausea
- Slurred speech
- Convulsions or seizures
- Cannot recognize people or places
- Becomes increasingly confused, restless, or agitated
- Has unusual behavior
- Loses consciousness (even a brief loss of consciousness should be taken seriously)

For more information and tool kits for youth sports coaches and high school coaches, visit www.cdc.gov/Concussion.

What can school nurses and school professionals do?

Below are steps for you to take when a student comes to your office after a bump, blow, or jolt to the head or body.

1. **Observe student for signs and symptoms of concussion for a minimum of 30 minutes.**
2. **Complete the *Concussion Signs and Symptoms Checklist* and monitor students consistently during the observation period.** The form includes an easy-to-use checklist of signs and symptoms that you can look for when the student first arrives at your office, fifteen minutes later, and at the end of 30 minutes, to determine whether any concussion symptoms appear or change.
3. **Notify the student's parent(s) or guardian(s) that their child had an injury to the head.**
 - > **If signs or symptoms are present:** refer the student right away to a health care professional with experience in evaluating for concussion. Send a copy of the *Concussion Signs and Symptoms Checklist* with the student for the health care professional to review. Students should follow their health care professional's guidance about when they can return to school and to physical activity.

- > **If signs or symptoms are not present:** the student may return to class, but should not return to sports or recreation activities on the day of the injury. Send a copy of the *Concussion Signs and Symptoms Checklist* with the student for their parent(s) or guardian(s) to review and ask them to continue to observe the student at home for any changes. Explain that signs and symptoms of concussion can take time to appear. Note that if signs or symptoms appear, the student should be seen right away by a health care professional with experience in evaluating for concussion.



Children and teens with a concussion should NEVER return to sports or recreation activities on the same day the injury occurred. They should delay returning to their activities until a health care professional experienced in evaluating for concussion says they are symptom-free and it's OK to return to play. This means, until permitted, not returning to:

- Physical Education (PE) class,
- Sports practices or games, or
- Physical activity at recess.



What do I need to know about students returning to school after a concussion?

Supporting a student recovering from a concussion requires a collaborative approach among school professionals, health care professionals, parents, and students. All school staff, such as teachers, school nurses, counselors, administrators, speech-language pathologists, coaches, and others should be informed about a returning student's injury and symptoms, as they can assist with the transition process and making accommodations for a student. If symptoms persist, a 504 meeting may be called. Section 504 Plans are implemented when students have a disability (temporary or permanent) that affects their performance in any manner. Services and accommodations for students may include speech-language therapy, environmental



School Policies:

Students Returning to School after a Concussion

Check with your school administrators to see if your district or school has a policy in place to help students recovering from a concussion succeed when they return to school. If not, consider working with your school administration to develop such a policy. Policy statements can include the district's or school's commitment to safety, a brief description of concussion, a plan to help students ease back into school life (learning, social activity, etc.), and information on when students can safely return to physical activity following a concussion.

adaptations, curriculum modifications, and behavioral strategies.

Encourage teachers and coaches to monitor students who return to school after a concussion. Students may need to limit activities while they are recovering from a concussion. Exercising or activities that involve a lot of concentration, such as studying, working on the computer, or playing video games, may cause concussion symptoms (such as headache or tiredness) to reappear or get worse. After a concussion, physical and cognitive activities—such as concentration and learning—should be carefully monitored and managed by health and school professionals.

If a student already had a medical condition at the time of the concussion (such as chronic headaches), it may take longer to

recover from the concussion. Anxiety and depression may also make it harder to adjust to the symptoms of a concussion.

School professionals should watch for students who show increased problems paying attention, problems remembering or learning new information, inappropriate or impulsive behavior during class, greater irritability, less ability to cope with stress, or difficulty organizing tasks. Students who return to school after a concussion may need to:

- Take rest breaks as needed,
- Spend fewer hours at school,
- Be given more time to take tests or complete assignments,
- Receive help with schoolwork, and/or
- Reduce time spent on the computer, reading, or writing.

It is normal for a student to feel frustrated, sad, and even angry because s/he cannot return to recreation or sports right away, or cannot keep up with schoolwork. A student may also feel isolated from peers and social networks. Talk with the student about these issues and offer support and encouragement. As the student's symptoms decrease, the extra help or support can be gradually removed.

What can I do to prevent and prepare for a concussion?

Here are some steps you can take to prevent concussions in school and ensure the best outcome for your students:

Prepare a concussion action plan. To ensure that concussions are identified early and managed correctly, have an action plan in place before the start of the school year. This plan can be included in your school or district's concussion policy. You can use the online action plan for sports and recreation activities at: www.cdc.gov/concussion/response/html. Be sure that other appropriate school and athletic staff know about the plan and have been trained to use it.

Educate parents, teachers, coaches, and students about concussion. Parents, teachers, and coaches know their students well and may be the first to notice when a student is not acting normally. Encourage teachers, coaches, and students to:

- Learn about the potential long-term effects of concussion and the dangers of returning to activity too soon.
- Look out for the signs and symptoms of concussion and send students to see you if they observe any or even suspect that a concussion has occurred.
- View videos about concussion online at: www.cdc.gov/Concussion.

Prevent long-term problems. A repeat concussion that occurs before the brain recovers from the previous concussion—usually within a short period of time (hours, days, or weeks)—can slow recovery or increase the likelihood of having long-term problems. In rare cases, repeat concussions

can result in edema (brain swelling), permanent brain damage, and even death. Keep students with a known or suspected concussion out of physical activity, sports, or playground activity on the day of the injury and until a health care professional with experience in evaluating for concussion says they are symptom-free and it is OK for the student to return to play.

Create safe school environments.

The best way to protect students from concussions is to prevent concussions from happening. Make sure your school has policies and procedures to ensure that the environment is a safe, healthy place for students. Talk to all school staff and administrators and encourage them to keep the physical space safe, keep stairs and hallways clear of clutter, secure rugs to the floor, and check the surfaces of all areas where students are physically active, such as playing fields and playgrounds. Playground surfaces should be made of shock-absorbing material, such as hardwood mulch or sand, and maintained to an appropriate depth. Proper supervision of students is also important.



For more detailed information about concussion diagnosis and management, please download *Heads Up: Facts for Physicians about Mild Traumatic Brain Injury* from CDC at: www.cdc.gov/Concussion.



Monitor the health of your student athletes.

Make sure to ask whether an athlete has ever had a concussion and insist that your athletes are medically

evaluated and are in good condition to participate in sports. Keep track of athletes who sustain concussions during the school year. This will help in monitoring injured athletes who participate in multiple sports throughout the school year.

Some schools conduct preseason baseline testing (also known as neurocognitive tests) to assess brain function—learning and memory skills, ability to pay attention or concentrate, and how quickly someone can think and solve problems. If an athlete has a concussion, these tests can be used again during the season to help identify the effects of the injury. Before the first practice, determine whether your school would consider baseline testing.

Again, remember your concussion ABCs:

- A—Assess the situation
- B—Be alert for signs and symptoms
- C—Contact a health care professional

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION



* For more information on concussion and to order additional materials for school professionals **FREE-OF-CHARGE**, visit: www.cdc.gov/Concussion.

PRE-PARTICIPATION PHYSICAL EVALUATION HISTORY FORM

(Note: This form is to be filled out by the patient and parent prior to seeing the physician. The physician should keep a copy of this form in the chart for their records).

Date of Exam:			
Name:			Date of Birth:
Sex:	Age:	Grade:	School:
Medicines and Allergies: Please list all of the prescription and over-the-counter medicines and supplements (herbal and nutritional) that you are currently taking:			Sport(s):
Do you have any allergies: Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, please identify specific allergy below:			
<input type="checkbox"/> Medicines:		<input type="checkbox"/> Pollens:	<input type="checkbox"/> Food: <input type="checkbox"/> Stinging Insects:

Explain "Yes" answers below. Circle questions you do not know the answer to.

GENERAL QUESTIONS	Yes	No	MEDICAL QUESTIONS	Yes	No
1. Has a doctor ever denied or restricted your participation in sports for any reason?			26. Do you cough, wheeze, or have difficulty breathing during or after exercise?		
2. Do you have any ongoing medical conditions? If so, please identify below: <input type="checkbox"/> Asthma <input type="checkbox"/> Anemia <input type="checkbox"/> Diabetes <input type="checkbox"/> Infections Other:			27. Have you ever used an inhaler or taken asthma medicine?		
3. Have you ever spent the night in the hospital?			28. Is there anyone in your family who has asthma?		
4. Have you ever had surgery?			29. Were you born without or are you missing a kidney, an eye, a testicle (males) or spleen, or any other organ?		
HEART HEALTH QUESTIONS ABOUT YOU	Yes	No	30. Do you have groin pain or a painful bulge or hernia in the groin area?		
5. Have you ever passed out or nearly passed out DURING or AFTER exercise?			31. Have you had infectious mononucleosis (mono) within the last month?		
6. Have you ever had discomfort, pain, tightness, or pressure in your chest during exercise?			32. Do you have any rashes, pressure sores, or other skin problems?		
7. Does your heart ever race or skip beats (irregular beats) during exercise?			33. Have you had a herpes or MRSA skin infection?		
8. Has a doctor ever told you that you have any heart problems? If so, check all that apply: <input type="checkbox"/> High blood pressure <input type="checkbox"/> A heart murmur <input type="checkbox"/> High cholesterol <input type="checkbox"/> A heart infection <input type="checkbox"/> Kawasaki disease <input type="checkbox"/> Other:			34. Have you ever had a head injury or concussion?		
9. Has a doctor ever ordered a test for your heart? (For example, ECG/EKG, echocardiogram)			35. Have you ever had a hit or blow to the head that caused confusion, prolonged headaches, or memory problems?		
10. Do you get lightheaded or feel more short of breath than expected during exercise?			36. Do you have a history of seizure disorder?		
11. Have you ever had an unexplained seizure?			37. Do you have headaches with exercise?		
12. Do you get more tired or short of breath more quickly than your friends during exercise?			38. Have you ever had numbness, tingling, or weakness in your arms or legs after being hit or falling?		
HEART HEALTH QUESTIONS ABOUT YOUR FAMILY	Yes	No	39. Have you ever been unable to move your arms or legs after being hit or falling?		
13. Has any family member or relative died of heart problems or had an unexpected or unexplained sudden death before age 50 (including drowning, unexplained car accident, or sudden infant death syndrome)?			40. Have you ever become ill while exercising in the heat?		
14. Does anyone in your family have hypertrophic cardiomyopathy, Marfan syndrome, arrhythmogenic right ventricular cardiomyopathy, long QT syndrome, short QT syndrome, Brugada syndrome, or catecholaminergic polymorphic ventricular tachycardia?			41. Do you get frequent muscle cramps when exercising?		
15. Does anyone in your family have a heart problem, pacemaker, or implanted defibrillator?			42. Do you or someone in your family have sickle cell trait or disease?		
16. Has anyone in your family had unexplained fainting, unexplained seizures, or near drowning?			43. Have you had any problems with your eyes or vision?		
BONE AND JOINT QUESTIONS	Yes	No	44. Have you had any eye injuries?		
17. Have you ever had an injury to a bone, muscle, ligament, or tendon that caused you to miss a practice or a game?			45. Do you wear glasses or contact lenses?		
18. Have you ever had any broken or fractured bones or dislocated joints?			46. Do you wear protective eyewear, such as goggles or a face shield?		
19. Have you ever had an injury that required x-rays, MRI, CT scan, injections, therapy, a brace, a cast, or crutches?			47. Do you worry about your weight?		
20. Have you ever had a stress fracture?			48. Are you trying to or has anyone recommended that you gain or lose weight?		
21. Have you ever been told that you have or have you had an x-ray for neck instability or atlantoaxial instability? (Down syndrome or dwarfism)			49. Are you on a special diet or do you avoid certain types of foods?		
22. Do you regularly use a brace, orthotics, or other assistive device?			50. Have you ever had an eating disorder?		
23. Do you have a bone, muscle, or joint injury that bothers you?			51. Do you have any concerns that you would like to discuss with the doctor?		
24. Do any of your joints become painful, swollen, feel warm, or look red?			FEMALES ONLY	Yes	No
25. Do you have any history of juvenile arthritis or connective tissue disease?			52. Have you ever had a menstrual period?		
			53. How old were you when you had your first menstrual period?		
			54. How many periods have you had in the last 12 months?		
Explain "Yes" answers here:					

I hereby state that, to the best of my knowledge, my answers to the above questions are complete and correct.		
Signature of Athlete:	Signature of Parent(s) or Guardian:	Date:

PRE-PARTICIPATION PHYSICAL EVALUATION PHYSICAL EXAMINATION FORM

Name:	Date of Birth:
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Physician Reminders:

1. Consider additional questions on more sensitive issues.
 - Do you feel stressed out or under a lot of pressure?
 - Do you ever feel sad, hopeless, depressed, or anxious?
 - Do you feel safe at your home or residence?
 - Have you ever tried cigarettes, chewing tobacco, snuff, or dip?
 - During the past 30 days, did you use chewing tobacco, snuff or dip?
 - Do you drink alcohol or use any other drugs?
 - Have you ever taken anabolic steroids or used any other performance supplements?
 - Have you ever taken any supplements to help you gain or lose weight or improve your performance?
 - Do you wear a seat belt, use a helmet, and use condoms?
2. Consider reviewing questions on cardiovascular symptoms (Questions 5-14).

EXAMINATION

Height:	Weight:	<input type="checkbox"/> Male	<input type="checkbox"/> Female
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BP: / (/)	Pulse:	Vision: R 20/ L 20/	Corrected: <input type="checkbox"/> Yes <input type="checkbox"/> No
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MEDICAL	NORMAL	ABNORMAL FINDINGS
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Appearance • Marfan stigmata (kyphoscoliosis, high-arched palate, pectus excavatum, arachnodactyly, arm span>height, hyperlaxity, myopia, MVP, aortic insufficiency)		
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Eyes/Ears/Nose/Throat • Pupils equal • Hearing		
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Lymph Nodes		
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Heart* • Murmurs (auscultation standing, supine, +/- Valsalva) • Location of point of maximal pulse (PMI)		
---	--	--

Pulses • Simultaneous femoral and radial pulses		
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Lungs		
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Abdomen		
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Genitourinary (males only)**		
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Skin • HSV, lesions suggestive of MRSA, tinea corporis		
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Neurologic***		
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MUSCULOSKELETAL	NORMAL	ABNORMAL FINDINGS
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Neck		
------	--	--

Back		
------	--	--

Shoulder/arm		
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Elbow/forearm		
---------------	--	--

Hip/thigh		
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Knee		
------	--	--

Leg/ankle		
-----------	--	--

Foot/toes		
-----------	--	--

Functional • Duck-walk, single leg hop		
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* Consider ECG, echocardiogram, and referral to cardiology for abnormal cardiac history or exam; **Consider GU exam if in private setting. Having third party present is recommended.
 ***Consider cognitive evaluation or baseline neuropsychiatric testing if a history of significant concussion.

<input type="checkbox"/> Cleared for all sports without restriction.
--

<input type="checkbox"/> Cleared for all sports without restriction with recommendations for further evaluation or treatment for:
--

<input type="checkbox"/> Not Cleared

<input type="checkbox"/> Pending further evaluation

<input type="checkbox"/> For any sports

<input type="checkbox"/> For certain sports (please list):
--

Reason:

Recommendations:

I have examined the above-named student and completed the pre-participation physical evaluation. The athlete does not present apparent clinical contraindications to practice and participate in the sport(s) as outlined above. A copy of the physical exam is on record in my office and can be made available to the school at the request of the parents. If conditions arise after the athlete has been cleared for participation, the physician may rescind the clearance until the problem is resolved and the potential consequences are completely explained to the athlete (and parents/guardians).

Name of Physician (type/print):	Date:
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Address:	Phone:
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Signature of Physician (MD/DO/ARNP/PA/Chiropractor):
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PRE-PARTICIPATION PHYSICAL EVALUATION

Missouri State High School Activity Association (MSHSAA) Eligibility and Authorization Statement

STUDENT AGREEMENT (Regarding Conditions for Participation)

This application to represent my school in interscholastic athletics is entirely voluntary on my part and is made with the understanding that I have studied and understand the eligibility standards that I must meet to represent my school and that I have not violated any of them.

I have read, understand, and acknowledge receipt of the MSHSAA brochure entitled "How to Maintain and Protect Your High School Eligibility," which contains a summary of the eligibility rules of the MSHSAA. (I understand that a copy of the *MSHSAA Handbook* is on file with the principal and athletic administrator and that I may review it in its entirety, if I so choose. All MSHSAA by-laws and regulations from the *Handbook* are also posted on the MSHSAA website at www.mshsaa.org).

I understand that a MSHSAA member school must adhere to all rules and regulations that pertain to school-sponsored, interscholastic athletics programs, and I acknowledge that local rules may be more stringent than MSHSAA rules.

I also understand that if I do not meet the citizenship standards set by the school or if I am ejected from an interscholastic contest because of an unsportsmanlike act, it could result in me not being allowed to participate in the next contest or suspension from the team either temporarily or permanently.

I understand that if I drop a class, take course work through Post -Secondary Enrollment Option, Credit Flexibility, or other educational options, this action could affect compliance with MSHSAA academic standards and my eligibility.

I understand that participation in interscholastic athletics is a privilege and not a right. As a student athlete, I understand and accept the following responsibilities:

- I will respect the rights and beliefs of others and will treat others with courtesy and consideration.
- I will be fully responsible for my own actions and the consequences of my actions.
- I will respect the property of others.
- I will respect and obey the rules of my school and laws of my community, state, and country.
- I will show respect to those who are responsible for enforcing the rules of my school and the laws of my community, state, and country.

I have completed and/or verified that part of this certificate which requires me to list all previous injuries or additional conditions that are known to me which may affect my performance in so representing my school, and I verify that it is correct and complete.

Signature of Athlete:

Date:

PARENT PERMISSION (Authorization for Treatment, Release of Medical Information, and Insurance Information)

Informed Consent: By its nature, participation in interscholastic athletics includes risk of serious bodily injury and transmission of infectious disease such as HIV and Hepatitis B. Although serious injuries are not common and the risk of HIV transmission is almost nonexistent in supervised school athletic programs, it is impossible to eliminate all risk. Participants must obey all safety rules, report all physical and hygiene problems to their coaches, follow a proper conditioning program, and inspect their own equipment daily. **PARENTS, GUARDIANS, OR STUDENTS WHO MAY NOT WISH TO ACCEPT RISK DESCRIBED IN THIS WARNING SHOULD NOT SIGN THIS FORM. STUDENTS MAY NOT PARTICIPATE IN MSHSAA- SPONSORED SPORT WITHOUT THE STUDENT'S AND PARENT'S/GUARDIAN/S SIGNATURE.**

I understand that in the case of injury or illness requiring transportation to a health care facility, a reasonable attempt will be made to contact the parent or guardian in the case of the student-athlete being a minor, but that, if necessary, the student-athlete will be transported via ambulance to the nearest hospital.

We hereby give our consent for the above student to represent his/her school in interscholastic athletics. We also give our consent for him/her to accompany the team on trips and will not hold the school responsible in case of accident or injury whether it be en route to or from another school or during practice or an interscholastic contest; and we hereby agree to hold the school district of which this school is a part and the MSHSAA, their employees, agents, representatives, coaches, and volunteers harmless from any and all liability, actions, causes of action, debts, claims, or demands of every kind and nature whatsoever which may arise by or in connection with participation by my child/ward in any activities related to the interscholastic program of his/her school.

If we cannot be reached and in the event of an emergency, we also give our consent for the school to obtain through a physician or hospital of its choice, such medical care as is reasonably necessary for the welfare of the student, if he/she is injured in the course of school athletic activities. We authorize the release of necessary medical information to the physician, athletic trainer, and/or school personnel related to such treatment/care. We understand that the school may not provide transportation to all events, and permit / do not permit (CIRCLE ONE) my child to drive his/her vehicle in such a case.

To enable the MSHSAA to determine whether the herein named student is eligible to participate in interscholastic athletics in the MSHSAA member school, I consent to the release of the MSHSAA any and all portions of school record files, beginning with seventh grade, of the herein named student, specifically including, without limiting the generality of the foregoing, birth and age records, name and residence address of parent(s) or guardian(s), residence address of the student, academic work completed, grades received, and attendance data.

We confirm that this application for the above student to represent his/her school in interscholastic athletics is made with the understanding that we have studied and understand the eligibility standards that our son/daughter must meet to represent his/her school and that he/she has not violated any of them. We also understand that if our son/daughter does not meet the citizenship standards set by the school or if he/she is ejected from an interscholastic contest because of an unsportsmanlike act, it could result in him/her not being allowed to participate in the next contest or suspension from the team either temporarily or permanently.

I consent to the MSHSAA's use of the herein named student's name, likeness, and athletic-related information in reports of contests, promotional literature of the Association and other materials and releases related to interscholastic athletics.

We further state that we have completed that part of this certificate which requires us to list all previous injuries or additional conditions that are known to us which may affect this athlete's performance or treatment and we certify that it is correct and complete.

The MSHSAA By-Laws provide that a student shall not be permitted to practice or compete for a school until it has verification that he/she has basic health/accident insurance coverage, which includes athletics. Our son/daughter is covered by basic health/accident insurance for the current school year as indicated below:

Name of Insurance Company:	Policy Number:
Signature of Parent(s) or Guardian:	Date:

PARENT AND STUDENT SIGNATURE (Concussion Materials)

We have received and read the MSHSAA materials on Concussion, which includes information on the definition of a concussion, symptoms of a concussion, what to do if you have a concussion, and how to prevent a concussion.

Signature of Athlete:	Date:
Signature of Parent(s) or Guardian:	Date:

EMERGENCY CONTACT INFORMATION

Parent(s) or Guardian	Address	Phone Number
Name of Contact	Relationship to Athlete	Phone Number
Name of Contact	Relationship to Athlete	Phone Number

APPENDIX C



Missouri State High School Activities Association

1 N. Keene Street, Columbia, MO 65201-6645 ♦ P.O. Box 1328, Columbia, MO 65205-1328
Phone (573) 875-4880 ♦ Fax (573) 875-1450 ♦ www.mshsaa.org ♦ email@mshsaa.org

Dr. Kerwin Urhahn, Executive Director

Harvey Richards, Associate Executive Director Stacy Schroeder, Associate Executive Director

Davine Davis, Assistant Executive Director Kevin Garner, Assistant Executive Director Craig Long, Chief Financial Officer
Greg Stahl, Assistant Executive Director Tim Thompson, Assistant Executive Director Jason West, Communications Director

TO: Athletic Directors and District Athletic Directors

FROM: High School and Junior High School MSHSAA Member Schools
Harvey Richards

SUBJECT: Head Injury Survey

DATE: July 9, 2013

It is once again time for us to collect information on head injuries that occurred in your school district during the 2012-13 school year for the fulfillment of House Bill 300 (Brain Injury Prevention Act). This information is used to produce a report that is made available to all schools, parents, and the public.

<http://intranet.mshsaa.org/Home/HeadInjurySurvey.aspx>

With the link above you will see the **Head Injury Survey** that needs to be completed by you, the Athletic Director. Please seek input from your school nurse and/or athletic trainer so that we may have the most accurate information possible to include in this report.

This survey must be completed by **August 16th, 2013.**

Thanking you in advance,

Harvey Richards
Associate Executive Director
MSHSAA

"The MSHSAA promotes the value of participation, sportsmanship, team play and personal excellence to develop citizens who make positive contributions to their community and support the democratic principles of our state and nation."

2012-2013 Survey

Head Injuries Occurring During a Sport or Activity

For each sport or activity, please indicate the number of student athletes that were removed from a sport or an activity and could not participate without a medical return to play form while participating in the sport or activity. Also, list the total of days that were missed by those students in that particular sport or activity and the total number of days of classroom attendance that were missed as well. If there were no head injuries in a particular sport, there is no need to list it with zeros.

____ This school had no head injuries occur during a sport or activity that required a Medical Return to Play Form.

Level: _____ High School

Activity/Sport: _____ Drop down box "select a sport or activity"

Number of Students with Head Injury: _____

Total number of days missed for this sport or activity: _____

Total number of classroom days missed: _____

Add Record (repeat for other sports/activity)

Head Injuries Occurring Outside of a Sport or Activity

Please indicate the number of students that were not allowed to participate in a sport without a Medical Return to Play Form from a head injury that occurred outside of the sport or activity (car accident, incident at home, etc.).

____ This school had no head injuries occur during a sport or activity that required a Medical Return to Play Form.

Level: _____ High School

Activity/Sport: _____ Drop down box "select a sport or activity"

Number of Students with Head Injury: _____

Total number of days missed for this sport or activity: _____

Total number of classroom days missed: _____

Add Record (repeat for other sports/activity)

If you have documentation that can be sent to our office without names attached, please use the file upload tool below to attach it to this survey. If electronic files cannot be uploaded, please email documentation to headinjury@mshsaa.org or fax it to (573) 875-1450.

APPENDIX D



SAVE THE DATE for the Seminar of your choice

SPORTS CONCUSSIONS: Facts, Fallacies and New Frontiers



Seminar Content

- Concussion Facts and Fallacies
- Concussion Management: The Team Plan
- Panel of Experts
- Missouri Concussion Law and Resources
- Panel of Athletes

**Concussion Management:
The Team Plan**
for paid or volunteer coaches of school, travel or community athletic programs.

SPRINGFIELD
Ramada Plaza Hotel
Oasis Convention Center
January 14, 2014

KANSAS CITY
Gladstone Community Center
January 22, 2014

COLUMBIA
Stoney Creek Inn
January 27, 2014

CAPE GIRARDEAU
Osage Community Centre
January 29, 2014

ST. LOUIS
February 4, 2014
Spazio's Bistro - Westport

8:30 AM - 2:00 PM
FREE ADMISSION
Registration is required
Lunch Provided

Keynote Speaker

Joseph F. Waeckerle, MD, FACEP

National Emergency Medicine and Concussion Expert
Author, *Concussion Management: The Team Plan*

Audience

- Coaches - All Sports, All Ages
- Athletic Program Administrators
- Athletic Trainers
- Physical Education Teachers
- School Administrators
- School Nurses

Program Partners

- Missouri Department of Health & Senior Services/TBI Grant - UMKC
- Missouri State High School Activities Association
- Missouri School Boards' Association
- Missouri Athletic Trainers' Association
- Missouri Association of School Nurses

TO REQUEST A SPONSORSHIP OR REGISTRATION BROCHURE CONTACT:

BRAIN INJURY ASSOCIATION OF MISSOURI
2265 Schuetz Rd. • St. Louis, MO 63146-3409
info@biamo.org • Website: www.biamo.org
Phones: 314.426.4024 • 800.444.6443 • Fax: 314.426.3290